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March 18, 2020

NYSDEC Regional Permit Administrator c/o Nancy M. Baker Region 4 Headquarters Division of Environmental Permits 1130 North Westcott Rd. Schenectady, NY 12306

Subject: Global Companies LLC – Albany Terminal

Title V Facility Permit No. 4-0101-00112/00029

Permit Modification Application

Dear Ms. Baker,

On behalf of Global Companies LLC (Global), Envirospec Engineering, PLLC (Envirospec) is submitting the attached application for a Title V Facility Permit Modification at the Global Companies – Albany Terminal (Terminal) located at 50 Church Street, Albany, New York 12202. The Terminal currently operates under Title V Facility Permit No. 4-0101-00112/00029, which expired 03/02/2016 but was extended under the State Administrative Procedures Act when Global submitted a timely and sufficient renewal application in August 2015.

The enclosed application package includes the following:

- Title V Certification & P.E. Certification
- Title V Permit Application Forms
- List of Exempt Activities
- Method Used to Determine Compliance
- Emissions Unit Matrix
- Annotated Permit
- Project Emission Potential (PEP)
- · Potential to Emit Calculations
- Part 212 Modeling Protocol
- Site Plan
- Full Environmental Assessment Form (EAF) and EAF Supplement

The purpose of this permit modification is to redistribute and redefine facility product throughput limits to increase operational flexibility at the Terminal by allowing the loading of refined product across the Facility subject to certain throughput limitations, install additional controls to more efficiently capture and reduce volatile organic compound (VOC) and benzene emissions and to significantly reduce crude oil throughput (collectively referred to as the "Project"). The project will reduce the potential to emit (PTE) VOCs from the Terminal by approximately 45 tons per year (tpy).

The Project includes the following specific components:

- Decrease the allowable crude oil loading throughput limit at the Marine Rack (1-RACK3) from 1.8 billion to 450 million gallons per year while increasing total allowable facility throughput of refined product (gasoline, ethanol, distillate, biodiesel and blendstock (including naphtha, natural gasoline, alkylate, isomerate, reformate and raffinate)) by 450 million gallons for a total reduction in Terminal throughput of approximately 950 million gallons. Reconfigure the facility caps to allow flexibility in the type and volume of products distributed at the individual loading areas to adjust to changing market conditions, while ensuring against major changes in truck or rail traffic by limiting throughput at each rack to currently allowable levels.
- Reduce the emissions limit applicable to the primary marine vapor combustion unit (VCU)
 (VCUM2) at the Marine Rack from 3 mg/L to 2 mg/L and implement a permit condition for
 negative pressure loading at the marine rack to control fugitive emissions, when allowable.
- Reduce the emissions limit applicable to the Rail Loading Rack VCU (VCURR) from 10 mg/L to 2 mg/L and implement negative pressure loading (vacuum assist) to control fugitive loading emissions.
- Install exempt boilers and associated piping for storing biodiesel in Tanks 30 and 33.
- Add two loading positions to the truck loading rack to improve efficiency and reduce customer wait time and truck idling time.
- Add seven loading positions at the rail loading rack to allow railcars to be loaded more efficiently and eliminate the need for interim movement of railcars to load certain trains.

Although the Terminal is designed to be operated with the emission controls (VCU/VRU and vac assist), the permit application includes several alternate operating scenarios (AOS) for the loading racks to address possible contingencies as follows:

- Loading at the truck rack with no vac assist as a result of equipment failure.
- Loading at the rail rack with no vac assist as a result of equipment failure
- Loading inerted vessels at the marine dock (VCU 1), which would require no vac assist, but would be assuming 99.9% capture efficiency.
- Loading inerted vessels at the marine dock (VCU 2), which would require no vac assist, but would be assuming 99.9% capture efficiency.

The proposed AOSs and associated permit language are outlined on the attached application forms. The Project is further detailed on the included EAF Supplement Report.

This application is complete based on the requirements in 6 NYCRR 201-6.2(d), as outlined below:

- Identifying information
 - o Provided on the Application Forms.
- A description of the facility's processes and products (by Standard Industrial Classification or North American Industry Classification System code)
 - Provided on the Application Forms and Emissions Unit Matrix.
- Emissions-related information
 - Provided on the Application Forms.
- Air pollution control information



- Provided on the Application Forms.
- Other information that may be necessary to implement and enforce applicability requirements
 - Provided on the Application Forms.
- An explanation of any proposed exemptions from otherwise applicable Federal requirements
 - No proposed exemptions are requested at this time.
- A description of any proposed exempt activities and/or emission units.
 - o This information is provided on the enclosed List of Exempt Activities Form.
- Information necessary to define operational flexibility proposed in accordance with section 201-6.4
 - o Proposed Alternate Operating Scenarios are included on the Application Forms.
- Acid rain information (if applicable)
 - o This facility is not subject to acid rain provisions.
- Certification by a responsible official.
 - Provided on Application Forms.

The application includes an analysis of the Project under the nonattainment New Source Review (NSR) program (see the Project Summary and NSR Analysis). That analysis shows that the Project Emission Potential (PEP) is well below the 40 ton per year significant modification threshold for volatile organic compounds established under 6 NYCRR Part 231.

The application also includes a Part 212 Modeling Protocol outlining Global's proposed approach to analyzing emissions under 6 NYCRR Part 212.

Finally, the application package includes a Full EAF, together with a Supplement Report, which contains detailed information about the Project and its potential impacts. The Supplement Report is intended to provide DEC with the information necessary to fully understand the Project from a State Environmental Quality Review Act perspective.

As you know, during the past year Global has devoted substantial resources and time reaching out to the community and will continue to do so in accordance with the Public Participation Plan.

Should you have any questions please feel free to contact me at (518) 453-2203.

Sincerely,

Gianna Aiezza

Gianna Aiezza, PE Principal Engineer Envirospec Engineering, PLLC

Cc: Tom Keefe - Global





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Section III - Facility Information

□ State Only Requirement State Only Requirement State Only Requirement ONY998-00-0 and ONY100-00-0 VOC and Total HAP										
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applicability thresholds of40 CFR 63, Subpart R. Refined product throughput shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6. This capping condition is applicable for 1-RACKT, RPT; 2-RACTR, RPR; 3-RACKM, RPM, BSM. The process material selected is gasoline, however this limit applies to all refined products.										
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Section III - Facility Information

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emissions below 9.5 tons/yr: less than the applicability thresholds of 40 CFR 63, Subpart R. Blendstock throughput shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6. Emissions for this cap were calculated using the most current version of AP-42. Throughput limits were calculated using a Marine VCU emission rate of 2 mg/L (VCUM2), and with negative pressure loading (vac assist) to eliminate fugitive emissions from loading. Blendstock throughputs shall be included in the annual compliance report. This capping condition is applicable for 3-RACKM, BSM.											lated	
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Section III - Facility Information

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6	NYCRR	201	7								
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☐ Intermitt	ent Emissio	n Testing		×	Work Pra	ictice Involvi	ng Specific	Opera	tions		
☐ Ambient	Air Monito	ring			Record K	eeping/Maiı	ntenance Pr	ocedu	ires		
					Des	cription					
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Section III - Facility Information

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					Desc	cription					
emissions below 9.5 tons/yr; less than the applicability thresholds of 40 CFR 63, Subpart R. Crude oil throughput shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6. Emissions for this cap were calculated using the most current version of AP-42. Throughput limits were calculated a Marine VCU emission rate of 2 mg/L (VCUM2) with negative pressure loading (vac assist) to eliminate fugitive emissions from loading. Crude Oil throughputs shall be included in the annual report. This capping condition is applicable for 3-RACKM, CDM.											
Work Prac	ctice		Pro	cess Mat	erial				Reference Tes	t Method	
Туре	Co	ode		Des	cription				nererence les	rivietiiou	
03	2	71		Crı	ıde Oil						
			Paramete	er				Λ.	/Janufacturer Nan	ne/Mode	l No
Code			Des	scription					nanaracturer ivar	ile, ivioue	140.
		Limit							Limit Units		
	Upper			Lower		Code			Description	1	
45	0,000,000)				15			gallons		
	Averaging	Method			Monitori	ng Frequen	СУ		Reporting Re	quiremer	its
Code	Code Description Code Description Code Description										
71										ally (Cal	



	DEC ID												
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Section III - Facility Information

			Facility	Compli	ance Ce	rtificatio	า (continu	ation	n)		
					Rule	Citation					
Title	Type	Part	Subpa	rt S	ection	Subdivision	n Paragr	aph	Subparagraph	Clause	Subclause
6	NYCRR	201	7								
■ Applicab	le Federal R	equirement			CAS	No.			Contaminant Na	ime	
☐ State On	ly Requirem	ent	N C	apping	0NY998-00-0 a	nd 0NY100-00-0		V	OC and Total	HAP	
				Mo	nitoring	g Informa	tion				
☐ Continuo	us Emission	Monitoring						Devic	e Parameters as	a Surrogat	:e
☐ Intermitt	ent Emissio	n Testing		×	Work Prac	ctice Involvi	ng Specific (Opera	tions		
☐ Ambient	Air Monitor	ing			Record Ke	eping/Mair	itenance Pr	ocedu	res		
					Desc	ription					
HAP emissions below 9.5 tons/yr: less than the applicability thresholds of 40 CFR 63, Subpart R. Refined product throughput shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6. Emissions for this cap were calculated using the most current version of AP-42. Throughput limits were calculated using a Rail Vapor Combustion Unit (VCU) emission rate of 2 mg/L with negative pressure loading (vac assist) to eliminate fugitive emissions from loading. Refined product throughputs shall be included in the annual report. This capping condition is applicable for 2-RACKR, RPR. The process material selected is gasoline, however this limit applies to all refined products.											
Work Prac			Pro	ocess Mat	-				Reference Te	st Method	
Туре		de		Des	cription				nererence re-	20111001100	
03	0	17		Ga	soline						
Parameter Manufacturer Name/Model No.									No.		
Code			Des	scription							
		Limit							Limit Units		
	Upper			Lower		Code			Descriptio	n	
30	0,000,000					15			gallons		
	Averaging				Monitorii	ng Frequen	,		Reporting Re		
Code		Description		Code		•				Description	
Code Description Code Description Code Description 71 Annual Total Rolled Monthly 05 Monthly 15 Annually (Calendar)											



				[DEG) I C)				
4	1	0	1	0	1	1	0	0	1	1	2

Section III - Facility Information

			Facility	Compl	iance Ce	ertificatio	า (continเ	uation	1)		
					Rule	Citation					
Title	Type	Part	Subpar	t S	Section	Subdivision	n Paragr	aph	Subparagraph	Clause	Subclause
6	NYCRR	201	7								
■ Applicab	le Federal R	equirement			CAS	S No.			Contaminant Na	me	
☐ State On	ly Requirem	ent	⊠ Ca	pping	0NY998-00-0 a	and 0NY100-00-0		V	OC and Total I	HAP	
				M	onitorin	g Informa	tion				
☐ Continuo	ous Emission	Monitoring			•			l Devic	e Parameters as a	Surrogat	:e
☐ Intermitt	ent Emissio	n Testing		×	Work Pra	ctice Involvi	ng Specific	Operat	tions		
☐ Ambient	Air Monitor	ring			Record Ke	eeping/Mair	ntenance Pr	ocedui	res		
					Desc	cription					
throughput shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6. Emissions for this cap were calculated using the most current version of AP-42 factors. Throughput limits were calculated using a Truck Rack Vapor Recovery Unit (VRU) emission rate of 2 mg/L with negative pressure loading (vac assist) to eliminate fugitive emissions from loading. Refined product throughputs shall be included in the annual compliance report. This capping condition is applicable for 1-RACKT, RPT. The process material selected is gasoline, however this limit applies to all refined product.											
Work Prac	ctice		Prod	cess Ma	terial				Reference Tes	t Method	
Туре		ode			scription				1.0.0.0100 703	· metriou	
03	0	17			asoline						
Parameter Manufacturer Name/Model N									No.		
Code			Desc	cription						,	
		1114		_				_	Lineia I India		
	Upper	Limit		Lower		Code			Limit Units Description		
0.0				LOWEI					·		
88	0,000,000 Averaging				Monitori	15	2)/		gallons	auirem er	tc
Code		Description		Code		ng Frequen Descripti		Co	Reporting Red	quiremen Descriptio	
		•	/onthly			•				-	
71 Annual Total Rolled Monthly 05 Monthly 15 Annually (Calendar)											



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Section III - Facility Information

			Facility	/ Comp	liance	Cert	tification	ı (conti	nuatio	n)			
					Ru	ıle Ci	itation						
Title	Туре	Part	Subpa	art	Section	ı S	ubdivisior	Para	agraph	Subp	paragraph	Clause	Subclause
6	NYCRR	201	7										
■ Applicab	le Federal R	equirement				CAS N	No.			Conta	ıminant Naı	ne	
☐ State On	ly Requirem	ent	M	Capping	0NY998-0	00-0 and	0NY100-00-0		V	/OC a	nd Total H	HAP	
				M	onito	ring	Informa	tion					
☐ Continuo	us Emission	Monitoring	;						rol Devid	e Para	meters as a	Surrogat	:e
☐ Intermitt	ent Emissio	n Testing		×	l Work I	Practi	ice Involvi	ng Specif	ic Opera	tions			
☐ Ambient	Air Monito	ring			Record	d Kee	ping/Main	tenance	Procedu	ires			
					D	escri	iption						
23.75 tons/yr and keep individual HAP emissions below 9.5 tons/yr which is less than the applicability thresholds of 40 CFR 63, Subpart R. The emission rate shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6. VCUM2 will be operated at a maximum emission rate of 2 mg/L. This capping condition is applicable for 3-RACKM, RPM, BSM, and CDM. Work Practice Process Material Reference Test Method													
Work Prac	tice		Pro	ocess Ma	aterial								
Туре		ode			escription	on				Ref	erence Tes	t Method	
									Method	25A o	or 25B, Met	hod 21, l	Method 2A
			Paramet	er						Manuf	eturor New	00/N/0d=	No
Code			De	scription					ľ	vianura	acturer Nam	ie/iviodei	NO.
		Limit	:							Limit	Units		
	Upper			Lower			Code				Description		
	2						318			millig	grams per	liter	
	Averaging	Method			Monit	toring	Frequenc	СУ		Re	eporting Red	quiremen	ts
Code		Description		Code			Description	on	Co	ode		Descriptio	n
60	Maximum - Not to Exce	eed Stated Value - See Mo	nitoring Description	14	As R	Required -	See Permit Mon	toring Descript	ion 1	5	Annua	ally (Cale	endar)



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Section III - Facility Information

			Facility	/ Comp	liance	e Cer	tificatio	n (con	tinua	atior	1)			
							Citation				•			
Title	Туре	Part	Subpa	art	Sectio	n :	Subdivisio	n Pa	aragra	ph	Subp	aragraph	Clause	Subclause
6	NYCRR	201	7											
■ Applicab	le Federal R	equirement		<u> </u>		CAS	No.				Conta	minant Na	me	
☐ State On	ly Requirem	ent	⊠ C	Capping	0NY998	3-00-0 and	d 0NY100-00-0			V	OC a	nd Total I	HAP	
				М	onito	oring	Informa	tion						
☐ Continuo	us Emission	Monitoring							ntrol [Device	e Parai	meters as a	Surrogat	e
☐ Intermitt	ent Emissio	n Testing				_	tice Involvi						J	
☐ Ambient	Air Monito	ring					eping/Mair			•				
					[Desci	ription							
23.75 tons/yr and keep individual HAP emissions below 9.5 tons/yr which is less than the applicability thresholds of 40 CFR 63, Subpart R. The emission rate shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6. VCUM1 will be operated at a maximum emission rate of 10 mg/L. This capping condition is applicable for 3-RACKM, RPM, BSM, and CDM.														
Work Prac		4.	Pro	ocess Ma					4		Ref	erence Tes	t Method	
Туре	Co	ode		De	script	ion								
					_	_			Me	thod	25A o	r 25B, Met	thod 21, I	Method 2A
Codo			Paramet						-	Ν	/lanufa	cturer Nan	ne/Model	No.
Code Description Wallard Code 100 Description														
0NY502000	0NY502000 40 CFR 60-63 - Total Organic Compounds (TOC) Limit Limit Units													
	Upper	Limit		Lower			Code	1				Description		
				LOWEI								•		
	10	Mothed			NA	itoric	318					rams per		+0
Code	Averaging	Description		Code		iitorin	g Frequent Description			Co		porting Re	quiremen Descriptio	
			itoring Dozeriatie			Poguing 4	•		orintic =				•	
60	waxiiiuiii - NOLIO EXCE	ed Stated Value - See Mon	mornig pescription	14	AS	required	- See Permit Mor	morning Desc	STIPUUTI	1	J	Annua	ally (Cale	ziiuai)



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Section III - Facility Information

			Facility	Compli	ance C	ertificatio	n (cont	inuatio	on)			
			<u> </u>			Citation						
Title	Туре	Part	Subpa	art S	ection	Subdivisio	n Pai	agraph	Sub	paragraph	Clause	Subclause
6	NYCRR	201	7									
■ Applicab	le Federal R	equirement			CA	AS No.			Conta	aminant Nai	me	
☐ State On	ly Requirem	ent	⊠ C	apping	0NY998-00-0	and 0NY100-00-0			VOC a	and Total I	HAP	
				Mo	nitorii	ng Informa	tion					
☐ Continuc	us Emission	Monitoring				ing of Proces		trol Dev	ice Para	ameters as a	Surrogat	:e
☐ Intermitt		•				actice Involvi					J	
	Air Monitor	J				Keeping/Mair	• .	•				
						scription						
tons/yr and keep individual HAP emissions below 9.5 tons/yr which is less than the applicability thresholds of 40 CFR 33, Subpart R. The emission rate shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6. VRUTK will be operated at a maximum emission rate of 2 mg/L. This capping condition is applicable for 1-RACKT, RPT. Work Practice Process Material												
\\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				24.								
Type		ode	Pro		erial cription				Re	ference Tes	t Method	
Турс		,uc			cription			Motho	d 25A /	or 25B, Met	hod 21	Mothod 2A
	_	_	Paramet	or	_	_	_	IVICTIO	u 25A (JI ZJD, IVICI	.1100 2 1, 1	VIELIIOU ZA
Code Description Manufacturer Name/Model No.								No.				
0NY502000 40 CFR 60-63 - Total Organic Compounds (TOC)												
		Limit			<u> </u>		,		Limit	Units		
	Upper			Lower		Code				Description		
	2					318			milli	grams per	liter	
	Averaging	Method			Monito	ring Frequen	су			eporting Re		ts
Code		Description		Code		Descripti	on	C	ode	1	Descriptio	
60	Maximum - Not to Exce	ed Stated Value - See Moni	itoring Description	14	As Requ	uired - See Permit Mo	nitoring Descri	ption	15	Annua	ally (Cale	endar)



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Section III - Facility Information

			Facility	Compl	iance C	ertificatio	n (cont	inuatio	n)				
					Rule	Citation							
Title	Туре	Part	Subpa	rt S	Section	Subdivisio	n Par	agraph	Subparagra	h Clause	Subclause		
6	NYCRR	201	7										
■ Applicab	le Federal R	equirement			CA	S No.			Contaminant	Name			
☐ State On	ly Requirem	ent	N C	apping	0NY998-00-0	and 0NY100-00-0		V	OC and Tot	al HAP			
				M	onitorin	g Informa	tion						
☐ Continuo	us Emission	Monitoring						trol Devic	e Parameters	as a Surroga	te		
☐ Intermitt	ent Emissio	n Testing		×	Work Pra	ictice Involvi	ng Speci	fic Opera	tions				
☐ Ambient	Air Monitor	ring			Record K	eeping/Mair	ntenance	Procedu	res				
					Des	cription							
23.75 tons/yr and keep individual HAP emissions below 9.5 tons/yr which is less than the applicability thresholds of 40 CFR 63 Subpart R. The emission rate shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6. VCURR will be operated at a maximum emission rate of 2 mg/L. This capping condition is applicable for 2-RACKR, RPR.													
Work Prac		da I	Pro	cess Ma					Reference	Test Method	ı		
Туре	C0	ode		De:	scription				054 055	4.41101	M. (l ! O.)		
			D					iviethod	25A or 25B,	vietnod 21,	ivietnod 2A		
Code			Paramet	er scription				N	Manufacturer	Name/Mode	l No.		
	40.0	2ED 60 60		•	Corre	undo /TOC	`\						
0NY502000	40 (CFR 60-63	- rotar C	лganic	Compo	unas (100	,)		Limit Units				
	Upper	Limit		Lower		Code			Descrip	ion			
	2			LOWEI		318			milligrams				
					Monitor	ing Frequen	CV			Requiremen	ntc		
Code	Averaging Method Code Description			Code	Wioriitor	Descripti		Co	ode	Description			
60		ed Stated Value - See Mon	itoring Description	14	As Requi	red - See Permit Mor				nually (Cal			
00				17			2 = ====	'	Z A	induity (Odi	oridai j		



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Section III - Facility Information

			Facility	/ Compl	iance Co	ertificatio	n (cont	inuatio	n)			
					Rule	Citation						
Title	Type	Part	Subpa	art S	Section	Subdivisio	n Par	agraph	Subpar	agraph	Clause	Subclause
6	NYCRR	201	7									
■ Applicab	le Federal R	equirement			CA	S No.			Contami	inant Nar	ne	
☐ State On	ly Requirem	ent	×	Capping	0NY998-00-0	and 0NY100-00-0		V	OC and	l Total F	HAP	
				M	onitorin	g Informa	ition					
☐ Continuo	us Emission	Monitoring				ng of Proces		trol Devid	ce Parame	eters as a	Surrogat	:e
☐ Intermitt	ent Emissio	n Testing		×	Work Pra	ctice Involvi	ing Speci	fic Opera	itions			
☐ Ambient	Air Monitor	ring			Record K	eeping/Maiı	ntenance	Procedu	ıres			
					Des	cription						
Samples from tanks storing crude oil will be collected monthly for RVP sampling if new crude oil is introduced into the tank since the previous sample. RVP of crude oil will be limited to 12.5 psi based on an annual average. The annual average will be rolled monthly. Records of the monthly crude oil samples taken in accordance with the Department approved protocol for RVP for tanks storing crude oil shall be kept on site for a period of five years. This capping condition is applicable for 1-TANK1, CR1												
Work Prac	rtice		Dro	ocess Ma	terial							
Туре		ode			scription				Refere	ence Test	Method	
7,1												
			Paramet	er								
Code				scription				ſ	Manufacti	urer Nam	ne/Model	No.
36	Rei	id vapor pres	ssure									
		Limit							Limit Un	its		
	Upper			Lower		Code			De	scription		
	12.5					291		poun	ds per sq	uare inch		
	Averaging	Method			Monitor	ing Frequen	су		Repo	orting Red	quiremen	ts
Code	[Description		Code		Descripti	on	Co	ode		escriptio	n
63	see moi	nitoring desc	cription					1	5	Annua	ally (Cale	endar)





Section III - Facility Information

			Facility	, Comp	oliance	Certificatio	n (cont	tinuatio	n)			
					Ru	le Citation						
Title	Type	Part	Subpa	art	Section	Subdivisio	n Pa	aragraph	Subparagraph	Clause	Subclause	
6	NYCRR	201	7									
☑ Applicab	le Federal R	equirement				CAS No.			Contaminant Na	me		
☐ State On	ly Requirem	ient	I⊠C	Capping	0NY998-0	00-0 and 0NY100-00-0		V	OC and Total	HAP		
				N	/lonito	ring Informa	ation					
☐ Continuo	ous Emission	n Monitoring						ntrol Devic	ce Parameters as a	Surrogat	:e	
☐ Intermitt						Practice Involv				J		
☐ Ambient		•				d Keeping/Mai		=				
					D	escription						
keep indiv Facility wid for various oil, the foll	idual HAP of de emission operating owing equi	emissions b ns were det scenarios.	below 9.5 termined For the partine hall be us	tons/y using t purpose sed to o	r which he mos e of det	is less than t t current AP-4 ermining com	he appl 42 form pliance	licability thulas. The based of	uissions below 20 hresholds of 40 e throughput lim n source-wide the e operating scen	CFR 63 S its were or roughpu	Subpart R. calculated t of crude	
Operating Scenario Loading Equivalent (Kgal) = to One (1) Kgal of Crude Oil 1												
Compliand	e will be de	eterminea t	based on	the ion	owing e	equation:						
Total Thro	ughput of r	efined prod	lucts (kga			ed from OS # aded from OS			d from OS #2 / 0).81) +		
This cappi	ng conditio	on is applica	ıble for 3-	-RACK	M - CDI	M, FGM.						
Work Prac			Pro	ocess M				_	Reference Tes	t Method		
Туре	Co	ode		D	escription	on						
03	27	71		С	rude C)il						
			Paramet	er					Manufacturer Nar	ne/Model	No	
Code			Des	scriptio	n							
		Limit							Limit Units			
	Upper			Lower		Code			Description	1		
45	0,000,000)				15			gallons			
	Averaging	Method			Monit	toring Frequen	су		Reporting Re	quiremen	ts	
Code	[Description		Cod	е	Descripti	ion	Co	ode	Descriptio	n	
71	Annual To	otal Rolled	Monthly	05		Month	ly	1	5 Annu	ally (Cale	endar)	





Section III - Facility Information Facility Compliance Certification (continuation)

			<u> </u>		Rule	Citation	`		·			
Title	Type	Part	Subpa	art	Section	Subdivision	Para	graph	Subparagrap	h Clause	Subclause	
6	NYCRR	201	7									
☑ Applicab	le Federal F	Requirement	<u> </u>	•	CA	AS No.			Contaminant	Name		
☐ State On	ly Requiren	nent	M C	apping	0NY998-00-0	and 0NY100-00-0		\	OC and Tot	al HAP		
				M	onitorir	ng Informa	tion					
☐ Continuo	us Emissio	n Monitoring	5		Monitor	ing of Process	or Cont	rol Devi	ce Parameters	as a Surroga	te	
☐ Intermitt	ent Emissio	n Testing		×	Work Pra	actice Involvii	ng Specif	ic Opera	itions			
☐ Ambient	Air Monito	ring			Record K	Geeping/Main	tenance	Procedu	ıres			
					Des	cription						
individual HAP emissions below 9.5 tons/yr which is less than the applicability thresholds of 40 CFR 63 Subpart R. Facility wide emissions were determined using the most current version of AP-42. The throughput limits were calculated for various operating scenarios. This capping condition is applicable for refined product loading at all loading racks. The facility may load up to 1.929 billion gallons of any refined product. For the purpose of determining compliance based on source-wide throughput of gasoline, the following equivalencies shall be used to determine compliance with alternative operating scenarios. Each kilogallon (Kgal) of gasoline is equivalent to: Operating Scenario Loading Equivalent (Kgal) = to One (1) Kgal of Gasoline Refined Product Operating Scenario (OS) #1: Loading at truck, rail and/or marine at 2 mg/L with vac assist #2: Marine loading of inerted vessels at 2 mg/L (99.9%) 0.2 #3: Marine loading with VCUM1 (10 mg/L) with vac assist #4: Truck loading with no vac assist (2 mg/L and 8 mg/L fugitives) 0.2 #4: Truck loading with no vac assist (2 mg/L and 8 mg/L fugitives) Compliance will be determined based on the following equation: Total Throughput of refined products (kgal) = (kgal loaded from OS #1) + (kgal loaded from OS #2 / 0.81) +												
Complianc		etermined ba	ased on th	e follow		· ·	with no	/ac assi	st (2 mg/L and	8 mg/L fug	itives)	
This cappir	ng condition	(kgal loade is applicab	d from OS le for 1-R/	8 #3 / 0.: ACKT - I	2) + (kgal RPT, FG ⁻	loaded from	OS #4 / R - RPR,	0.2) + (FGR &	m OS #2 / 0.8 kgal loaded fro 3-RACKM - R	om OS #5 /	•	
Work Prac	ctice		Pro	ocess Ma	terial				Reference	Test Method	ı	
Туре	C	ode		De	escription				Reference	rest iviethor		
03	1	17		G	asoline							
			Paramet						Manufacturer I	lame/Mode	l No	
Code			De	scription					Vialialacturer	iame, wood	1110.	
		Limit							Limit Units			
	Upper			Lower		Code			Descrip	ion		
1,9	29,000,000)				15			gallon	S		
	Averaging					ring Frequenc			Reporting	Requiremer		
Code		Description		Code	:	Description		Co	ode	Description	on	
71	Annual T	otal Rolled	Monthly	05		Monthly	/	1	5 An	nually (Cal	endar)	
								Co	ntinuation Sh	eet o	f	

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Section III - Facility Information

			Facility	Complia		ertificatioi	ı (continu	iation)				
					Rule	Citation						
Title	Type	Part	Subpa	art Se	ction	Subdivision	Paragr	aph	Subparagraph	Clause	Subclause	
6	NYCRR	201	7									
■ Applicab	le Federal Re	equirement	모	Canning	CA	S No.		C	Contaminant Nar	ne		
☐ State On	ly Requirem	ent		Capping	NY998-00-0	and 0NY100-00-0		VC	DC and Total I	HAP		
				Moi	nitorin	g Informa	tion					
	us Emission	_			lonitori	ng of Proces	or Control	Device	Parameters as a	Surrogat	е	
	ent Emissio	_				ictice Involvi						
☐ Ambient	Air Monitor	ing		□ R		eeping/Mair	tenance Pr	ocedure	<u>es</u>			
					Des	cription						
Tank maintenance emissions will not exceed 22 tons on a rolling annual basis. Emissions will be calculated using the latest version of AP-42. This capping condition is applicable for 1-TANK1, RP1, CR1, BS1												
Work Prac	ctice	ide I	Pro	ocess Mate	rial ription				Reference Test	Method		
Туре				Desc	ιφισι							
			Paramet	er								
Code			Des		Ma	anufacturer Nam	ie/Model	No.				
		Limit						L	imit Units			
	Upper			Lower		Code			Description			
						34			tons			
	Averaging	Method		N	∕lonitor	ing Frequenc	:у		Reporting Red	quiremen	ts	
Code	·					Description	on	Code	е С	escriptio	n	
17	annual max	imum rolled	monthly	05		15	Annua	ally (Cale	endar)			



			[DEG	C 10	DEC ID														
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			S	ectio	n III - F	acility in	orma	ation					
			Facility	/ Com	pliance	Certificatio	n (cor	ntinuatio	n)				
					Ru	e Citation							
Title	Туре	Part	Subp	art	Section	Subdivisio	n P	aragraph	Sub	paragraph	Clause	Subclause	
40	CFR	64											
■ Applicab	le Federal R	equirement				AS No.			Cont	aminant Nar	me		
☐ State On	ly Requirem	ent		Capping	ONY	998-00-0				VOC			
				ı	Monitor	ng Informa	ation						
☐ Continuo	ous Emissior	n Monitoring			■ Monito	ring of Proce	ss or Co	ontrol Devic	e Para	ameters as a	Surrogat	te	
☐ Intermit	tent Emissio	n Testing			□ Work P	ractice Involv	ing Spe	ecific Opera	tions				
☐ Ambient	Air Monito	ring			☐ Record	Keeping/Mai	ntenan	ice Procedu	ires				
					De	scription							
the systen	n. Daily dri	ft checks a	re used t	o evali	uate if the	r for CAM. CEM need	s to be	calibrated		erformed a	utomati	cally by	
in the cart obtained of cycle of ei excursion Indicator 2 once per of The greater reading. Ilimit, a see minutes pattain at le	The following parameters will be monitored when the CEMS is not operational: Indicator 1: Temperature - The temperature of the carbon bed will be monitored and recorded daily via a probe inserted in the carbon bed. If the temperature is between 175 and 200 degrees F, a second temperature reading will be obtained during the next loading cycle of that carbon bed. If the temperature exceeds 200 degrees F during a loading cycle of either carbon bed, an excursion has occurred. If the second temperature reading exceeds 175 degrees F, an excursion has occurred. Indicator 2: Vacuum - The facility will monitor the operating vacuum of each carbon bed during a regeneration cycle once per day and manually record the vacuum. The greatest vacuum during one regeneration cycle of each bed shall be manually recorded based on the gauge reading. The duration of the reading shall be one complete cycle. If the recorded value for either bed is less than the limit, a second reading shall be collected during the course of the net regeneration cycle of the bed, approximately 30 minutes per cycle. An excursion occurs if the operating vacuum of two consecutive regeneration cycles for a bed fails to attain at least 26" in Hg during both regeneration cycles of the bed. The facility shall comply with 40 CFR 64.7 and 64.9. Records shall be maintained in accordance with Part 201-6.4(c)(1) and (c)(2).												
		icable for V	RUTK										
Work Pra			Pr		/laterial				Re	ference Test	t Method	1	
Туре	Co	ode		[Descriptio	1							
			Paramet						Manuf	acturer Nam	ne/Mode	l No.	
Code			De	scriptio	on						,		
		Limit							Limit	Units			
	Upper			Lowe	r	Code				Description			
	Averaging					oring Frequer				eporting Red			
Code		Description		Cod		Descript			ode		Descriptio		
30	ı 6-hourı	rolling ave	rage	03	3	Daily	,	1	4	I Semi-Ani	nually (C	Calendar)	

Continuation Sheet ___



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			Facility	/ Comp	oliance C	ertificatio	n (co	ntinuation	n)				
						Citation							
Title	Туре	Part	Subpa	art	Section	Subdivisio	n I	Paragraph	Subparagraph	Clause	Subclause		
40	CFR	63	BBBB	BBB	11092	b							
■ Applicab	le Federal R	equirement		<u>I</u>	CA	S No.			Contaminant Na	me			
☐ State On	ly Requirem	ent		Capping									
	, ,			N	/onitorir	ng Informa	ation						
☐ Continuo	us Emission	Monitoring						Control Devic	e Parameters as a	a Surrogat	e		
	ent Emissio	_						ecific Operat					
	Air Monitor	•					• .	nce Procedu					
		<u> </u>				cription							
The Term	inal will use	e a VRU wi	th a Con	tinuous	Fmission	s Monitorin	ıa Svs	stem (CEMS	S) capable of me	easuring	organic		
							•	,	, ,	_	•		
_							_	-	outlet percent				
				•			•	,	which correspon		permitted		
									/IS downtime, al	ternative			
·	• •							092(b)(1)(i))(D). I be inspected d	urina loo	dina		
				•			_	•	aph, sight, soun	_	•		
									and the source				
repaired	'												
This see	This condition applies to VRUTK												
inis cond	This condition applies to VRUTK												
Work Prac		. 1	Pr	ocess M				_	Reference Tes	t Method			
Туре	Co	de		D	escription								
			Paramet						Manufacturer Nar	ne/Mode	No.		
Code			De				,						
		Limit							Limit Units				
	Upper			Lower		Code			Description	1			
	Averaging	Method			Monitor	ing Frequen	су		Reporting Re	quiremer	ts		
Code	Description			Cod	e	Descripti	ion	Со	de	Descriptio	n		
30	6-hour r	olling ave	rage	03		Daily		1.	4 Semi-An	nually (0	Calendar)		
				<u> </u>					ntinuation Shee		-		



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Section III - Facility Information

_				ectio	<u>'''' ''''</u>	- ra	cility iiii	Orilla	tion				
			Facility	Com	plian	ice Ce	ertificatio	n (con	tinuatio	n)			
						Rule	Citation						
Title	Type	Part	Subpa	art	Sect	ion	Subdivisio	n Pa	ragraph	Sub	paragraph	Clause	Subclause
40	CFR	64											
■ Applicab	le Federal F	Requirement				CA	S No.			Conta	aminant Nar	me	
☐ State On	ly Requiren	nent		Capping	' C	NY9	98-00-0				VOC		
				ſ	Moni	torin	g Informa	ation					
☐ Continuo	us Emissio	n Monitoring			⊠ Mo	nitorir	ng of Proces	s or Co	ntrol Devid	e Para	meters as a	Surrogat	:e
☐ Intermitt	ent Emissic	on Testing		!	□ Wo	rk Pra	ctice Involv	ing Spec	cific Opera	tions			
☐ Ambient	Air Monito	ring			□ Rec	ord Ke	eeping/Mai	ntenanc	e Procedu	ires			
						Des	cription						
The combustion temperature shall be monitored pursuant to 40 CFR 64.3(a) by a continuous temperature monitor. The temperature monitoring device shall have an accuracy of one percent (1%) of the temperature being measured in degree Centigrade or plus or minus five tenth degree Centigrade (+/- 0.5 degrees C) whichever is greater. The monitored operating parameter value (MOPV) shall be determined from manufacturer's guarantee until the next performance test. An excursion occurs if the average temperature is below the MOPV as monitored by the CPMS for any 6 hour period rolling period. The facility shall also comply with monitoring and recordkeeping requirements of 40 CFR 64.7 and 64.9. Reports shall include, at a minimum, the following information, as applicable: A summary of the information on (1) the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and corrective actions taken; and (2) the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). The following parameters will be monitored when temperature monitoring is not operational: Once each day, while VCUM1 is operating, the permittee will inspect the VCU for proper operation. Proper operation is that the pilot is lit for loading operations and the Ultraviolet Flame detection equipment indicates the presence of a flame. An excursion occurs if the product is being loaded without the pilot flame being lit.													
This condi	tion is app	ilicable for v	/CUM I										
Work Prac	ctice		Pr	ocess N	Лateri	al				-	f		
Туре	С	ode		[Descrip	ption				Ke ⁻	ference Test	t Method	
	1	28			VO	C							
			Paramet	er						Manuf:	acturer Nam	ne/Model	No
Code			De	scriptic	on				'	viaitait	acturer ivan	ic, iviouci	140.
03	03 Temperature												
		Limit								Limit			
	Upper			Lowe	r		Code				Description		
							44				ees Fahre		
	Averaging					onitori	ing Frequen				eporting Red		
Code		Description		Cod	de		Descripti	ion	Cc	ode		Descriptio	n
30	6-hr F	Rolling Ave											



				[DEG) I C)				
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Section III - Facility Information

			Facility	/ Comr	oliance	Certification	n (conti	inuatio	n)				
						le Citation	(1111		•				
Title	Туре	Part	Subpa	art	Section	Subdivisio	on Para	agraph	Subpara	graph	Clause	Subclause	
40	CFR	64											
☑ Applicab	le Federal F	Requirement				CAS No.			Contamin	nant Nar	me		
☐ State On	ly Requiren	nent		Capping	0N,	Y998-00-0			V	C			
				N	/lonito	ring Inform	ation						
☐ Continuo	us Emissio	n Monitoring				oring of Proce		rol Devi	ce Paramet	ters as a	Surrogat	:e	
☐ Intermitt	ent Emissio	n Testing			⊐ Work	Practice Involv	ing Specif	fic Opera	itions				
☐ Ambient	Air Monito	ring			☐ Record	d Keeping/Ma	intenance	Procedu	ıres				
					D	escription							
temperatu degree Ce The monit	re monitor entigrade o ored opera	ing device sl r plus or mir ating parame	hall have nus five t	e an acc tenth de	curacy of egree C	int to 40 CFF of one percei entigrade (+/ I be determir	nt (1%) of - 0.5 deg	f the ten rees C)	nperature whicheve	being r er is gre	neasure ater.	d in	
any 6 hou CFR 64.7 A summar excursions cause (inc with zero a The follow Once each operation i presence of	An excursion occurs if the average temperature is below the MOPV as monitored by the CPMS for any 6 hour period rolling period. The facility shall also comply with monitoring and recordkeeping requirements of 40 CFR 64.7 and 64.9. Reports shall include, at a minimum, the following information, as applicable: A summary of the information on (1) the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and corrective actions taken; and (2) the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). The following parameters will be monitored when temperature monitoring is not operational: Once each day, while VCUM2 is operating, the permittee will inspect the VCU for proper operation. Proper operation is that the pilot is lit for loading operations and the Ultraviolet Flame detection equipment indicates the oresence of a flame. An excursion occurs if the product is being loaded without the pilot flame being lit. This condition is applicable for VCUM2												
			Pre						Refere	nce Test	t Method		
Туре		ode		D	Description	on							
	1	28			VOC								
			Paramet					ı	Manufactu	rer Nam	ne/Model	No.	
Code	·												
03			Tem	nperatu	ıre								
		Limit							Limit Unit				
	Upper			Lower		Code	!			cription			
						44			degrees				
	Averaging					toring Freque					quiremen		
Code		Description		Cod	е	Descript	ion	Co	ode		Descriptio	n	
30	6-hr Rolling Average 14 As Required - See permit monitoring description 15 Annually (Calendar)												



				[DEG	C 10)				
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Section III - Facility Information

			Facility	/ Comp	oliance	Certificat	ion ((continu	ıatio	n)			
						le Citatio		<u> </u>					
Title	Туре	Part	Subp	art	Section	Subdivi	ion	Paragr	aph	Sub	paragraph	Clause	Subclause
40	CFR	63	BBBBB	3B	11092	b							
■ Applicab	le Federal R	equirement			(CAS No.				Conta	aminant Na	me	
☐ State On	ly Requirem	ent		Capping	ONY	′998-00-0					VOC		
				N	/lonitor	ing Inforr	nati	on					
☐ Continuo	us Emission	Monitoring							Devic	e Para	meters as a	Surrogat	e
☐ Intermitt	ent Emissio	n Testing			☐ Work F	ractice Invo	lving	g Specific (Opera	tions			
☐ Ambient	Air Monitor	ing		×	☑ Record	Keeping/N	ainte	enance Pro	ocedu	res			
					De	escription							
The Terminal will begin using a Continuous Monitoring System (CMS) capable of measuring temperature per 40 CFR 63.11092(b)(1)(iii)(A). The compliance temperature will be determined from the manufacturer's guarantee until the next performance test at which time it will be determined from the test. The Terminal will follow Alternative Monitoring for compliance per 40 CFR 63.11092(b)(1)(iii)(B) in the event of CPMS downtime. The averaging time is a six hour rolling average. Each calendar month, the vapor collection system and vapor processing system shall be inspected during loading events for total organic compounds liquid or vapor leaks. For purposes of this paragraph, sight, sound or smell are acceptable inspection/detection methods. Each detection of a leak shall be recorded and the source of the leak repaired This condition applies to VCURR													
Work Prac	tice		Pr	ocess M	aterial	_					_	_	_
Туре		ode			escriptio	n				Re	ference Tes	t Method	
			Paramet	ter								40 - 1	
Code			De	scription	n				ľ	Manuta	acturer Nan	ne/Mode	No.
	Limit Limit Units												
	Upper			Lower		Co	le				Description	1	
	Averaging	Method			Monit	oring Frequ	ency			Re	eporting Re	quiremer	its
Code	Code Description			Code	е	Descri	otion	1	Co	de	[Descriptio	n
30	6-hour r	ly		1	4	Semi-An	nually (0	Calendar)					



				[DEG	C 10)				
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			S	ectior	า III - Fa	acility Info	ormati	on				
			Facility	/ Comp	liance (Certification	ո (conti	nuatio	n)			
					Rule	e Citation						
Title	Туре	Part	Subpa	art	Section	Subdivision	n Para	graph	Subj	paragraph	Clause	Subclause
40	CFR	64										
■ Applicab	le Federal F	Requiremen	nt		C	AS No.			Conta	ıminant Naı	me	
☐ State On	lly Requiren	nent		Capping	0NY	998-00-0				VOC		
				N	lonitori	ng Informa	tion					
☐ Continuo	ous Emissio	n Monitorir	ng	×	Monitor	ing of Proces	s or Cont	rol Devi	ce Para	meters as a	Surrogat	te
☐ Intermit	tent Emissio	n Testing] Work Pr	actice Involvi	ng Specif	ic Opera	tions			
☐ Ambient	: Air Monito	ring			Record I	Keeping/Mair	itenance	Procedu	ıres			
					De	scription						
The monit performar An excurs any 6 hou CFR 64.7 A summa excursions cause (inc with zero and the follow Once each proper opequipment being lit.	tored operation to test to tes	if the aver lling period Reports sh information edances, a known cau or other da eters will be e the Rail oper opera the preser	rage temped. The facilihall include on (1) the as applica se, if applicitly calibrate wapor Correction is that nice of a flate.	erature lity shale, at a ne cable) from checed where mbustio t the pileme. An	V) shall I is below I also con inimum, er, durat d correct for monit cks, if ap n temper n Unit (V ot is lit for excursion	ntigrade (+/- be determine the MOPV a mply with me the followin ion and cau tive actions or downtime plicable). ature monite CURR) is op or loading op on occurs if	ed from the second of the seco	ored by and recation, a uding unand (2) ts (other the per and the	the CI cordke s appli nknow the r r than ational rmittee e Ultra	PMS for eping required icable: n cause, if number, du downtime l: e will insperviolet Flam	antee un irements f applica uration a associa ct the VC ne detect	s of 40 ble) of and ted CU for ion
Work Pra			Pr	ocess M					Ref	ference Tes	t Method	
Туре		ode		D	escription							
	1	28			VOC							
Contr			Paramet					ı	Manufa	acturer Nan	ne/Mode	l No.
Code				scriptior								
03				peratu	re							
	Lloner	Lim	nit	Louis		Cada			Limit			
	Upper			Lower		Code				Description		
	A	- 0.4 - +1 - 1			D.4	44				ees Fahre		
Contr	Averaging			C- 1		ring Frequen				eporting Re		
Code		Description	1	Code	9	Descripti	on	Co	ode		Description	n

Continuation Sheet ____ of __

Annually (Calendar)

30

6-hr Rolling Average

14

As Required - See permit monitoring description



DEC ID													
-													

Section IV - Emission Unit Information

		Emission Unit Description Continuation Sheet(uation Sheet(s)		
Emission Unit	-										
						Building Ir	formation			☐ Continu	uation Sheet(s)
Building ID					Buildi	ing Name			Length (ft)	Width (ft)	Orientation
Emission Unit											
Lillission offic					E	mission Unit E	missions S	Summary	1	☐ Continua	tion Sheet(s)
-							Countrius in	N	-		
CAS Number	1						Contamin	iant ivame	<u>e</u>		
					Potentia	al to Emit			Actus	al Emissions	
ERP (lbs/yr)			(lbs/h		(lbs/	/r)		(lbs/hr)		os/yr)
CAS Number	r						Contamin	ant Name	e		
ERP (lbs/yr)						al to Emit				al Emissions	
			(lbs/h	r)	(lbs/	yr)		(lbs/hr)	(Ik	os/yr)
			_								
CAS Number	1						Contamin	ant Name	e		
						1				1=	
ERP (lbs/yr)				lbs/h		al to Emit (lbs/	(r)		(lbs/hr)	al Emissions	os/yr)
				103/11	17	(103)	Y' 1		(103/111)	(II)3/ YI)
CAS Number	•						Contamin	ant Name	2		
							23				
5 55 (1)					Potentia	al to Emit			Actua	al Emissions	
ERP (lbs/yr)			(lbs/h		(lbs/	yr)		(lbs/hr)		os/yr)

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T-1 T T		П	_									
					Emiss	ion Poin	t Info	ormation	า			Continuation Sheet(s)
Emission Poi	nt											,
Ground	Haia	h + /f+\	Height Ab	ove	Inside D	iameter		- (0)	-\	(Cross Se	ection
Elevation (ft	:) Heig	ht (ft)	Structure	(ft)	(i	n)	EXIT	Temp. (°I	F)	Length (in)		Width (in)
Exit Velocity	/ Exit	Flow	NYTM (E)	(KM)	NYTM (N) (KM)	F	Building		Distance to Prop	erty	Date of Removal
(FPS)	(AC	CFM)	IVITIVI (L)	(IXIVI)	1411141 (14) (1317)	,	Juliumg		Line (ft)		Date of Removal
Emission Poi	nt											
Ground	Неід	ht (ft)	Height Ab	ove	Inside D	iameter	Evit	Temp. (°I	E)		Cross Se	ection
Elevation (ft	:) Heig	110 (10)	Structure	(ft)	(i	n)	EXIL	remp. (i	Γ)	Length (in)		Width (in)
Exit Velocity	1	Flow	NYTM (E)	(KM)	NYTM (N) (KM)	E	Building		Distance to Prop	erty	Date of Removal
(FPS)	(AC	CFM)		()	(, (,				Line (ft)		
											\perp	
Emission Poi	nt											
Ground	. Heig	ht (ft)	Height Ab			iameter	Fxit	Temp. (°I	F)		Cross Se	
Elevation (ft	:)	- (-,	Structure	(ft)	(i	n)			′	Length (in)		Width (in)
Exit Velocity		Flow	NYTM (E)	(KM)	NYTM (N) (KM)	E	Building		Distance to Prop	erty	Date of Removal
(FPS)	(AC	CFM)								Line (ft)		
- · · · ·		1 -						ol Inform				Continuation Sheet(s)
Emission S	ource Type	-	Date of Istruction		ate of eration	Date Remo		Code	Cor	ntrol Type Description	Nai	Manufacturer's me/Model Number
	Туре	COI	istruction	Ope	eration	Keillo	vai	Code		Description	IVal	me/Model Number
Dosign			Design Ca	nacity	v I Inite				۱۸/-	aste Feed		Waste Type
Design Capacity	Code		Design Ca	-	ription			Code	VVC	Description	Code	• • • • • • • • • • • • • • • • • • • •
σαρασιτή	000.0			2 000.				3000		2000pero	0000	2 00011 pt.1011
Emission S	ource	Г	Date of	Da	ate of	Date	of		Cor	ntrol Type		 Manufacturer's
ID	Туре	4	struction		eration	Remo		Code		Description		me/Model Number
	,									·		
Design			Design Ca	apacity	y Units				Wa	aste Feed		Waste Type
Capacity	Code			Descr	iption			Code		Description	Code	Description
Emission S	ource		Date of	Da	ate of	Date	of		Cor	ntrol Type		Manufacturer's
ID	Туре	Con	struction	Оре	eration	Remo	val	Code		Description	Nai	me/Model Number
Design			Design Ca	•	•				Wa	aste Feed		Waste Type
Capacity	Code			Descr	ription			Code		Description	Code	Description

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		Emission Po	oint Informatio	n (continuatio	n)	
Emission Unit	1 - T A	N K 1			Emission Po	oint 0 T 1 1 4
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	48		1,440			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (km)	NYTM (N) (km)	Building	Distance to Property Line (ft)	Date of Removal
		601.833	4720.724			
Emission Unit	1 - T A	N K 1			Emission Po	oint 0 T 1 1 5
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	48		1,800			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (km)	NYTM (N) (km)	Building	Distance to Property Line (ft)	Date of Removal
		601.833	4720.724			
Emission Unit	1 - T A	N K 1			Emission Po	oint 0 T 1 1 7
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	48		1,320			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (km)	NYTM (N) (km)	Building	Distance to Property Line (ft)	Date of Removal
		601.833	4720.724			
Emission Unit	1 - T A	N K 1			Emission Po	oint 0 T 1 1 8
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	48		1,200			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (km)	NYTM (N) (km)	Building	Distance to Property Line (ft)	Date of Removal
		601.694	4270.675			
Emission Unit	1 - T A	N K 1			Emission Po	oint 0 T 1 1 9
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	48		960			
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km)	(km)	Danamb	Property Line (ft)	Tate of Memoral
		601.762	4720.654			

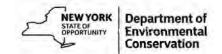
Continuation	Sheet	of
Continuation	JIICCL	O1



	DEC ID													
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		Emission Po	oint Information	n (continuatio	n)	
Emission Unit	1 - T A	N K 1			Emission Po	oint 0 T 1 2 0
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	48		960			
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km) 601.924	(km) 4720.601		Property Line (ft)	
Emission Unit	1 - T A	N K 1	4720.001		Emission Po	oint 0 T 1 2 1
			In aid - Diameter	First Towns		Section
Ground Elevation (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Length (in)	Width (in)
Lievation (1t)	48	Structure (it)	1,800	(г)	Length (m)	wiath (iii)
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	_	Distance to	
(FPS)	(ACFM)	(km)	(km)	Building	Property Line (ft)	Date of Removal
,		601.833	4720.724			
Emission Unit	1 - T A	N K 1			Emission Po	oint 0 T 1 3 0
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	48		900			
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km) 602.053	(km) 4720.551		Property Line (ft)	
- · · · · · · ·		002.033	4720.551	_		
Emission Unit	-		I		Emission Po	
Ground Elevation (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter	Exit Temp.		Section
Elevation (It)	(11)	Structure (It)	(in)	(°F)	Length (in)	Width (in)
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)		Distance to	
(FPS)	(ACFM)	(km)	(km)	Building	Property Line (ft)	Date of Removal
Emission Unit	II - I				Emission Po	pint
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)	

Continuation	Sneet	OT	



	DEC ID													
4	-	0	1	0	1	-	0	0	1	1	2			

	Emission Source/Control (continuation)							
Emission	Unit 1	- T A N K	1					
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK114	I							
Design		Design Capacity Units				Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
3,887,898	15		gallons					
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK115	I							
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
5,851,902	15		gallons					
Emission	Source	Date of	Date of	Date of		Control Type	_	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK117	I							
Design		Design Capacity Units				Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
3,028,032	15	gallons						
Emission	Source	Date of	Date of	Date of		Control Type	_	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK118	1							
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
2,426,550	15		gallons					
Emission	Source	Date of	Date of	Date of	Control Type		Manufacturer's	
ID	Type	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK119	1							
Design			pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
1,619,268	15	5 gallons						
Emission	Source	Date of	Date of	Date of		Control Type	_	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK120	I							
Design		Design Capacity Units				Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
1,640,940	15		gallons					

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Continuation	Sneet	ot



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	Emission Source/Control (continuation)							
Emission	Emission Unit 1 - T A N K 1							
Emission		Date of	Date of	Date of		Control Type	I м	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description		me/Model No.
TK121					3500	2 000		,
Design	1	Design Capacity Units			Waste Feed		Waste Type	
Capacity	Code		Description Description		Code	Description	Code	Description
5,370,204	15		gallons					
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK130	ı							
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
1,512,714	15		gallons					
Emission	Source	Date of	Date of	Date of		Control Type	М	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK31C	K				091	Floating Roof		
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	М	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK32C	K				091	Floating Roof		
Design		Design Ca	pacity Units		Waste Feed			Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Na	me/Model No.
TK39C	K				091	Floating Roof		
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	М	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Na	me/Model No.
T114C	K				091	Floating Roof		
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description

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Continuation	Sneet	ot



DEC ID											
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	Emission Source/Control (continuation)							
Emission	Unit 1	- T A N K	1					
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
T115C	K				091	Floating Roof		
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
T117C	K				091	Floating Roof		
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
T118C	K				091	Floating Roof		
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
T119C	K				091	Floating Roof		
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
T120C	K				091	Floating Roof		
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Na	me/Model No.
T121C	K				091	Floating Roof		
Design	Design Capacity Units				Waste Feed		Waste Type	
Capacity	Code		Description		Code	Description	Code	Description

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Continuation	Sneer	ot



	DEC ID														
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			Emission S	ource/Cont	rol (con	tinuation)		
Emission	u Unit 1	- T A N K	1					
Emission	n Source	Date of	Date of	Date of		Control Type	Ma	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
T130C	K				091	Floating Roof		
Design		Design Ca	pacity Units			Waste Feed	١	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design		Design Ca	pacity Units			Waste Feed	١	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design		Design Ca	pacity Units			Waste Feed	\	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	Ma	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design		Design Ca	pacity Units			Waste Feed	١	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design		Design Ca	pacity Units			Waste Feed	\	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	Ma	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design		Design Ca	pacity Units			Waste Feed	\	Waste Type
Capacity	Code		Description		Code	Description	Code	Description

Continuation	Chaat	۰ŧ
Continuation	Sneet	of



	D	EC II	D														
-		-															
								Pr	ocess Info	rmati	on				Continuati	on Sh	eet(s)
Emissio	on Unit		 												Process		P 1
								Pr	ocess Desc	criptio	on .						
Source C	`lassific:	ation	. Coc	te (SCC			Total Th					Throu	ghpu	t Quantity l			
Source C	Jussine	101	1 000	<i>JC</i> (<i>JCC</i>	"	Quant	tity/Hr	Qu	antity/Yr	Co	de			Descripti	on		
	ماميمة ما								ing Schedul			Building		Flo	or/Locatio	n	
☐ Confid☐ Opera		Nav	imuu	m Cana	city		Hour	s/Day	Days	/Year		Dullullig		110	OlyLocatio		
— Орега	itilig at	ivia	iiiiui	п Сара	аспту												
								Emiss	ion Point I	denti	fier(s						
																	
		Emission Source/Control Identifier(s)															
												<u> </u>					
			 			+											
- 1i-	1114		<u> </u>		1 1												
Emissio	on Unit		<u> - </u>		\perp										Process		Щ
								Pr	ocess Desc	criptio	on						
							Total Th	roughr	out			Throu	ghpu	t Quantity l	Jnits		
Source C	lassifica	itior	ı Coc	de (SCC		Quant	tity/Hr		antity/Yr	Co	de		8. P s.	Descripti			
							,	Onerat	ing Schedul	<u> </u>							
☐ Confid	dential							s/Day		/Year		Building		Flo	or/Locatio	n	
□ Opera	ating at	Max	imu	m Capa	acity			-, -,	7-7-	,			_				
								Fmiss	ion Point I	denti	fiorls	1					
			l			T		LIIII33	ion i onic i	aciiti	1101 (3	1			T		
							- Free is	sion C	aurea /Car	المسا	1001	fior(s)					
						┰	EIIIIS	Sion S	ource/Con	troi i	aenti	ner(s)			T		
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Section IV - Emission Unit Information

			Pro	cess In	formati	on (con	tinuatio	n)				
Emission Unit	1 - T	A N K	1							Р	rocess	C R 1
					Descri	iption						
Crude Oil storage	tanks us	ed for sto	orage an	d distrib	ution of (crude oil						
Source Classificatio	n Code		Total Thr	oughput				Through	hput Qua	ntity Unit	ts	
(SCC)		Quant	ity/Hr	Quant	tity/Yr	Code			Desc	cription		
4-03-010-9	9											
☐ Confidential					Operating 'Day	Schedul Day	e s/Yr	Buile	ding	FI	loor/Locati	on
☐ Operating at Maxi	imum Ca _l	pacity										
				Emissi	on Poin	t Identi	fier(s)					
00T31, 00T32	00T39,	, 0T114			0T′		0T′		0T′	120	0T1	121
							dentifie					
TK031, TK31C	TK032,	TK32C	TK039,	TK39C	TK114,	T114C	TK115,	T115C	TK117,	T117C	TK118,	T118C
TK119, T119C	TK120,	T120C	TK121,	T121C								
Emission Unit	1 - T	A N K	1							P	rocess	P C W
					Descri	iption						
Wastewater tank c					e.							
Source Classificatio (SCC)	n Code	Quant	Total Thr		tity/Yr	Code		Through		ntity Unit	ts	
(300)		Quart	,	Quan	,	Couc			D 630			
☐ Confidential ☐ Operating at Maxi	imum Ca _l	pacity		Hrs	'Day		s/Yr	Build	ding	Fl	loor/Locati	on
				Emissi	on Poin	t Identi	fier(s)					
0T130												
			Emis	ssion Sc	ource/C	ontrol I	dentifie	r(s)		ı		
TK130	T13	30C										



	DEC ID													
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Section IV - Emission Unit Information

			Emission L	Jnit Descrip	tion (conti	nuation)	
Emission Unit	1 - F	ACKI	-				
Truck loading rack							



	DEC ID														
4	-	0	1	0	1	-	0	0	1	1	2				

		Emission Po	oint Information	n (continuatio	n)	
Emission Unit	1 - R A	С К Т			Emission Po	oint 0 T R K 1
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
17	19	0	12			
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)	
		602.004	4720.713			
Emission Unit	1 - R A	СКТ			Emission Po	
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
Exit Velocity	Exit Flow (ACFM)	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFIVI)	(km)	(km)		Property Line (ft)	
Emission Unit	1-1-				Emission Po	pint
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
				, ,		
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Desilation and	Distance to	Data of Damanal
(FPS)	(ACFM)	(km)	(km)	Building	Property Line (ft)	Date of Removal
Emission Unit					Emission Po	pint
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)	
					<u> </u>	
Emission Unit					Emission Po	
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)	

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Continuation	JIICCL	O1



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			Emission S	ource/Cont	rol (con	tinuation)		
Emission	Unit 1	- R A C K	Т			,		
Emission		Date of	Date of	Date of		Control Type	М	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Naı	me/Model No.
RACKT	ı						Truc	k Rack
Design		Design Ca	pacity Units			Waste Feed	,	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
880,000,000	18	gal	lons per year	•				
Emission	Source	Date of	Date of	Date of		Control Type	М	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Naı	me/Model No.
VRUTK	K	06/01/1990	08/01/1990		047	Vapor Recovery Sys	Zink Mo	del AA 1218-11-7
Design	į	Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	М	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Nai	me/Model No.
VACTK	K						\	/ac Assist
Design	į	Design Ca	pacity Units			Waste Feed	,	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	М	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Nai	me/Model No.
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Naı	me/Model No.
Design			pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission		Date of	Date of	Date of		Control Type		anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Naı	me/Model No.
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description

Cantinuation	Chaat	~ t
Continuation	Sneer	ot



	DEC ID										
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Section IV - Emission Unit Information

			Pro	cess In	formati	on (con	tinuatio	on)				
Emission Unit	1 - R	A C K	Т								Process	R P T
					Descr	iption						
Emissions from loa	ading refi	ned prod	lucts at	Truck Ra	ıck.							
Source Classificatio	n Code		Total Thr	oughput				Throug	hput Qua	ntity Uni	ts	
(SCC)		Quant	ity/Hr	Quant	tity/Yr	Code			Desc	ription		
4-04-001-5	3											
☐ Confidential						Schedul		Buil	ding	F	loor/Loca	tion
☐ Operating at Max	imum Car	oacity		Hrs/	рау	Day	s/Yr				•	
				Fmissi	on Poin	t Identi	fier(s)					
0TRK1				Liiiissi		it ideiiti	1101 (3)					
OTTACT			Emi	ssion Sc	urce/C	ontrol I	dentifie	er(s)				
RACKT	VRUTK Emission Source/Control Identifier(s)											
Emission Unit	1 - R	A C K	m								Process	F G T
LIIIISSIOII OIIIL	1 - R	ACK	1		Descr	iption				'	Flocess	171911
Fugitive emissions	from los	dina tru	oko ot Tr	uek Bee		iption						
rugilive emissions	110111102	ading truc	ns at 11	uck Naci	Λ.							
Source Classificatio	n Cada		Total Thr	oughput				Throug	hput Qua	ntity I Ini	tc	
(SCC)	in Code	Quant			tity/Yr	Code		THIOUS		cription		
4-04-001-5	1											
	Operating Schedule						loor/Loca	tion				
☐ Confidential	Confidential Hrs/Day Days/Yr Operating at Maximum Capacity						1001/LOCa	LIOII				
Operating at iviax	illiulli Ca	Jacity					- 1					
				Emissi	on Poin	t Identi	tier(s)				ı	
0TRK2							1	()				
DACICT)TIC	Emi	ssion Sc	urce/C	ontrol I	aentitie	er(s)			l I	
RACKT	VA(CTK										



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Section IV - Emission Unit Information

			ription (continuatio	on)	
Emission Unit	2 - RACKF	2			
Rail loading rack.					



DEC ID											
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Emission Point Information (continuation)							
5			omit imormatio	n (continuation			
Emission Unit	2 - R A	C K R			Emission Po		
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section	
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)	
19	37	0	90				
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal	
(FPS)	(ACFM)	(km) 601.86	(km)		Property Line (ft)		
			4620.358				
Emission Unit	2 - R A	C K R			Emission Po		
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section	
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)	
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal	
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)		
Emission Unit					Emission Po		
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section	
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)	
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal	
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)		
Emission Unit					Emission Po		
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section	
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)	
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal	
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)		
Emission Unit					Emission Po		
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section	
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)	
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal	
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)		

Continuation	Sneet	OT	



DEC ID											
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			Emission S	ource/Cont	rol (con	tinuation)		
Emission	Unit 2	2 - R A C K	R					
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
RACKR	I	01/01/1975	01/01/1975				Rail	Rack
Design		Design Ca	pacity Units			Waste Feed	,	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
300,000,000	18	gal	lons per year	•				
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
VCURR	K	01/01/1975	01/01/1975		127	Thermal Oxidation		
Design	Ţ.	Design Ca	pacity Units			Waste Feed	\	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
VACRR	K						vac	assist
Design	Ţ	Design Ca	pacity Units			Waste Feed	\	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Type	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design		Design Ca	pacity Units			Waste Feed	١	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design		Design Ca	pacity Units			Waste Feed	1	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design	ign Design Capacity Units Waste Feed				Waste Feed	Waste Type		
Capacity	Code		Description		Code	Description	Code	Description
				·				

Continuation	Chaat	۰ŧ
Continuation	Sneet	of

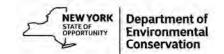


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Section IV - Emission Unit Information

			Pro	cess In	formati	on (con	tinuatio	on)				
Emission Unit	2 - R	A C K	R							Process	R P R	
					Descr	iption						
Emissions associa	ted with	loading r	efined p	roduct in	ito rail ca	ars at Ra	il Rack.					
Source Classificatio	n Code		Total Thr	oughput				Throughput Qua	ntity Uni	ts		
(SCC)		Quant	ity/Hr	Quant	tity/Yr	Code		Des	cription			
4-04-001-5	3											
☐ Confidential						Schedul		Building	F	loor/Locat	tion	
☐ Confidential Hrs/Day Days/Yr ☐ Operating at Maximum Capacity												
				Fmissi	on Poin	t Identi	fier(s)					
0RRK1				Liiiissi		it ideiiti	1101 (3)					
Oracici			Emis	ssion Sc	ource/C	ontrol I	dentifie	er(s)				
Emission Source/Control Identifier(s) RACKR VCURR												
10.0141		J. (. (
Emission Unit	2 - R	7 G 17	D.							Drosess	F G R	
Emission onit	2 - R	A C K	R		Descr	intion				Process	F G R	
Emissions associa	tod with	fugitivo	minaian	a fram la			t Doil Do	n olk				
Emissions associa	tea with	rugitive e	HIISSIOH	S HOIII IC	ading ra	all Cars a	l Rall Ra	ick.				
			Total Thr	aughnut				Throughput Qua	ntitu IIni	to		
Source Classificatio (SCC)	n Code	Quant			tity/Yr	Code			cription	LS		
4-04-001-5	1	,	,,	,					'			
	•				Operating	g Schedul	e	D 11 11	_			
☐ Confidential	: Ca.	it			'Day		s/Yr	Building	ŀ	loor/Locat	tion	
☐ Operating at Max	Operating at Maximum Capacity											
				Emissi	on Poin	t Identi	fier(s)					
0RRK2												
			Emis	ssion Sc	urce/C	ontrol I	dentifie	er(s)				
RACKR	VAC	CRR										

Continuation Sheet ____ of ____ Version 1.2 - 3/16/2015



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Section IV - Emission Unit Information

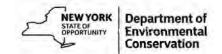
Emission Unit Description (continuation)
Emission Unit 3 - R A C K M
Marine loading of refined products and crude oil at the marine dock.



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		Emission Po	oint Information	n (continuatio	n)	
Emission Unit	3 - R A				Emission Po	oint 0 M D R 1
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	36		72			
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)	Date of Kemovar
		601.833	4720.724			
Emission Unit	3 - R A	C K M			Emission Po	oint 0 M D R 2
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	36		72			
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)	
		602.056	4720.645			
Emission Unit	3 - R A	СКМ			Emission Po	
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
	- v -l					
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (km)	NYTM (N) (km)	Building	Distance to Property Line (ft)	Date of Removal
(FF3)	(ACFIVI)	(KIII)	(KIII)		Property Line (it)	
Emission Unit					Emission Po	aint
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
(,	(-/		,	(·)		()
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)		Distance to	
(FPS)	(ACFM)	(km)	(km)	Building	Property Line (ft)	Date of Removal
Emission Unit					Emission Po	pint
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross	Section
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal
(FPS)	(ACFM)	(km)	(km)	bullullig	Property Line (ft)	Date of Removal

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Emission Source/Control (continuation)												
Emission	Unit 3	- R A C K		ource, com	(co							
Emission		Date of	Date of	Date of		Control Type	NA	anufacturer's				
ID	Type	Construction	Operation	Removal	Code	Description		me/Model No.				
RACKM	I		o por a area.	7101110101	Couc	Description		Marine Dock				
Design	_	Design Ca	pacity Units			Waste Feed	,	Waste Type				
Capacity	Code		Description		Code	Description	Code	Description				
					0000	2 000 11 12 12 12 12 12 12 12 12 12 12 12 12	35 25	2 220				
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's				
ID	Туре	Construction	Operation	Removal	Code	Description		me/Model No.				
VCUM1	K				127	Thermal Oxidation						
Design	11	Design Ca	pacity Units			Waste Feed	,	Waste Type				
Capacity	Code		Description		Code	Description	Code	Description				
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's				
ID	Туре	Construction	Operation	Removal	Code	Description		me/Model No.				
VCUM2	K				127	Thermal Oxidation	Zink Z	CM-2-6-35-X-2				
Design		Design Ca	pacity Units			Waste Feed		Waste Type				
Capacity	Code		Description		Code	Description	Code	Description				
Emission	Source	Date of	Date of	Date of		Control Type	М	anufacturer's				
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.				
VACMD	K						vac	assist				
Design		Design Ca	pacity Units			Waste Feed	,	Waste Type				
Capacity	Code		Description		Code	Description	Code	Description				
Emission	n Source	Date of	Date of	Date of		Control Type	М	anufacturer's				
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.				
Design		Design Ca	pacity Units			Waste Feed	1	Waste Type				
Capacity	Code		Description		Code	Description	Code	Description				
Emission	Source	Date of	Date of	Date of		Control Type	М	anufacturer's				
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.				
Design		Design Ca	sign Capacity Units			Waste Feed		Waste Type				
Capacity	Code		Description		Code	Description	Code	Description				

Continuation	Shoot	of
Continuation	Sneet	ot



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Section IV - Emission Unit Information

			Pro	cess In	formati	ion (con	tinuatio	on)				
Emission Unit	3 - R	A C K	М							Р	rocess	R P M
					Descr	iption						
Emissions from loa	ading refi	ined proc	lucts into	o marine	vessels	i.						
Source Classificatio	n Codo		Total Thr	nughnut				Throughpu	ut Ouan	tity Unit	ς	
(SCC)	iii code	Quant			tity/Yr	Code		THIOUGHPO		iption	<u> </u>	
4-06-002-9	8											
☐ Confidential ☐ Operating at Max	imum Ca _l	pacity			Operating /Day	g Schedul Day	e s/Yr	Buildin	g	Flo	oor/Locat	ion .
				Emissi	on Poir	t Identi	fier(s)					
0MDR1	OMI	DR2										
			Emis	ssion Sc	ource/C	ontrol I	dentifie	er(s)				
RACKM	VCl	JM1	VCU	JM2								
Emission Unit	3 - R	A C K	М							Р	rocess	B S M
					Descr	iption						
Emissions from loa												
Source Classificatio (SCC)	n Code	Quant	Total Thr		tity/Yr	Code		Throughpu		tity Unit	<u>S</u>	
4-06-002-9	8	Quant		Quali		3040			20001			
☐ Confidential ☐ Operating at Max		Hrs	/Day	Schedul Day	s/Yr	Buildin	g	Flo	oor/Locat	ion		
OMDD4		יםר		L1111331		it lucilli	1101 (3)					
0MDR1 0MDR2					nurce/C	ontrol I	dentific	er(s)				
RACKM	VCI	IM1	VCL			SHILL OF I	acmini	(3)				
TOTOTOM	RACKM VCUM1 VCL		J 1 V I C									



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Section IV - Emission Unit Information

			Pro	cess In	formati	on (con	tinuatio	on)				
Emission Unit	3 - R	A C K				(001)					Process	СДМ
					Descr	iption						1-1-1
Emissions from loa	ndina cru	ıde oil int	o marine	vessels								
L11113310113 110111 100	iding cid	ide on int	o mami	, 4033010	5.							
Source Classificatio	n Code		Total Thr		tity/Yr	Code		Throug	hput Qua		ts	
(SCC)	•	Quant	ity/ mr	Quan	LILY/YI	Code			Desc	ription		
4-06-002-9	8				On anatin	Cala adul						
☐ Confidential					Dperating /Day	Schedul Dav	e s/Yr	Buil	ding	F	loor/Loca	tion
☐ Operating at Max	imum Ca _l	pacity		,		23,	3 , 11					
				Emissi	on Poin	t Identi	fier(s)					
0MDR1	OMI	DR2					- (-)					
ombit.	0	31 (2	Emi	ssion Sc	ource/C	ontrol I	dentifie	er(s)				
RACKM	VCI	VCUM1 VCU						- (-)				
Emission Unit	3 - R	A C K									Process	F G M
EIIIISSIOII OIIIL	3 - R	A C K	IAI		Doscr	iption					Process	FIGIM
Fusionismo accesio	4 : : : : : : : : : : : : : :	£:4:	: :	- f l-		•	!4	al a al c				
Emissions associa	tea with	rugitive e	emission	s from ic	bading m	iarine ve	sseis at	dock.				
Source Classificatio	n Code			oughput		Carla		Throug	hput Qua		ts	
(SCC)		Quant	ity/Hr	Quan	tity/Yr	Code			Desc	ription		
4-04-001-5	1				2	- C - l l l	_					
☐ Confidential					Jperating /Day	Schedul Dav	e s/Yr	Buil	ding	F	loor/Loca	tion
☐ Operating at Max	imum Ca _l	pacity		11137	Duy	Day	3, 11					
Emission Point Identifier(s)												
0MDR3									Π			
ONDIO			Fmi	ssion Sc	ource/C	ontrol I	dentifie	er(s)				
RACKM				2.3.7		J		(3)				
	IM VACIND											



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Section IV - Emission Unit Information

Emission Unit Description (continuation)	
Emission Unit 1 - F U G T V	
Facility-wide fugitive emissions from pumps, valves, and misc appurtenances.	



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	Emission Point Information (continuation)												
Fusiasian Unit	1 - F U		onit information	ii (continuatio	•	oint E P F U G							
Emission Unit				Full Tanan	Emission Po								
Ground Elevation (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Length (in)	Section Width (in)							
Lievation (it)	(10)	Structure (It)	(111)	(F)	Length (m)	width (III)							
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	_	Distance to								
(FPS)	(ACFM)	(km)	(km)	Building	Property Line (ft)	Date of Removal							
		,											
Emission Unit	1-1-				Emission Po	int							
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section							
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)							
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal							
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)	Date of Removal							
Emission Unit					Emission Po	pint							
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section							
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)							
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal							
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)								
Emission Unit	1-1-1				Emission Po	aint							
Ground	Height	Height Above	Inside Diameter	Exit Temp.		Section							
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)							
,	· /	,	, ,	(- /	- 0- ()								
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	5 11 11	Distance to	2							
(FPS)	(ACFM)	(km)	(km)	Building	Property Line (ft)	Date of Removal							
Emission Unit					Emission Po	pint							
Ground	Height	Height Above	Inside Diameter	Exit Temp.	Cross S	Section							
Elevation (ft)	(ft)	Structure (ft)	(in)	(°F)	Length (in)	Width (in)							
Exit Velocity	Exit Flow	NYTM (E)	NYTM (N)	Building	Distance to	Date of Removal							
(FPS)	(ACFM)	(km)	(km)		Property Line (ft)								

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			Emission S	ource/Cont	rol (con	tinuation)		
Fii				ource/cont	ווטא) ווטו	tilluationj		
Emission		- F U G T						
Emission		Date of	Date of	Date of		Control Type	_	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description		me/Model No.
FUGTV	ı							Wide Fugitives
Design			pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	_	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design		Design Ca	pacity Units			Waste Feed	١	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	Nar	me/Model No.
Design		Design Ca	pacity Units			Waste Feed	1	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Emission	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description		me/Model No.
Design		Design Ca	pacity Units			Waste Feed	,	Waste Type
Capacity	Code		Description		Code	Description	Code	Description
1 /			'					
Emissior	n Source	Date of	Date of	Date of		Control Type	M	anufacturer's
ID	Туре	Construction	Operation	Removal	Code	Description	_	me/Model No.
10	1,700				Couc	Description		,
Design		Design Ca	pacity Units			Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description
Capacity	Couc		Description		Couc	Description	Couc	Description
Emissis	2 Course	Dotas	Dotf	Detf		Control Type		an i fa ahi ing ala
ID	Source	Date of Construction	Date of Operation	Date of Removal	Code	Control Type Description		anufacturer's me/Model No.
טו	Type	Construction	Operation	Nemovai	Code	Description	Ival	nej woder wo.
_								
Design	Codo		pacity Units		Codo	Waste Feed		Waste Type
Capacity	Code		Description		Code	Description	Code	Description

Continuation	Shoot	of
Continuation	Sneet	ot



DEC ID												
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Section IV - Emission Unit Information

	Process Information (continuation)											
Emission Unit	1 - F	U G T	V						F	Process	F U	G
					Descr	iption						
Facility-wide emiss	sions fror	m pumps	, valves,	flanges,	, and mi	sc appur	tenance	S.				
Source Classification	n Code		Total Thr					Throughput Qua	ntity Uni	ts		
(SCC)		Quant	ity/Hr	Quant	Code		Desc	cription				
☐ Confidential Operating Schedule Hrs/Day Days/Yr Building									F	loor/Loca	tion	
☐ Operating at Max	imum Car	oacity		1113/	Day	Day	3/ 11					
	Emission Point Identifier(s)											
EPFUG							- (-)					
			Emis	ssion So	urce/C	ontrol I	dentifie	er(s)				
FUGTV												
Emission Unit -									F	Process		П
					Descr	iption						
Source Classification	n Code		Total Thr	oughput				Throughput Qua	ntity Uni	ts		
(SCC)		Quant	ity/Hr	Quant	tity/Yr	Code			cription			
☐ Confidential				Hrs/		Schedul	e s/Yr	Building	Fl	loor/Loca	tion	
☐ Operating at Maximum Capacity				1113/	Day	Day	3/ 11					
	Emission Point Identifier(s)											
			Emis	ssion So	urce/C	ontrol I	dentifie	er(s)				

Continuation Sheet ____ of ____ Version 1.2 - 3/16/2015



T-I		-													
	Determination of Non-Applicability (Title V Applications Only) ☐ Continuation Sheet(s)														
	Rule Citation														
Title	Туре	e Par	t S	ubpart	5	Section	Subdiv	rision	Paragr	aph S	Subparag	graph	Claus	e Suk	oclause
Emissi	on Unit	Emissio	n Point	Proces	s I	Emissio	on Source		plicable F		-	ent			
								☐ Sta	ite Only F	Requirem	ent				
					N	lon-Aր	plicability	y Desc	ription						
							D 1: 6'1:	•••							
Title	Type	e Par	+ 0	ubpart	Ι (Section	Rule Cita Subdiv		Paragr	anh I s	Subparac	tranh	Claus	a Suk	oclause
ritte	Туре	Pdf	3	unhart		Section	Subulv	151011	Paragr	арп	Subparag	grapii	Claus	Suk	ciause
Fmissio	on Unit	Fmissio	n Point	Proces	s I	Fmissio	on Source	Плр	plicable F	odoral D	oquirom	ont			
							00 0 00		te Only F		-	ent			
					N	on- A	pplicabilit			<u>'</u>					
_							Compliand								Sheet(s)
For any	emissic	on units w	hich are <u>r</u>				he time of p				-		•	e the fo	llowing:
Consen	t Order				progr	ess re	oorts are to			•			g /	/	
Emission	n Unit	Process	Emissio		T	Dt	Cooks as a		cable Fed				T	Classia	Code at
			Source	Title	Туре	Part	Subpa	rτ	Section	Subdiv.	Parag.	Subp	arag.	Clause	Subcl.
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Version 2 - 8/23/2016 9

New York State Department of Environmental Conservation



Air Permit Application	FORTUNITY Environmental Conservation
DEC ID	·
Supporting Documentation and Attachments	
Required Supporting Documentation	Date of Document
☐ List of Exempt Activities (attach form)	
☐ Plot Plan	
☐ Process Flow Diagram	
☐ Methods Used to Determine Compliance (attach form)	
☐ Emissions Calculations	
Optional Supporting Documentation	Date of Document
☐ Air Quality Model Protocol	
☐ Confidentiality Justification	
☐ Ambient Air Quality Monitoring Plan or Reports	
☐ Stack Test Protocol	
□ Stack Test Report	
☐ Continuous Emissions Monitoring Plan	
\square Lowest Achievable Emission Rate (LAER) Demonstration	
\square Best Available Control Technology (BACT) Demonstration	
\square Reasonably Available Control Technology (RACT) Demonstration	
☐ Toxic Impact Assessment (TIA)	
☐ Environmental Rating Demonstration	
☐ Operational Flexibility Protocol/Description of Alternate Operating Scenarios	
☐ Title IV Permit Application	
\square Emission Reduction Credit (ERC) Quantification (attach form)	
☐ Baseline Period Demonstration	
☐ Use of Emission Reduction Credits (attach form)	
☐ Analysis of Contemporaneous Emissions Increase/Decrease	
Other Supporting Documentation	Date of Document

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List of Exempt Activities

Instructions

Applicants for Title V facility permits must provide a listing of each exempt activity, as described in 6 NYCRR Part 201-3.2(c), that is currently operated at the facility. This form provides a means to fulfill this requirement.

In order to complete this form, enter the number and building location of each exempt activity. Building IDs used on this form should match those used in the Title V permit application. If a listed activity is not operated at the facility, leave the corresponding information blank.

	Combustion					
Rule Citation 201-3.2(c)	Description	Number of Activities	Building Location			
(1)	Stationary or portable combustion installations where the furnace has a maximum heat input capacity less than 10 mmBtu/hr burning fuels other than coal or wood; or a maximum heat input capacity of less than 1 mmBtu/hr burning coal or wood. This activity does not include combustion installations burning any material classified as solid waste, as defined in 6 NYCRR Part 360, or waste oil, as defined in 6 NYCRR Subpart 225-2.	11	2 existing furnaces, 3 existing boilers, 6 new boilers			
(2)	Space heaters burning waste oil at automotive service facilities, as defined in 6 NYCRR Subpart 225-2, generated on-site or at a facility under common control, alone or in conjunction with used oil generated by a do-it-yourself oil changer as defined in 6 NYCRR Subpart 374-2.					
(3)(i)	Stationary or portable internal combustion engines that are liquid or gaseous fuel powered and located within the New York City metropolitan area or the Orange County towns of Blooming Grove, Chester, Highlands, Monroe, Tuxedo, Warwick, or Woodbury, and have a maximum mechanical power rating of less than 200 brake horsepower.					
(3)(ii)	Stationary or portable internal combustion engines that are liquid or gaseous fuel powered and located outside of the New York City metropolitan area or the Orange County towns of Blooming Grove, Chester, Highlands, Monroe, Tuxedo, Warwick, or Woodbury, and have a maximum mechanical power rating of less than 400 brake horsepower.					
(3)(iii)	Stationary or portable internal combustion engines that are gasoline powered and have a maximum mechanical power rating of less than 50 brake horsepower.					
(4)	Reserved.					
(5)	Gas turbines with a heat input at peak load less then 10 mmBtu/hour					

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DEC ID4 - 0 1 0 1 - 0 0 1 1 2

Rule Citation 201-3.2(c)	Description	Number of Activities	Building Location
(6)	Emergency power generating stationary internal combustion engines, as defined in 6 NYCRR Part 200.1(cq), and engine test cells at engine manufacturing facilities that are utilized for research and development, reliability performance testing, or quality assurance performance testing. Stationary internal combustion engines used for peak shaving and/or demand response programs are not exempt.	6	Existing Generators
	Combustion Related		
(7)	Non-contact water cooling towers and water treatment systems for process cooling water and other water containers designed to cool, store or otherwise handle water that has not been in direct contact with gaseous or liquid process streams.		
	Agricultural		
(8)	Feed and grain milling, cleaning, conveying, drying and storage operations including grain storage silos, where such silos exhaust to an appropriate emissions control device, excluding grain terminal elevators with permanent storage capacities over 2.5 million U.S. bushels, and grain storage elevators with capacities above one million bushels.		
(9)	Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.		
	Commercial - Food Service Industries		
(10)	Flour silos at bakeries, provided all such silos are exhausted through an appropriate emission control device.		
(11)	Emissions from flavorings added to a food product where such flavors are manually added to the product.		
	Commercial - Graphic Arts		
(12)	Screen printing inks/coatings or adhesives which are applied by a hand-held squeegee. A hand-held squeegee is one that is not propelled though the use of mechanical conveyance and is not an integral part of the screen printing process.		
(13)	Graphic arts processes at facilities located outside the New York City metropolitan area or the Orange County towns of Blooming Grove, Chester, Highlands, Monroe, Tuxedo, Warwick, or Woodbury whose facility-wide total emissions of volatile organic compounds from inks, coatings, adhesives, fountain solutions and cleaning solutions are less than three tons during any 12-month period.		2250 2 of 6

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Rule Citation 201-3.2(c)	Description	Number of Activities	Building Location
(14)	Graphic label and/or box labeling operations where the inks are applied by stamping or rolling.		
(15)	Graphic arts processes which are specifically exempted from regulation under 6 NYCRR Part 234, with respect to emissions of volatile organic compounds which are not given an A rating as described in 6 NYCRR Part 212.		
	Commercial - Other		
(16)	Gasoline dispensing sites registered with the department pursuant to 6 NYCRR Part 612.		
(17)	Surface coating and related activities at facilities which use less than 25 gallons per month of total coating materials, or with actual volatile organic compound emissions of 1,000 pounds or less from coating materials in any 12-month period. Coating materials include all paints and paint components, other materials mixed with paints prior to application, and cleaning solvents, combined. This exemption is subject to the following: (i) The facility is located outside of the New York City metropolitan area or the Orange County towns of Blooming Grove, Chester, Highlands, Monroe, Tuxedo, Warwick, or Woodbury; and (ii) All abrasive cleaning and surface coating operations are performed in an enclosed building where such operations are exhausted into appropriate emission control devices.		
(18)	Abrasive cleaning operations which exhaust to an appropriate emission control device.		
(19)	Ultraviolet curing operations.		
	Municipal/Public Health Related		
(20)	Landfill gas ventilating systems at landfills with design capacities less than 2.5 million megagrams (3.3 million tons) and 2.5 million cubic meters (2.75 million cubic yards), where the systems are vented directly to the atmosphere, and the ventilating system has been required by, and is operating under, the conditions of a valid 6 NYCRR Part 360 permit, or order on consent.		
	Storage Vessels		
(21)	Distillate fuel oil, residual fuel oil, and liquid asphalt storage tanks with storage capacities below 300,000 barrels.	5	Tanks 28, 29, 30, 33 and 64

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Rule Citation 201-3.2(c)	Description	Number of Activities	Building Location
(22)	Pressurized fixed roof tanks which are capable of maintaining a working pressure at all times to prevent emissions of volatile organic compounds to the outdoor atmosphere.		
(23)	External floating roof tanks which are of welded construction and are equipped with a metallic-type shoe primary seal and a secondary seal from the top of the shoe seal to the tank wall.		
	External floating roof tanks which are used for the storage of a petroleum or volatile organic liquid with a true vapor pressure less than 4.0 psi (27.6 kPa), are of welded construction and are equipped with one of the following:		
	(i) a metallic-type shoe seal;		
(24)	(ii) a liquid-mounted foam seal;		
	(iii) a liquid-mounted liquid-filled type seal; or		
	(iv) equivalent control equipment or device.		
(25)	Storage tanks, including petroleum liquid storage tanks as defined in 6 NYCRR Part 229, with capacities less than 10,000 gallons, except those subject to 6 NYCRR Part 229 or Part 233.		
(26)	Horizontal petroleum or volatile organic liquid storage tanks.	14	Additive Tks
(27)	Storage silos storing solid materials, provided all such silos are exhausted through an appropriate emission control device. This exemption does not include raw material, clinker, or finished product storage silos at Portland cement plants.		
	Industrial		
(28)	Processing equipment at existing sand and gravel and stone crushing plants which were installed or constructed before August 31, 1983, where water is used for operations such as wet conveying, separating, and washing. This exemption does not include processing equipment at existing sand and gravel and stone crushing plants where water is used for dust suppression.		
(29)(i)	Sand and gravel processing or crushed stone processing lines at a non-metallic mineral processing facility that are a permanent or fixed installation with a maximum rated processing capacity of 25 tons of minerals per hour or less.		

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Rule Citation 201-3.2(c)	Description	Number of Activities	Building Location
(29)(ii)	Sand and gravel processing or crushed stone processing lines at a non-metallic mineral processing facility that are a portable emission source with a maximum rated processing capacity of 150 tons of minerals per hour or less.		
(29)(iii)	Sand and gravel processing or crushed stone processing lines at a non-metallic mineral processing facility that are used exclusively to screen minerals at a facility where no crushing or grinding takes place.		
(30)	Reserved.		
(31)	Surface coating operations which are specifically exempted from regulation under 6 NYCRR Part 228, with respect to emissions of volatile organic compounds which are not given an A rating pursuant to 6 NYCRR Part 212.		
(32)	Pharmaceutical tablet branding operations.		
(33)	Thermal packaging operations, including, but not limited to, therimage labeling, blister packing, shrink wrapping, shrink banding, and carton gluing.		
(34)	Powder coating operations.		
(35)	All tumblers used for the cleaning and/or deburring of metal products without abrasive blasting.		
(36)	Presses used exclusively for molding or extruding plastics except where halogenated carbon compounds or hydrocarbon solvents are used as foaming agents.		
(37)	Concrete batch plants where the cement weigh hopper and all bulk storage silos are exhausted through fabric filters, and the batch drop point is controlled by a shroud or other emission control device.		
(38)	Cement storage operations not located at Portland cement plants where materials are transported by screw or bucket conveyors.		
(39)(i)	Cold cleaning degreasers with an open surface area of 11 square feet or less and an internal volume of 93 gallons or less or, having an organic solvent loss of 3 gallons per day or less.		
39(ii)	Cold cleaning degreasers that use a solvent with a VOC content or five percent or less by weight, unless subject to the requirements of 40 CFR 63 Subpart T.		

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Rule Citation 201-3.2(c)	Description	Number of Activities	Building Location
(39)(iii)	Conveyorized degreasers with an air/vapor interface smaller than 22 square feet (2 square meters), unless subject to the requirements of 40 CFR 63 Subpart T.		
(39)(iv)	Open-top vapor degreasers with an open-top area smaller than 11 square feet (1 square meter), unless subject to the requirements of 40 CFR 63 Subpart T.		
	Miscellaneous		
(40)	Ventilating and exhaust systems for laboratory operations. Laboratory operations do not include processes having a primary purpose to produce commercial quantities of materials.	1	Testing Lab
(41)	Exhaust or ventilating systems for the melting of gold, silver, platinum and other precious metals.		
(42)	Exhaust systems for paint mixing, transfer, filling or sampling and/or paint storage rooms or cabinets, provided the paints stored within these locations are stored in closed containers when not in use.		
(43)	Exhaust systems for solvent transfer, filling or sampling, and/or solvent storage rooms provided the solvent stored within these locations are stored in containers when not in use.		
(44)	Research and development activities, including both stand-alone and activities within a major facility, until such time as the administrator completes a rule making to determine how the permitting program should be structured for these activities.		
(45)	The application of odor counteractants and/or neutralizers.		
(46)	Hydrogen fuel cells.		
(47)	Dry cleaning equipment that uses only water-based cleaning processes or those using liquid carbon dioxide.		
(48)	Manure spreading, handling and storage at farms and agricultural facilities.		

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Methods Used to Determine Compliance					
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date		
FACILITY	6 NYCRR 200.6	No emissions contravened any applicable ambient air quality standard	In compliance as of March 2020		
FACILITY	6 NYCRR 200.7	VCU Inspections, preventative maintenance records	In compliance as of March 2020		
FACILITY	6 NYCRR 201-1.7	Wastes generated from air cleaning devices are managed in accordance with NYSDEC rules regarding hazardous and non hazardous wastes	In compliance as of March 2020		
FACILITY	6 NYCRR 201-1.8	Wastes generated from air cleaning devices were managed in accordance with NYSDEC rules regarding hazardous and non hazardous wastes	In compliance as of March 2020		
FACILITY	6 NYCRR 201-3.2 (a)	Exempt and Trivial Source Inventory	In compliance as of March 2020		
FACILITY	6 NYCRR 201-3.3 (a)	Exempt and Trivial Source Inventory	In compliance as of March 2020		
FACILITY	6 NYCRR Subpart 201-6	Review definitions	In compliance as of March 2020		
FACILITY	6 NYCRR Subpart 201-6	Review permit emission unit definitions	In compliance as of March 2020		
FACILITY	6 NYCRR Subpart 201-6	Review definitions	In compliance as of March 2020		
FACILITY	6 NYCRR 201-6.5 (a) (4)	Requested information was provided in a reasonable timeframe	In compliance as of March 2020		

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Methods Used to Determine Compliance					
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date		
FACILITY	6 NYCRR 201-6.5 (a) (7)	Accounting System	In compliance as of March 2020		
FACILITY	6 NYCRR 201-6.5 (a) (8)	Global will allow access to the Department or authorized representative	In compliance as of March 2020		
FACILITY	6 NYCRR 201-6.5 (c)	Any deviations are reported in semiannual reports.	In compliance as of March 2020		
FACILITY	6 NYCRR 201-6.5 (c) (2)	Specific records kept include VCU Inspection Records / Annual and Semi Annual Reports/throughput records, Certificates of Analyses, Annual Emissions Statements, Bills of Lading	In compliance as of March 2020		
FACILITY	6 NYCRR 201-6.5 (c) (3) (ii)	Semiannual Monitoring and Deviation Reports	In compliance as of March 2020		
FACILITY	6 NYCRR 201-6.5 (d) (5)	Schedule of Compliance progress reports are submitted as required	In compliance as of March 2020		
FACILITY	6 NYCRR 201-6.5 (e)	Annual Compliance Report and Certification	In compliance as of March 2020		
FACILITY	6 NYCRR 201-6.5 (f) (6)	Off permit notifications are submitted as required	In compliance as of March 2020		
FACILITY	6 NYCRR Subpart 201-7	Emissions Statement and 12 month rolling throughput spreadsheet	In compliance as of March 2020		
3-RACKM, RPM, CRD, BSM, VCUM1	6 NYCRR Subpart 201-7	VCU Performance Test Report	In compliance as of March 2020		

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Methods Used to Determine Compliance					
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date		
3-RACKM, RPM, CRD, BSM, VCUM2	6 NYCRR Subpart 201-7	VCU Performance Test Report	In compliance as of March 2020		
1-RACKT, RPT, VRUTK	6 NYCRR Subpart 201-7	VRU Performance Test Report	In compliance as of March 2020		
2-RACKR, RPR, VCURR	6 NYCRR Subpart 201-7	VCU Performance Test Report	In compliance as of March 2020		
1-RACKT, RPT, VRUTK	6 NYCRR Subpart 201-7	VRU Inspections, CEMS Data preventative maintenance records	In compliance as of March 2020		
2-RACKR, RPR, VCURR	6 NYCRR Subpart 201-7	VCU Inspections, preventative maintenance records, Performance Test Reports	In compliance as of March 2020		
1-TANK1, CR1	6 NYCRR Subpart 201-7	Terminal Records / Product Information	In compliance as of March 2020		
2-RACKR, RPR	6 NYCRR Subpart 201-7	Throughput records maintained at terminal	In compliance as of March 2020		
3-RACKM, CDM	6 NYCRR Subpart 201-7	Throughput records maintained at terminal	In compliance as of March 2020		
3-RACKM, BSM	6 NYCRR Subpart 201-7	Throughput records maintained at terminal	In compliance as of March 2020		
1-RACKT, 2-RACKR, 3-RACKM	6 NYCRR Subpart 201-7	Throughput records maintained at terminal	In compliance as of March		

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Methods Used to Determine Compliance			
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date
3-RACKM, RPM	6 NYCRR Subpart 201-7	Throughput records maintained at terminal	In compliance as of March 2020
1-RACKT, RPT	6 NYCRR Subpart 201-7	Throughput records maintained at terminal	In compliance as of March 2020
FACILITY	6 NYCRR 202-1.2	Notification of Performance Test are submitted as necessary	In compliance as of March 2020 2020
FACILITY	6 NYCRR 202-1.3 (a)	Performance Test Reports are submitted within 60 days of a test	In compliance as of March 2020
FACILITY	6 NYCRR 202-2.1	Annual Emission Statement	In compliance as of March 2020
FACILITY	6 NYCRR 202-2.5	Emissions Statement and supporting documents are available for >5 years.	In compliance as of March 2020
FACILITY	6 NYCRR 211.1	General ambient air quality monitoring procedures	In compliance as of March 2020
3-RACKM, RPM, VCUM1	6 NYCRR 212.4 (a)	Performance Test Report	In compliance as of March 2020
FACILITY	6 NYCRR 212.10 (c) (4) (i)	Performance Test	In compliance as of March 2020
FACILITY	6 NYCRR 215.2	No open burning occurred at the Facility	In compliance as of March 2020

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Methods Used to Determine Compliance			
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date
FACILITY	6 NYCRR 225-1.2 (a) (2)	Certificates of Analysis / Product information (Maintained at Terminal)	In compliance as of March 2020
FACILITY	6 NYCRR 225-1.6 (b)	Certificates of Analysis	In compliance as of March 2020
FACILITY	6 NYCRR 225-1.6 (d)	Samples are taken according to ASTM or other applicable standards	In compliance as of March 2020
FACILITY	6 NYCRR 225-3.3 (a)	Certificates of Analysis	In compliance as of March 2020
FACILITY	6 NYCRR 229.1 (d) (2) (i)	Terminal Records, IFR Inspections, API Inspection Reports.	In compliance as of March 2020
FACILITY	6 NYCRR 229.1 (d) (2) (iv)	VRU and VCU Performance Test Reports on File at the terminal	In compliance as of March 2020
FACILITY	6 NYCRR 229.1 (d) (2) (v)	Terminal Records, IFR Inspections, API Inspection Reports.	In compliance as of March 2020
FACILITY	6 NYCRR 229.3 (a)	Terminal Records, IFR Inspections, API Inspection Reports.	In compliance as of March 2020
1-RACKT, RPT, 2-RACKR, RPR	6 NYCRR 229.3 (d)	VRU and VCU Performance Test Reports on File at the terminal	In compliance as of March 2020
1-TANK1	6 NYCRR 229.3 (e) (1)	Terminal Records, IFR Inspections, API Inspection Reports.	In compliance as of March 2020

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Methods Used to Determine Compliance			
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date
3-RACKM, FGM RACKM, CDM VCUM2, VCUM1	6 NYCRR 231-11.2 (c)	NSR Summary Report	In compliance as of March 2020
3-RACKM, FGM, RPM, CDM, 1- TANK1, CR1, TK031, TK114, TK115, TK032	6 NYCRR 231-11.2 (c)	NSR Summary Report	In compliance as of March 2020
FACILITY	40 CFR 60.4	NSPS Notification Letters	In compliance as of March 2020
FACILITY	40 CFR 60.7 (a)	NSPS Notifications	In compliance as of March 2020
FACILITY	40 CFR 60.7 (b)	NSPS Notifications	In compliance as of March 2020
1-RACKT, 1- TANK1, RP1, BS1, CR1, TK115, TK032, TK039,TK031, TK114	40 CFR 60.7 (c)	Excess emissions reports are submitted when required	In compliance as of March 2020
FACILITY	40 CFR 60.7 (d)	Excess emissions reports are submitted when required	In compliance as of March 2020
FACILITY	40 CFR 60.7 (e)	Excess emission reports are submitted when required	In compliance as of March 2020
FACILITY	40 CFR 60.7 (f)	Applicable Records are maintained at the terminal	In compliance as of March 2020
FACILITY	40 CFR 60.7 (g)	Administrator is copied on all applicable notices	In compliance as of March 2020

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Methods Used to Determine Compliance			
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date
FACILITY	40 CFR 60.8 (a)	Performance Test Report; NSPS Notifications	In compliance as of March 2020
FACILITY	40 CFR 60.8 (b)	Performance Test Protocols	In compliance as of March 2020
FACILITY	40 CFR 60.8 (c)	Performance Test Protocols submitted and reviewed by administrator	In compliance as of March 2020
FACILITY	40 CFR 60.8 (d)	Performance Test Protocols	In compliance as of March 2020
FACILITY	40 CFR 60.8 (e)	Terminal Operating Procedures	In compliance as of March 2020
FACILITY	40 CFR 60.8 (f)	Test Protocols submitted and reviewed by administrator	In compliance as of March 2020
FACILITY	40 CFR 60.9	Global complies with public notice requirements as directed by the Administrator.	In compliance as of March 2020
FACILITY	40 CFR 60.11	Opacity Observations	In compliance as of March 2020
FACILITY	40 CFR 60.11 (d)	Terminal operating procedures	In compliance as of March 2020
FACILITY	40 CFR 60.12	Operation of the terminal is reviewed by the Terminal Manager and Operations Manager.	In compliance as of March 2020

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Methods Used to Determine Compliance			
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date
FACILITY	40 CFR 60.13	Compliance reporting is completed semi-annually.	In compliance as of March 2020
FACILITY	40 CFR 60.14	Compliance is reported semi-annually.	In compliance as of March 2020
FACILITY	40 CFR 60.15	Reconstruction notices submitted when required	In compliance as of March 2020
1-TANK1, RP1, TK114, TK115, TK039	40 CFR 60.113b (a)	Internal Floating Roof inspections,API Inspection Reports	In compliance as of March 2020
1-TANK1, RP1, TK031, TK114, TK115, TK032, TK039	40 CFR 60.115b (a)	Internal Floating Roof inspection records. Notifications are submitted as required.	In compliance as of March 2020
1-TANK1, RP1, TK031, TK114, TK115, TK032, TK039	40 CFR 60.116b	Terminal Records / Product Information	In compliance as of March 2020
1-RACKT	40 CFR 60.502 (b)	VRU and VCU Performance Test Reports on File at the terminal	In compliance as of March 2020
1-RACKT	40 CFR 60.502 (e)	The Terminal Automation System ensures that trucks loading at the facility have valid certificates	In compliance as of March 2020
FACILITY	40 CFR 60.502 (f)	Tank Truck Certification Program	In compliance as of March 2020
FACILITY	40 CFR 60.502 (g)	The Terminal Automation System prevents loading without being properly connected	In compliance as of March 2020

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Methods Used to Determine Compliance						
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date			
1-RACK1	40 CFR 60.502 (i)	PM Records	In compliance as of March 2020			
FACILITY	40 CFR 63.11081 (a)	Terminal Records	In compliance as of March 2020			
FACILITY	40 CFR 63.11083 (b)	Notice of Compliance Status	In compliance as of March 2020			
1-TANK1, RP1	40 CFR 63.11087	IFR inspection reports, API inspection reports.	In compliance as of March 2020			
1-RACKT, RPT, 2- RACKR, R2R	40 CFR 63.11088	VRU and VCU Performance Test reports on file at the terminal	In compliance as of March 2020			
1-RACKT, FGT, 2- RACKR, FGR ,1-FUGTV	40 CFR 63.11089	Monthly Inspection Forms; List of equipment in gasoline service	In compliance as of March 2020			
1-RACKT, RPT, 2-RACKR, RPR	40 CFR 63.11092 (a)	Test Protocol submitted to Administrator	In compliance as of March 2020			
FACILITY	40 CFR 63.11092 (a) (2)	Notice of Compliance Status	In compliance as of March 2020			
FACILITY	40 CFR 63.11092 (a) (3)	Notice of Compliance Status	In compliance as of March 2020			
1-RACKT, RPT, 2-RACKR, RPR	40 CFR 63.11092 (b) (1) (i) ('B') ('1')	Continuous Emissions Monitoring Data	In compliance as of March 2020			

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Methods Used to Determine Compliance						
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date			
1-RACKT, RPT, 2-RACKR, RPR	40 CFR 63.11092 (b) (1) (i) ('B') ('2'	A CEMS is installed. Alternative monitoring forms when CEMS is down.	In compliance as of March 2020			
2-RACKR, RPR, VCURR	40 CFR 63.11092 (b) (1) (iii)	Preventative Maintenance, VCU Inspection and Monitoring Plan, Daily Inspection Forms.	In compliance as of March 2020			
1-RACKT, FGT	40 CFR 63.11094 (b)	Terminal Automation system and backup files	In compliance as of March 2020			
1-RACK1, FGT	40 CFR 63.11094 (c)	Terminal Automation system and backup files	In compliance as of March 2020			
1-RACKT, FGT, 2- RACKR, FGR, 1-FUGTV	40 CFR 63.11094 (d)	List of Equipment in Gasoline Service, Monthly inspection forms	In compliance as of March 2020			
1-RACKT, FGT, 2- RACKR, FGR, 1-FUGTV	40 CFR 63.11094 (e)	Monthly Inspection Forms	In compliance as of March 2020			
1-RACKT, RPT, VRUTK, 2- RACKR, RPR, VCURR	40 CFR 63.11094 (f)	VCU Record-keeping and VRU CEMS Monitoring Data	In compliance as of March 2020			
1-RACKT, FGT, RPT 2- RACKR, FGR, RPR, 1- TANK1, RP1	40 CFR 63.11095 (a)	Subpart BBBBB Monitoring report	In compliance as of March 2020			
1-RACKT, FGT, RPT, 2-RACKR, FGR, RPR	40 CFR 63.11095 (b)	If necessary, excess emissions reports are submitted with the Subpart BBBBB semiannual monitoring reports	In compliance as of March 2020			
FACILITY	40 CFR 63.11098	Review table	In compliance as of March 2020			

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Methods Used to Determine Compliance						
Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance	Compliance Date			
2-RACKR, RPR, VCURR	40 CFR Part 64	PM Records	In compliance as of March 2020			
1-RACKT, RPT, VRUTK	40 CFR Part 64	PM Records	In compliance as of March 2020			
1-RACKT, RPT, VRUTK	40 CFR Part 64	VRU Automation System and CEMS Unit	In compliance as of March 2020			
3-RACKM, CDM, VCUM2, VCUM1	40 CFR Part 64	Marine VCU Prestartup Checklist	In compliance as of March 2020			
1-RACKT, FGT, 2- RACKR, FGR, 1-FUGTV	40 CFR Part 64	VCU PM records	In compliance as of March 2020			
FACILITY	40 CFR Part 68	Fuels are exempt from program and no other chemicals are utilized which exceed threshold	In compliance as of March 2020			
FACILITY	40 CFR Part 82, Subpart F	Only Certified Contractors are used to work on refrigerant systems	In compliance as of March 2020			
FACILITY	ECL 19-0301	Review list of contaminants	In compliance as of March 2020			
FACILITY	ECL 19-0301 (3) (b)	Terminal Records / Product Information	In compliance as of March 2020			
FACILITY	6 NYCRR 201-1.4	Facility has not requested an affirmative defense during the permit period.	In compliance as of March 2020			

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Emission Unit Matrix

	Emission Unit Description	Process ID	Process Description	SCC Code	Source ID	Source Description	Control ID	Control Description	Emission Point ID
Emission Unit ID 1-TANK1	This emission unit represents	RP1	Refined product storage	4-03-010-99	TK031	4,200,000 gallon tank	TK31C	Internal Floating Roof	00T31
1-14447	storage tanks at the facility.	10.1	tanks used for storage and	4-03-010-55	TK032	4,200,000 gallon tank	TK32C	Internal Floating Roof	00T32
	storage tanks at the racinty.		distribution at terminal.		TK032	4,200,000 gallon tank	TK39C	Internal Floating Roof	00T32
			distribution at terminal.		TK114	3,887,898 gallon tank	T114C	Internal Floating Roof	0T114
					TK114	5,851,902 gallon tank	T115C	Internal Floating Roof	0T115
					TK117				0T117
					TK117	3,028,032 gallon tank 2,426,550 gallon tank	T117C T118C	Internal Floating Roof Internal Floating Roof	0T117
					TK118	1,619,268 gallon tank	T119C	Internal Floating Roof	0T119
					TK120	1,640,940 gallon tank	T120C	Internal Floating Roof	0T120
					TK121	5,370,204 gallon tank	T121C	Internal Floating Roof	0T121
			4			t		1	t .
		BS1	Blendstock storage tanks used		TK114	3,887,898 gallon tank	T114C	Internal Floating Roof	0T114
			for storage and distribution at		TK115	5,851,902 gallon tank	T115C	Internal Floating Roof	0T115
			terminal.		TK117	3,028,032 gallon tank	T117C	Internal Floating Roof	0T117
					TK119	1,619,268 gallon tank	T119C	Internal Floating Roof	0T119
					TK121	5,370,204 gallon tank	T121C	Internal Floating Roof	0T121
						AAAAAA		***	
		CR1	Crude Oil storage tanks used for	4-03-010-99	TK031	4,200,000 gallon tank	TK31C	Internal Floating Roof	00T31
			storage and distribution at terminal.		TK032	4,200,000 gallon tank	TK32C	Internal Floating Roof	00T32
					TK039	4,200,000 gallon tank	T039C	Internal Floating Roof	00T39
					TK114	3,887,898 gallon tank	T114C	Internal Floating Roof	0T114
			***************************************		TK115	5,851,902 gallon tank	T115C	Internal Floating Roof	0T115
					TK117	3,028,032 gallon tank	T117C	Internal Floating Roof	0T117
			THE PROPERTY OF THE PROPERTY O		TK118	2,426,550 gallon tank	T118C	Internal Floating Roof	0T118
					TK119	1,619,268 gallon tank	T119C	Internal Floating Roof	0T119
					TK120	1,640,940 gallon tank	T120C	Internal Floating Roof	0T120
					TK121	5,370,204 gallon tank	T121C	Internal Floating Roof	0T121
						, , , ,			
			4 4 9 9			1		1	l .
		PCW	Wastewater tank contaminated	NOT NEEDED	TK130	1,512,714 gal wastewater tank	T130C	Internal Floating Roof	0T130
			with gasoline/distillate.			-// 8	1	8	
			With gasonite, distinate.			8 8 8 8			
1-RACKT	Truck loading rack	RPT	Emissions from VRU at truck rack	4-04-001-53	RACKT	Truck Rack	VRUTK	Vapor Recovery Unit	OTRK1
I-NACKI	Truck loading rack	NF I	while loading refined products	4-04-001-33	NACKI	HUCK NACK	VKUIK	vapor Recovery Offic	UIKKI
			write loading refilled products					4	1
			4 4 9 9						
		FGT	Fugitive emissions from loading trucks	4-04-001-51	RACKT	Truck Rack	VACTK	Vac Assist Vapor Reduction System	OTRK2
			at Rack 1						
2-RACKR	Rail loading rack	RPR	Emissions from VCU at rail rack	4-04-001-53	RACKR	Rail Rack	VCURR	Vapor Combustion Unit	ORRK1
			while loading refined products						
		1							
		FGR	Fugitive emissions from loading railcars	4-04-001-51	RACKR	Rail Rack	VACRR	Vac Assist Vapor Reduction System	ORRK2
		FGR	Fugitive emissions from loading railcars at Rack 2	4-04-001-51	RACKR	Rail Rack	VACRR	Vac Assist Vapor Reduction System	ORRK2
		FGR		4-04-001-51	RACKR	Rail Rack	VACRR	Vac Assist Vapor Reduction System	ORRK2
3-RACKM	Marine loading dock		at Rack 2						
3-RACKM	Marine loading dock	FGR RPM	at Rack 2 Emissions from VCU at marine dock	4-04-001-51 4-06-002-98	RACKR	Rail Rack Marine Dock	VCUM1	Vapor Combustion Unit 1 for RP3/BS3/CD3	0MDR1
3-RACKM	Marine loading dock		at Rack 2						
3-RACKM	Marine loading dock		at Rack 2 Emissions from VCU at marine dock				VCUM1	Vapor Combustion Unit 1 for RP3/BS3/CD3	0MDR1
3-RACKM	Marine loading dock		at Rack 2 Emissions from VCU at marine dock				VCUM1	Vapor Combustion Unit 1 for RP3/BS3/CD3	0MDR1
3-RACKM	Marine loading dock	RPM	at Rack 2 Emissions from VCU at marine dock while loading refined products	4-06-002-98	RACKM	Marine Dock	VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR2
3-rackm	Marine loading dock		at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock				VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3	OMDR1 OMDR2
3-RACKM	Marine loading dock	RPM	at Rack 2 Emissions from VCU at marine dock while loading refined products	4-06-002-98	RACKM	Marine Dock	VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR2
3-RACKM	Marine loading dock	RPM BSM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock	4-06-002-98 4-06-002-98	RACKM RACKM	Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3	OMDR1 OMDR2 OMDR1 OMDR2
3-RACKM	Marine loading dock	RPM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while	4-06-002-98	RACKM	Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR1 OMDR2 OMDR1
3-RACKM	Marine loading dock	RPM BSM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock	4-06-002-98 4-06-002-98	RACKM RACKM	Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3	OMDR1 OMDR2 OMDR1 OMDR2
3-RACKM	Marine loading dock	RPM BSM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while	4-06-002-98 4-06-002-98	RACKM RACKM	Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR1 OMDR2 OMDR1
3-RACKM	Marine loading dock	RPM BSM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while	4-06-002-98 4-06-002-98	RACKM RACKM	Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR1 OMDR2 OMDR1
3-RACKM	Marine loading dock	RPM BSM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while	4-06-002-98 4-06-002-98	RACKM RACKM	Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR1 OMDR2 OMDR1
3-RACKM	Marine loading dock	RPM BSM CDM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil	4-06-002-98 4-06-002-98	RACKM RACKM	Marine Dock Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR2 OMDR2 OMDR1 OMDR2
3-RACKM	Marine loading dock	RPM BSM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil Fugitive emissions from loading marine	4-06-002-98 4-06-002-98	RACKM RACKM	Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR1 OMDR2 OMDR1
		RPM BSM CDM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil Fugitive emissions from loading marine vessels at Rack 3	4-06-002-98 4-06-002-98	RACKM RACKM RACKM	Marine Dock Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR2 OMDR1 OMDR2 OMDR1 OMDR2
3-RACKM	Marine loading dock Facility wide fugitive emissions	RPM BSM CDM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil Fugitive emissions from loading marine vessels at Rack 3 Facility wide fugitive emissions	4-06-002-98 4-06-002-98	RACKM RACKM	Marine Dock Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR2 OMDR2 OMDR1 OMDR2
		RPM BSM CDM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil Fugitive emissions from loading marine vessels at Rack 3 Facility wide fugitive emissions from pumps, valves, flanges &	4-06-002-98 4-06-002-98	RACKM RACKM RACKM	Marine Dock Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR2 OMDR1 OMDR2 OMDR1 OMDR2
		RPM BSM CDM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil Fugitive emissions from loading marine vessels at Rack 3 Facility wide fugitive emissions	4-06-002-98 4-06-002-98	RACKM RACKM RACKM	Marine Dock Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR2 OMDR1 OMDR2 OMDR1 OMDR2
		RPM BSM CDM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil Fugitive emissions from loading marine vessels at Rack 3 Facility wide fugitive emissions from pumps, valves, flanges &	4-06-002-98 4-06-002-98	RACKM RACKM RACKM	Marine Dock Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR2 OMDR1 OMDR2 OMDR1 OMDR2
		RPM BSM CDM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil Fugitive emissions from loading marine vessels at Rack 3 Facility wide fugitive emissions from pumps, valves, flanges &	4-06-002-98 4-06-002-98	RACKM RACKM RACKM	Marine Dock Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR2 OMDR1 OMDR2 OMDR1 OMDR2
	Facility wide fugitive emissions	RPM BSM CDM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil Fugitive emissions from loading marine vessels at Rack 3 Facility wide fugitive emissions from pumps, valves, flanges & misc appurtances	4-06-002-98 4-06-002-98 4-06-002-98 4-04-001-51	RACKM RACKM RACKM	Marine Dock Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR2 OMDR1 OMDR2 OMDR1 OMDR2
		RPM BSM CDM	at Rack 2 Emissions from VCU at marine dock while loading refined products Emissions from VCU at marine dock while loading blendstock Emissions from Rack 3 while loading crude oil Fugitive emissions from loading marine vessels at Rack 3 Facility wide fugitive emissions from pumps, valves, flanges &	4-06-002-98 4-06-002-98 4-06-002-98 4-04-001-51	RACKM RACKM RACKM FUGTV	Marine Dock Marine Dock Marine Dock	VCUM1 VCUM2 VCUM1 VCUM2 VCUM1 VCUM2	Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 1 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3 Vapor Combustion Unit 2 for RP3/BS3/CD3	OMDR1 OMDR1 OMDR2 OMDR1 OMDR2 OMDR1 OMDR2



PERMIT Under the Environmental Conservation Law (ECL)

IDENTIFICATION INFORMATION

Permit Type: Air Title V Facility
Permit ID: 4-0101-00112/00029

Mod 0 Effective Date: 03/03/2011 Expiration Date: 03/02/2016

Mod 1 Effective Date: 08/10/2011 Expiration Date: 03/02/2016

Mod 2 Effective Date: 08/29/2011 Expiration Date: 03/02/2016

Mod 3 Effective Date: 11/02/2011 Expiration Date: 03/02/2016

Mod 4 Effective Date: 11/07/2012 Expiration Date: 03/02/2016

Permit Issued To:GLOBAL COMPANIES LLC

800 SOUTH STREET WALTHAM, MA 02453

Facility: GLOBAL COMPANIES LLC - ALBANY TERMINAL

50 CHURCH ST - PORT OF ALBANY

ALBANY, NY 12202

Contact: DARRELL BOEHLKE CHARLES FURMAN

GLOBAL CO ALBANY TERMINAL

50 CHURCH ST ALBANY, NY 12202 (518) 436-6570

Description:

This modification authorizes the storage of crude oil and loading into barges at the facility's marine loading terminal. A new Vapor Combustion Unit (VCU) will be utilized to control air emissions. The facility increased the overall emissions profile with this modification.



By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified and any Special Conditions included as part of this permit.

Permit Administrator:	ANGELO A MARCUCCIO NYSDEC 1130 N WESTCOTT RD SCHENECTADY, NY 12306-2014	
Authorized Signature:		Date://



Notification of Other State Permittee Obligations

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the compliance permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in any compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.



LIST OF CONDITIONS

DEC GENERAL CONDITIONS

General Provisions

Facility Inspection by the Department Relationship of this Permit to Other Department Orders and Determinations

Applications for permit renewals, modifications and transfers
Permit modifications, suspensions or revocations by the Department
Permit modifications, suspensions or revocations by the Department
Facility Level

Submission of application for permit modification or renewal-REGION 4 HEADQUARTERS



DEC GENERAL CONDITIONS **** General Provisions ****

For the purpose of your Title V permit, the following section contains state-only enforceable terms and conditions.

GENERAL CONDITIONS - Apply to ALL Authorized Permits.

Condition 1: Facility Inspection by the Department
Applicable State Requirement: ECL 19-0305

Item 1.1:

The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

Item 1.2:

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

Item 1.3:

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

Condition 2: Relationship of this Permit to Other Department Orders and Determinations Applicable State Requirement: ECL 3-0301 (2) (m)

Item 2.1:

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

Condition 3: Applications for permit renewals, modifications and transfers Applicable State Requirement: 6 NYCRR 621.11

Item 3.1:

The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

Item 3.2:

The permittee must submit a renewal application at least 180 days before expiration of permits for Title V Facility Permits, or at least 30 days before expiration of permits for State Facility Permits.

Item 3.3:

Permits are transferrable with the approval of the department unless specifically prohibited by the statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.



Condition 1-1: Permit modifications, suspensions or revocations by the

Department

Applicable State Requirement: 6 NYCRR 621.13

Item 1-1.1:

The Department reserves the right to exercise all available authority to modify, suspend, or revoke this permit in accordance with 6NYCRR Part 621. The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

Condition 4: Permit modifications, suspensions or revocations by the Department Applicable State Requirement: 6 NYCRR 621.13

Item 4.1:

The Department reserves the right to modify, suspend, or revoke this permit in accordance with 6NYCRR Part 621. The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

**** Facility Level ****

Condition 5: Submission of application for permit modification or renewal-REGION 4

HEADQUARTERS

Applicable State Requirement: 6 NYCRR 621.6 (a)

Item 5.1:

Submission of applications for permit modification or renewal are to be submitted to:

NYSDEC Regional Permit Administrator Region 4 Headquarters Division of Environmental Permits 1130 North Westcott Rd. Schenectady, NY 12306-2014 (518) 357-2069



Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

Permit Under the Environmental Conservation Law (ECL)

ARTICLE 19: AIR POLLUTION CONTROL - TITLE V PERMIT

IDENTIFICATION INFORMATION

Permit Issued To:GLOBAL COMPANIES LLC 800 SOUTH STREET WALTHAM, MA 02453

Facility: GLOBAL COMPANIES LLC - ALBANY TERMINAL

50 CHURCH ST - PORT OF ALBANY

ALBANY, NY 12202

Authorized Activity By Standard Industrial Classification Code:

5171 - PETROLEUM BULK STATIONS & TERMINALS

Mod 0 Permit Effective Date: 03/03/2011 Permit Expiration Date: 03/02/2016

Mod 1 Permit Effective Date: 08/10/2011 Permit Expiration Date: 03/02/2016

Mod 2 Permit Effective Date: 08/29/2011 Permit Expiration Date: 03/02/2016

Mod 3 Permit Effective Date: 11/02/2011 Permit Expiration Date: 03/02/2016

Mod 4 Permit Effective Date: 11/07/2012 Permit Expiration Date: 03/02/2016



Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

LIST OF CONDITIONS

FEDERALLY ENFORCEABLE CONDITIONS **Facility Level**

- 1 6 NYCRR 200.6: Acceptable Ambient Air Quality
- 2 6 NYCRR 201-6.5 (a) (7): Fees
- 3 6 NYCRR 201-6.5 (c): Recordkeeping and reporting of compliance monitoring
- 4 6 NYCRR 201-6.5 (c) (2): Monitoring, Related Recordkeeping, and Reporting Requirements.
- 5 6 NYCRR 201-6.5 (c) (3) (ii): Compliance Certification
- 2-1 6 NYCRR 201-6.5 (e): Compliance Certification
- 6 6 NYCRR 202-2.1: Compliance Certification
- 7 6 NYCRR 202-2.5: Recordkeeping requirements
- 8 6 NYCRR 215.2: Open Fires Prohibitions
- 9 6 NYCRR 200.7: Maintenance of Equipment
- 10 6 NYCRR 201-1.7: Recycling and Salvage
- 11 6 NYCRR 201-1.8: Prohibition of Reintroduction of Collected Contaminants to the air
- 12 6 NYCRR 201-3.2 (a): Exempt Sources Proof of Eligibility
- 13 6 NYCRR 201-3.3 (a): Trivial Sources Proof of Eligibility
- 14 6 NYCRR 201-6.5 (a) (4): Standard Requirement Provide Information
- 15 6 NYCRR 201-6.5 (a) (8): General Condition Right to Inspect
- 16 6 NYCRR 201-6.5 (d) (5): Standard Requirements Progress Reports
- 17 6 NYCRR 201-6.5 (f) (6): Off Permit Changes
- 18 6 NYCRR 202-1.1: Required Emissions Tests
- 20 40 CFR Part 68: Accidental release provisions.
- 21 40CFR 82, Subpart F: Recycling and Emissions Reduction
- 22 6 NYCRR Subpart 201-6: Emission Unit Definition
- 24 6 NYCRR Subpart 201-7: Facility Permissible Emissions
- *3-1 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *4-1 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *4-2 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *1-3 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *2-3 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *4-3 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *1-4 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *4-4 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *4-5 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *4-6 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *1-7 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- *4-7 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- 31 6 NYCRR 202-1.2: Notification
- 32 6 NYCRR 202-1.3 (a): Acceptable procedures
- 1-8 6 NYCRR 211.1: Air pollution prohibited
- 33 6 NYCRR 212.2: Compliance Certification
- 34 6 NYCRR 212.4 (a): Emissions from new emission sources and/or modifications
- 35 6 NYCRR 212.4 (a): Compliance Certification
- 4-8 6 NYCRR 212.10 (c) (4) (i): Compliance Certification



Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

- 36 6 NYCRR 225-1.2 (a) (2): Compliance Certification
- 37 6 NYCRR 225-1.8 (b): Compliance Certification
- 38 6 NYCRR 225-1.8 (d): Sampling, compositing, and analysis of fuel samples
- 39 6 NYCRR 225-3.3 (a): Compliance Certification
- 40 6 NYCRR 229.1 (d) (2) (i): Petroleum fixed roof tanks a
- 41 6 NYCRR 229.1 (d) (2) (iv): Gasoline terminals a
- 42 6 NYCRR 229.1 (d) (2) (v): VOL storage tanks greater than 20,000 gallons—a
- 43 6 NYCRR 229.3 (a): Internal floating roofs required in fixed roof tanks storing petroleum products
- 44 6 NYCRR 229.3 (d): Compliance Certification
- 45 6 NYCRR 229.3 (e) (1): VOL fixed roof storage tank requirements
- 4-9 6 NYCRR 231-11.2 (c): Compliance Certification
- 4-10 6 NYCRR 231-11.2 (c): Compliance Certification
- 46 40CFR 60.4, NSPS Subpart A: EPA Region 2 address.
- 47 40CFR 60.7(a), NSPS Subpart A: Modification Notification
- 48 40CFR 60.7(b), NSPS Subpart A: Recordkeeping requirements.
- 49 40CFR 60.7(c), NSPS Subpart A: Compliance Certification
- 50 40CFR 60.7(d), NSPS Subpart A: Excess emissions report.
- 51 40CFR 60.7(e), NSPS Subpart A: Monitoring frequency waiver.
- 52 40CFR 60.7(f), NSPS Subpart A: Facility files for subject sources.
- 53 40CFR 60.7(g), NSPS Subpart A: Notification Similar to State or Local Agency
- 54 40CFR 60.8(a), NSPS Subpart A: Performance testing timeline.
- 55 40CFR 60.8(b), NSPS Subpart A: Performance test methods.
- 56 40CFR 60.8(c), NSPS Subpart A: Required performance test information.
- 57 40CFR 60.8(d), NSPS Subpart A: Prior notice.
- 58 40CFR 60.8(e), NSPS Subpart A: Performance testing facilities.
- 59 40CFR 60.8(f), NSPS Subpart A: Number of required tests.
- 60 40CFR 60.9, NSPS Subpart A: Availability of information.
- 61 40CFR 60.11, NSPS Subpart A: Opacity standard compliance testing.
- 62 40CFR 60.11(d), NSPS Subpart A: Compliance with Standards and Maintenance Requirements
- 63 40CFR 60.12, NSPS Subpart A: Circumvention.
- 64 40CFR 60.13, NSPS Subpart A: Monitoring requirements.
- 65 40CFR 60.14, NSPS Subpart A: Modifications.
- 66 40CFR 60.15, NSPS Subpart A: Reconstruction
- 67 40CFR 60.113b(a), NSPS Subpart Kb: Compliance Certification
- 68 40CFR 60.115b(a), NSPS Subpart Kb: Compliance Certification
- 69 40CFR 60.116b, NSPS Subpart Kb: Compliance Certification
- 70 40CFR 60.502(b), NSPS Subpart XX: Compliance Certification
- 71 40CFR 60.502(e), NSPS Subpart XX: Compliance Certification
- 72 40CFR 60.502(f), NSPS Subpart XX: Truck loading compatibility
- 73 40CFR 60.502(g), NSPS Subpart XX: Vapor collection connection required
- 74 40CFR 60.502(i), NSPS Subpart XX: Compliance Certification
- 75 40CFR 63.11081(a), Subpart BBBBBB: Definition of an affected source
- 76 40CFR 63.11083(b), Subpart BBBBBB: Compliance date for an existing source
- 77 40CFR 63.11087, Subpart BBBBBB: Compliance Certification
- 78 40CFR 63.11088, Subpart BBBBBB: Compliance Certification
- 79 40CFR 63.11089, Subpart BBBBBB: Compliance Certification
- 80 40CFR 63.11092(a), Subpart BBBBBB: Compliance Certification



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- 81 40CFR 63.11092(a)(2), Subpart BBBBBB: Waiver of new performance test requirement by complying with state rule
- 82 40CFR 63.11092(a)(3), Subpart BBBBBB: Waiver of new testing requirement due to previous test conducted within 5 prior year period
- 83 40CFR 63.11092(b)(1)(i)('B')('1'), NESHAP Subpart BBBBBB: Compliance Certification
- 84 40CFR 63.11092(b)(1)(i)('B')('1'), NESHAP Subpart BBBBBB: Compliance Certification
- 85 40CFR 63.11092(b)(1)(i)('B')('1'), NESHAP Subpart BBBBBB: Compliance Certification
- 86 40CFR 63.11092(b)(1)(i)('B')('2'), NESHAP Subpart BBBBBB: Compliance Certification
- 87 40CFR 63.11092(b)(1)(iii), Subpart BBBBBB: Compliance Certification
- 88 40CFR 63.11094(b), Subpart BBBBBB: Compliance Certification
- 89 40CFR 63.11094(c), Subpart BBBBBB: Compliance Certification
- 90 40CFR 63.11094(d), Subpart BBBBBB: Compliance Certification
- 91 40CFR 63.11094(e), Subpart BBBBBB: Compliance Certification
- 92 40CFR 63.11094(f), Subpart BBBBBB: Compliance Certification
- 93 40CFR 63.11095(a), Subpart BBBBBB: Compliance Certification
- 94 40CFR 63.11095(b), Subpart BBBBBB: Compliance Certification
- 95 40CFR 63.11098, Subpart BBBBBB: Applicability of MACT General Provisions
- 4-11 40 CFR Part 64: Compliance Certification
- 4-12 40 CFR Part 64: Compliance Certification
- 96 40 CFR Part 64: Compliance Certification
- 101 40 CFR Part 64: Compliance Certification
- 102 40 CFR Part 64: Compliance Certification
- 103 40 CFR Part 64: Compliance Certification
- 105 40 CFR Part 64: Compliance Certification

Emission Unit Level

- 106 6 NYCRR Subpart 201-6: Emission Point Definition By Emission Unit
- 107 6 NYCRR Subpart 201-6: Process Definition By Emission Unit

STATE ONLY ENFORCEABLE CONDITIONS

Facility Level

- 108 ECL 19-0301: Contaminant List
- 109 ECL 19-0301 (3) (b): Compliance Demonstration
- 110 6 NYCRR 201-1.4: Unavoidable noncompliance and violations
- 1-9 6 NYCRR 211.2: Visible Emissions Limited

NOTE: * preceding the condition number indicates capping.



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FEDERALLY ENFORCEABLE CONDITIONS **** Facility Level ****

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

The items listed below are not subject to the annual compliance certification requirements under Title V. Permittees may also have other obligations under regulations of general applicability.

Item A: Emergency Defense - 6 NYCRR 201-1.5

An emergency constitutes an affirmative defense to an action brought for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

- (a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
- (1) An emergency occurred and that the facility owner and/or operator can identify the cause(s) of the emergency;
- (2) The equipment at the permitted facility causing the emergency was at the time being properly operated;
- (3) During the period of the emergency the facility owner and/or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
 - (4) The facility owner and/or operator notified the

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within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

- (b) In any enforcement proceeding, the facility owner and/or operator seeking to establish the occurrence of an emergency has the burden of proof.
- (c) This provision is in addition to any emergency or upset provision contained in any applicable requirement.

Item B: Public Access to Recordkeeping for Title V Facilities - 6 NYCRR 201-1.10 (b)

The Department will make available to the public any permit application, compliance plan, permit, and monitoring and compliance certification report pursuant to Section 503(e) of the Act, except for information entitled to confidential treatment pursuant to 6 NYCRR Part 616 - Public Access to records and Section 114(c) of the Act.



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Item C: Timely Application for the Renewal of Title V Permits - 6 NYCRR 201-6.3 (a) (4)

Owners and/or operators of facilities having an issued Title V permit shall submit a complete application at least 180 days, but not more than eighteen months, prior to the date of permit expiration for permit renewal purposes.

Item D: Certification by a Responsible Official - 6 NYCRR 201-6.3 (d) (12)

Any application, form, report or compliance certification required to be submitted pursuant to the federally enforceable portions of this permit shall contain a certification of truth, accuracy and completeness by a responsible official. This certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Item E: Requirement to Comply With All Conditions - 6 NYCRR 201-6.5 (a) (2)

The permittee must comply with all conditions of the Title V facility permit. Any permit non-compliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

Item F: Permit Revocation, Modification, Reopening, Reissuance or Termination, and Associated Information Submission Requirements - 6 NYCRR 201-6.5 (a) (3)

This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Item G: Cessation or Reduction of Permitted Activity Not a Defense - 6 NYCRR 201-6.5 (a) (5)

It shall not be a defense for a permittee in an enforcement action to claim that a cessation or reduction in the permitted activity would have been necessary in order to maintain compliance with the conditions of this permit.

Item H: Property Rights - 6 NYCRR 201-6.5 (a) (6)

This permit does not convey any property rights of any sort or any exclusive privilege.



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Item I: Severability - 6 NYCRR 201-6.5 (a) (9)

If any provisions, parts or conditions of this permit are found to be invalid or are the subject of a challenge, the remainder of this permit shall continue to be valid.

Item J: Permit Shield - 6 NYCRR 201-6.5 (g)

All permittees granted a Title V facility permit shall be covered under the protection of a permit shield, except as provided under 6 NYCRR Subpart 201-6. Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that such applicable requirements are included and are specifically identified in the permit, or the Department, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the major stationary source, and the permit includes the determination or a concise summary thereof. Nothing herein shall preclude the Department from revising or revoking the permit pursuant to 6 NYCRR Part 621 or from exercising its summary abatement authority. Nothing in this permit shall alter or affect the following:

- i. The ability of the Department to seek to bring suit on behalf of the State of New York, or the Administrator to seek to bring suit on behalf of the United States, to immediately restrain any person causing or contributing to pollution presenting an imminent and substantial endangerment to public health, welfare or the environment to stop the emission of air pollutants causing or contributing to such pollution;
- ii. The liability of a permittee of the Title V facility for any violation of applicable requirements prior to or at the time of permit issuance;
- iii. The applicable requirements of Title IV of the Act:
- iv. The ability of the Department or the Administrator to obtain information from the permittee concerning the ability to enter, inspect and monitor the facility.

Item K: Reopening for Cause - 6 NYCRR 201-6.5 (i)

This Title V permit shall be reopened and revised under any of the following circumstances:

i. If additional applicable requirements under the Act become applicable where this permit's remaining term is



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three or more years, a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the original permit or any of its terms and conditions has been extended by the Department pursuant to the provisions of Part 201-6.7 and Part 621.

- ii. The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- iii. The Department or the Administrator determines that the Title V permit must be revised or reopened to assure compliance with applicable requirements.
- iv. If the permitted facility is an "affected source" subject to the requirements of Title IV of the Act, and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

Proceedings to reopen and issue Title V facility permits shall follow the same procedures as apply to initial permit issuance but shall affect only those parts of the permit for which cause to reopen exists.

Reopenings shall not be initiated before a notice of such intent is provided to the facility by the Department at least thirty days in advance of the date that the permit is to be reopened, except that the Department may provide a shorter time period in the case of an emergency.

Item L: Permit Exclusion - ECL 19-0305

The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York



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(NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

Item M: Federally Enforceable Requirements - 40 CFR 70.6 (b)

All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

MANDATORY FEDERALLY ENFORCEABLE PERMIT CONDITIONS SUBJECT TO ANNUAL CERTIFICATIONS AT ALL TIMES

The following federally enforceable permit conditions are mandatory for all Title V permits and are subject to annual compliance certification requirements at all times.

Condition 1: Acceptable Ambient Air Quality

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 200.6

Item 1.1:

Notwithstanding the provisions of 6 NYCRR Chapter III, Subchapter A, no person shall allow or permit any air contamination source to emit air contaminants in quantities which alone or in combination with emissions from other air contamination sources would contravene any applicable ambient air quality standard and/or cause air pollution. In such cases where contravention occurs or may occur, the Commissioner shall specify the degree and/or method of emission control required.

Condition 2: Fees

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-6.5 (a) (7)

Item 2.1:

The owner and/or operator of a stationary source shall pay fees to the Department consistent with the fee schedule authorized by ECL 72-0303.

Condition 3: Recordkeeping and reporting of compliance monitoring

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-6.5 (c)

Item 3.1:



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The following information must be included in any required compliance monitoring records and reports:

- (i) The date, place, and time of sampling or measurements;
- (ii) The date(s) analyses were performed;
- (iii)The company or entity that performed the analyses;
- (iv) The analytical techniques or methods used including quality assurance and quality control procedures if required;
- (v) The results of such analyses including quality assurance data where required; and
- (vi) The operating conditions as existing at the time of sampling or measurement.

Any deviation from permit requirements must be clearly identified in all records and reports. Reports must be certified by a responsible official, consistent with Section 201-6.3 of this Part 201.

Condition 4: Monitoring, Related Recordkeeping, and Reporting Requirements.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-6.5 (c) (2)

Item 4.1:

Compliance monitoring and recordkeeping shall be conducted according to the terms and conditions contained in this permit and shall follow all quality assurance requirements found in applicable regulations. Records of all monitoring data and support information must be retained for a period of at least 5 years from the date of the monitoring, sampling, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

Condition 5: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-6.5 (c) (3) (ii)

Item 5.1:

The Compliance Certification activity will be performed for the Facility.

Item 5.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

To meet the requirements of this facility permit with respect to reporting, the permittee must:

Submit reports of any required monitoring at a minimum



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> frequency of every 6 months, based on a calendar year reporting schedule. These reports shall be submitted to the Department within 30 days after the end of a reporting period. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by the responsible official for this facility.

> Notify the Department and report permit deviations and incidences of noncompliance stating the probable cause of such deviations, and any corrective actions or preventive measures taken. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations shall be submitted to the permitting authority based on the following schedule:

- (1) For emissions of a hazardous air pollutant (as identified in an applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
- (2) For emissions of any regulated air pollutant, excluding those listed in paragraph (1) of this section, that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.
- (3) For all other deviations from permit requirements, the report shall be contained in the 6 month monitoring report required above.
- (4) This permit may contain a more stringent reporting requirement than required by paragraphs (1), (2) or (3) above. If more stringent reporting requirements have been placed in this permit or exist in applicable requirements that apply to this facility, the more stringent reporting requirement shall apply.

If above paragraphs (1) or (2) are met, the source must notify the permitting authority by telephone during normal business hours at the Regional Office of jurisdiction for this permit, attention Regional Air Pollution Control Engineer (RAPCE) according to the timetable listed in paragraphs (1) and (2) of this section. For deviations and incidences that must be reported outside of normal business hours, on weekends, or holidays, the DEC Spill Hotline phone number at 1-800-457-7362 shall be used. A



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written notice, certified by a responsible official consistent with 6 NYCRR Part 201-6.3(d)(12), must be submitted within 10 working days of an occurrence for deviations reported under (1) and (2). All deviations reported under paragraphs (1) and (2) of this section must also be identified in the 6 month monitoring report required above.

The provisions of 6 NYCRR 201-1.4 shall apply if the permittee seeks to have a violation excused unless otherwise limited by regulation. In order to have a violation of a federal regulation (such as a new source performance standard or national emissions standard for hazardous air pollutants) excused, the specific federal regulation must provide for an affirmative defense during start-up, shutdowns, malfunctions or upsets.

Notwithstanding any recordkeeping and reporting requirements in 6 NYCRR 201-1.4, reports of any deviations shall not be on a less frequent basis than the reporting periods described in paragraphs (1) and (4) above.

In the case of any condition contained in this permit with a reporting requirement of "Upon request by regulatory agency" the permittee shall include in the semiannual report, a statement for each such condition that the monitoring or recordkeeping was performed as required or requested and a listing of all instances of deviations from these requirements.

In the case of any emission testing performed during the previous six month reporting period, either due to a request by the Department, EPA, or a regulatory requirement, the permittee shall include in the semiannual report a summary of the testing results and shall indicate whether or not the Department or EPA has approved the results.

All semiannual reports shall be submitted to the Administrator (or his or her representative) as well as two copies to the Department (one copy to the regional air pollution control engineer (RAPCE) in the regional office and one copy to the Bureau of Quality Assurance (BQA) in the DEC central office). Mailing addresses for the above referenced persons are contained in the monitoring condition for 6 NYCRR Part 201-6.5(e), contained elsewhere in this permit.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR) Reports due 30 days after the reporting period. The initial report is due 7/30/2011.



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Subsequent reports are due every 6 calendar month(s).

Condition 2-1: Compliance Certification

Effective between the dates of 08/29/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-6.5 (e)

Item 2-1.1:

The Compliance Certification activity will be performed for the Facility.

Item 2-1.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

Requirements for compliance certifications with terms and conditions contained in this facility permit include the following:

- i. Compliance certifications shall contain:
- the identification of each term or condition of the permit that is the basis of the certification;
- the compliance status;
- whether compliance was continuous or intermittent;
- the method(s) used for determining the compliance status of the facility, currently and over the reporting period consistent with the monitoring and related recordkeeping and reporting requirements of this permit;
- such other facts as the Department may require to determine the compliance status of the facility as specified in any special permit terms or conditions; and
- such additional requirements as may be specified elsewhere in this permit related to compliance certification.
- ii. The responsible official must include in the annual certification report all terms and conditions contained in this permit which are identified as being subject to certification, including emission limitations, standards, or work practices. That is, the provisions labeled herein as "Compliance Certification" are not the only provisions of this permit for which an annual certification is required.
- iii. Compliance certifications shall be submitted annually. Certification reports are due 30 days after the anniversary date of four consecutive calendar quarters. The first report is due 30 days after the calendar quarter that occurs just prior to the permit anniversary date, unless another quarter has been acceptable by the Department.



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iv. All compliance certifications shall be submitted to the Administrator (or his or her representative) as well as two copies to the Department (one copy to the regional air pollution control engineer (RAPCE) in the regional office and one copy to the Bureau of Quality Assurance (BQA) in the DEC central office). Please send annual compliance certifications to Chief of the Stationary Source Compliance Section, the Region 2 EPA representative for the Administrator, at the following address:

USEPA Region 2 Air Compliance Branch 290 Broadway New York, NY 10007-1866

The address for the RAPCE is as follows:

NYSDEC 1130 North Westcott Road Schenectady, NY 12306-2014

The address for the BQA is as follows:

NYSDEC Bureau of Quality Assurance 625 Broadway Albany, NY 12233-3258

Monitoring Frequency: ANNUALLY Reporting Requirements: ANNUALLY (CALENDAR) Reports due 30 days after the reporting period. The initial report is due 1/30/2012. Subsequent reports are due on the same day each year

Condition 6: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 202-2.1

Item 6.1:

The Compliance Certification activity will be performed for the Facility.

Item 6.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

Emission statements shall be submitted on or before April 15th each year for emissions of the previous calendar year.



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Monitoring Frequency: ANNUALLY

Reporting Requirements: ANNUALLY (CALENDAR) Reports due by April 15th for previous calendar year

Condition 7: Recordkeeping requirements

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 202-2.5

Item 7.1:

- (a) The following records shall be maintained for at least five years:
 - (1) a copy of each emission statement submitted to the department; and
- (2) records indicating how the information submitted in the emission statement was determined, including any calculations, data, measurements, and estimates used.
- (b) These records shall be made available at the facility to the representatives of the department upon request during normal business hours.

Condition 8: Open Fires - Prohibitions

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 215.2

Item 8.1:

Except as allowed by Title 6 NYCRR Section 215.3, no person shall burn, cause, suffer, allow or permit the burning of any materials in an open fire.

Item 8.2

Per Section 215.3, burning in an open fire, provided it is not contrary to other law or regulation, will be allowed as follows:

- (a) On-site burning in any town with a total population less than 20,000 of downed limbs and branches (including branches with attached leaves or needles) less than six inches in diameter and eight feet in length between May 15th and the following March 15th. For the purposes of this subdivision, the total population of a town shall include the population of any village or portion thereof located within the town. However, this subdivision shall not be construed to allow burning within any village.
- (b) Barbecue grills, maple sugar arches and similar outdoor cooking devices when actually used for cooking or processing food.
- (c) Small fires used for cooking and camp fires provided that only charcoal or untreated wood is used as fuel and the fire is not left unattended until extinguished.
- (d) On-site burning of agricultural wastes as part of a valid agricultural operation on contiguous agricultural lands larger than five acres actively devoted to agricultural or horticultural use, provided such waste is actually grown or generated on those lands and such waste is capable of being fully burned within a 24-hour period.
- (e) The use of liquid petroleum fueled smudge pots to prevent frost damage to crops.
- (f) Ceremonial or celebratory bonfires where not otherwise prohibited by law, provided that only untreated wood or other agricultural products are used as fuel and the fire is not left unattended until extinguished.
- (g) Small fires that are used to dispose of a flag or religious item, and small fires or other smoke producing process where not otherwise prohibited by law that are used in connection with a



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religious ceremony.

- (h) Burning on an emergency basis of explosive or other dangerous or contraband materials by police or other public safety organization.
- (i) Prescribed burns performed according to Part 194 of this Title.
- (j) Fire training, including firefighting, fire rescue, and fire/arson investigation training, performed under applicable rules and guidelines of the New York State Department of State's Office of Fire Prevention and Control. For fire training performed on acquired structures, the structures must be emptied and stripped of any material that is toxic, hazardous or likely to emit toxic smoke (such as asbestos, asphalt shingles and vinyl siding or other vinyl products) prior to burning and must be at least 300 feet from other occupied structures. No more than one structure per lot or within a 300 foot radius (whichever is bigger) may be burned in a training exercise. (k) Individual open fires as approved by the Director of the Division of Air Resources as may be required in response to an outbreak of a plant or animal disease upon request by the
- required in response to an outbreak of a plant or animal disease upon request by the commissioner of the Department of Agriculture and Markets, or for the destruction of invasive plant and insect species.
- (l) Individual open fires that are otherwise authorized under the environmental conservation law, or by rule or regulation of the Department.

MANDATORY FEDERALLY ENFORCEABLE PERMIT CONDITIONS SUBJECT TO ANNUAL CERTIFICATIONS ONLY IF APPLICABLE

The following federally enforceable permit conditions are mandatory for all Title V permits and are subject to annual compliance certification requirements only if effectuated during the reporting period.

[NOTE: The corresponding annual compliance certification for those conditions not effectuated during the reporting period shall be specified as "not applicable".]

Condition 9: Maintenance of Equipment

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 200.7

Item 9.1:

Any person who owns or operates an air contamination source which is equipped with an emission control device shall operate such device and keep it in a satisfactory state of maintenance and repair in accordance with ordinary and necessary practices, standards and procedures, inclusive of manufacturer's specifications, required to operate such device effectively.

Condition 10: Recycling and Salvage

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-1.7

Item 10.1:

Where practical, any person who owns or operates an air contamination source shall recycle or salvage air contaminants collected in an air cleaning device according to the requirements of the ECL.



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Condition 11: Prohibition of Reintroduction of Collected Contaminants to the air

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-1.8

Item 11.1:

No person shall unnecessarily remove, handle or cause to be handled, collected air contaminants from an air cleaning device for recycling, salvage or disposal in a manner that would reintroduce them to the outdoor atmosphere.

Condition 12: Exempt Sources - Proof of Eligibility

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-3.2 (a)

Item 12.1:

The owner and/or operator of an emission source or unit that is eligible to be exempt may be required to certify that it operates within the specific criteria described in this Subpart. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other State and Federal air pollution control requirements, regulations, or law.

Condition 13: Trivial Sources - Proof of Eligibility

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-3.3 (a)

Item 13.1:

The owner and/or operator of an emission source or unit that is listed as being trivial in this Part may be required to certify that it operates within the specific criteria described in this Subpart. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other State and Federal air pollution control requirements, regulations, or law.

Condition 14: Standard Requirement - Provide Information
Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-6.5 (a) (4)

Item 14.1:

The owner and/or operator shall furnish to the department, within a reasonable time, any information that the department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the department copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee



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may furnish such records directly to the administrator along with a claim of confidentiality, if the administrator initiated the request for information or otherwise has need of it.

Condition 15: General Condition - Right to Inspect

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-6.5 (a) (8)

Item 15.1:

The department or an authorized representative shall be allowed upon presentation of credentials and other documents as may be required by law to:

- (i) enter upon the permittee's premises where a facility subject to the permitting requirements of this Subpart is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (ii) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (iii) inspect at reasonable times any emission sources, equipment (including monitoring and air pollution control equipment), practices, and operations regulated or required under the permit; and
- (iv) sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

Condition 16: Standard Requirements - Progress Reports

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-6.5 (d) (5)

Item 16.1:

Progress reports consistent with an applicable schedule of compliance are to be submitted at least semiannually, or at a more frequent period if specified in the applicable requirement or by the department. Such progress reports shall contain the following:

- (i) dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
- (ii) 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.

Condition 17: Off Permit Changes

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 201-6.5 (f) (6)

Item 17.1:

No permit revision will be required for operating changes that contravene an express permit term, provided that such changes would not violate applicable requirements as defined under this Part or contravene federally enforceable monitoring (including test methods), recordkeeping, reporting, or compliance certification permit terms and conditions. Such changes may be made



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without requiring a permit revision, if the changes are not modifications under any provision of title I of the act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions) provided that the facility provides the administrator and the department with written notification as required below in advance of the proposed changes within a minimum of seven days. The facility owner or operator, and the department shall attach each such notice to their copy of the relevant permit.

- (i) 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.
- (ii) The permit shield described in section 6 NYCRR 201-6.6 shall not apply to any change made pursuant to this paragraph.

Condition 18: Required Emissions Tests

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 202-1.1

Item 18.1:

For the purpose of ascertaining compliance or non-compliance with any air pollution control code, rule or regulation, the commissioner may require the person who owns such air contamination source to submit an acceptable report of measured emissions within a stated time.

Condition 20: Accidental release provisions.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:40 CFR Part 68

Item 20.1:

If a chemical is listed in Tables 1,2,3 or 4 of 40 CFR §68.130 is present in a process in quantities greater than the threshold quantity listed in Tables 1,2,3 or 4, the following requirements will apply:

- a) The owner or operator shall comply with the provisions of 40 CFR Part 68 and;
- b) The owner or operator shall submit at the time of permit issuance (if not previously submitted) one of the following, if such quantities are present:
- 1) A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR §68.10(a) or,
- 2) A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan. Information should be submitted to:

Risk Management Plan Reporting Center C/O CSC 8400 Corporate Dr Carrollton, Md. 20785



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Condition 21: Recycling and Emissions Reduction

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 82, Subpart F

Item 21.1:

The permittee shall comply with all applicable provisions of 40 CFR Part 82.

The following conditions are subject to annual compliance certification requirements for Title V permits only.

Condition 22: Emission Unit Definition

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-6

Item 22.1(From Mod 4):

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: 1-RACK1 1-RACKT

Emission Unit Description:

Truck loading rack with three gasoline/ethanol bays and five distillate bays.

Item 22.2(From Mod 4):

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: 1-RACK2 2-RACKR

Emission Unit Description:

Railcar loading rack with two loading positions for distillate and gasoline/ethanol.

Item 22.3(From Mod 4):

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: 1-RACK3 3-RACKM

Emission Unit Description:

This emission unit represents marine loading of products at the dock. Marine loading dock.

Item 22.4(From Mod 4):

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: 1-RACK4

Emission Unit Description:

Rail spur for distillate loading.

Item 22.5(From Mod 4):

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: 1-TANKS 1-TANK1

Emission Unit Description:

Add Emission Unit: Description: 1-FUGTV facility wide fugitive emissions

Add Emission Unit: 1-PWMRP: Description: Petroleum/water mixture reclamation process

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This emission unit represents storage tanks at the facility.

Condition 24: Facility Permissible Emissions

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 24.1:

The sum of emissions from the emission units specified in this permit shall not equal or exceed the following

Potential To Emit (PTE) rate for each regulated contaminant:

CAS No: 0NY100-00-0 (From Mod 4) PTE: 47,500 pounds

per year

Name: HAP

205,300

CAS No: 0NY998-00-0 (From Mod 4) PTE: 294,540 pounds

per year

Name: VOC

Condition 3-1: Capping Monitoring Condition

Effective between the dates of 11/02/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 3-1.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 231-6 40 CFR Part 63, Subpart R

Item 3-1.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 3-1.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 3-1.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time



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period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 3-1.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 3-1.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK2 2-RACKR

Process: RPR

Emission Unit: 1-RACK2

Process: R2G

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC CAS No: 0NY100-00-0 HAP

Item 3-1.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS

Monitoring Description:

Gasoline/Ethanol Refined Product throughput shall be limited to keep total HAP emissions less than 23.75 tons/yr and keep individual HAP emissions below 9.5 tons/year; that is, less than the applicability thresholds of 40 CFR 63, Subpart R. This absolves the facility from that NESHAP. Gasoline/Ethanol Refined Product throughput shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6.

Emissions for this cap were calculated using the most current version of AP-42-emission factors, "TANKS" program, or other current emission factors. Throughput limits were calculated using a Truck Vapor Recovery Unit emission rate of 2 mg/l, a Rail Vapor Combustion Unit emission rate of 10 mg/l with negative pressure loading (vac assist) to eliminate fugitive emissions from loading rail cars.

Refined Product Gasoline/Ethanol throughputs shall be included in the annual report. The process material selected is gasoline, however this limit applies to all refined products.

Work Practice Type: PROCESS MATERIAL THRUPUT

Process Material: GASOLINE ETHANOL, DISTILLATE, BIODIESEL

Upper Permit Limit: 450,000,000 gallons 300,000,000 gallons



Facility DEC ID: 4010100112 Permit ID: 4-0101-00112/00029

Monitoring Frequency: MONTHLY

Averaging Method: ANNUAL TOTAL ROLLED MONTHLY

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due $\frac{1}{30}/2012$.

Subsequent reports are due every 12 calendar month(s).

Condition 4-1: **Capping Monitoring Condition**

Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 4-1.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

> 6 NYCRR Subpart 231-6 40 CFR 63 Subpart R

Item 4-1.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 4-1.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 4-1.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 4-1.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 4-1.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: R1E RPT. FGT

Emission Unit: 1-RACK1

Emission Unit: 2-RACKR Process: RPR, FGR

Emission Unit: 3-RACKM Process: RPM, BSM, FGM

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Process: R1G

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC CAS No: 0NY100-00-0 HAP

Item 4-1.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS

Monitoring Description:

Gasoline/Ethanol throughput shall be limited to keep total HAP emissions less than 23.75 tons/yr and keep individual HAP emissions below 9.5 tons/year, that is, less than the applicability thresholds of 40 CFR 63, Subpart R. This absolves the facility from that NESHAP.

Replace with capping condition for Refined Product Alternate Operating Scenarios (AOSs).

Emissions for this cap were calculated using the most current AP-42 emission factors, "TANKS" program, or other current emission factors. Throughput limits for this specific cap were calculated using a Truck Vapor Recovery Unit emission rate of 10 mg/l, a Rail Vapor Combustion Unit emission rate of 10 milligrams per liter, a Marine Vapor Combustion Unit emission rate of 10 mg/l.

This throughput alottment is useable during times when the Vacuum Assist Vapor Reduction System is not operational.

Gasoline/Ethanol throughputs shall be included in the annual report.

Work Practice Type: PROCESS MATERIAL THRUPUT

Process Material: GASOLINE

Upper Permit Limit: 10,416,667 gallons Monitoring Frequency: MONTHLY

Averaging Method: ANNUAL TOTAL ROLLED MONTHLY

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2013.

Subsequent reports are due every 12 calendar month(s).

Condition 4-2: Capping Monitoring Condition

Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 4-2.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the



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purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 231-6 40 CFR Part 63, Subpart R

Item 4-2.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 4-2.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 4-2.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 4-2.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 4-2.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK3 3-RACKM

Process: R3E RPM

Emission Unit: 1-RACK3

Process: R3G

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC CAS No: 0NY100-00-0 HAP

Item 4-2.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC

OPERATIONS

Monitoring Description:



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Refined Product

Gasoline/Ethanol throughput shall be limited to keep total HAP emissions less than 23.75 tons/yr and keep individual HAP emissions below 9.5 tons/year; that is, less than the applicability thresholds of 40 CFR 63, Subpart R. This absolves the facility from that NESHAP.

Refined Product Gasoline/Ethanol throughput shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6.

> Emissions for this cap were calculated using the most current version of AP-42 emission factors, "TANKS" program, or other current emission factors. Throughput limits were calculated using a Truck Vapor Recovery Unit emission rate of 2 mg/l, a Rail Vapor Combustion Unit emission rate of 2 10 milligrams per liter, and a Marine Vapor Combustion Unit (Control: VCUML) emission rate of 10 mg/l and another Marine Vapor Combustion Unit (Control: VCUM2) with an emission rate of 2 3 mg/l. An Air Quality Impact Analysis was conducted to ensure that impacts from the facility remained below most recent updated DAR-1 AGC/SGC values

Add condition for Blendstock loading - see

which were approved by Central Office on 6/28/2012, and with negative pressure loading (vac assist) to eliminate fugitive emissions from loading.

Refined Product

Gasoline/Ethanol throughputs shall be included in the annual

report. The process material selected is gasoline, however this limit applies to all refined products.

Work Practice Type: PROCESS MATERIAL THRUPUT

Process Material: OTHER LIQUID FUELS GASOLINE, ETHANOL, DISTILLATES, and BIODIESEL

Upper Permit Limit: 450,000,000 gallons

Monitoring Frequency: MONTHLY 900,000,000 gallons Averaging Method: ANNUAL TOTAL ROLLED MONTHLY Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due $\frac{1}{30}/2013$.

Subsequent reports are due every 12 calendar month(s).

Condition 1-3: **Capping Monitoring Condition**

Effective between the dates of 08/10/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 1-3.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

> 6 NYCRR Subpart 231-6 40 CFR Part 63, Subpart R

Item 1-3.2:

Operation of this facility shall take place in accordance with the approved criteria, emission



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limits, terms, conditions and standards in this permit.

Item 1-3.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 1-3.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 1-3.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 1-3.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK3 3-RACKM

Process: R3E RPM Emission Unit: 3-RACKM

Process: BSM

Emission Unit: 1-RACK3 3-RACKM

Process: R3G CDM Control Device: VCUM1

Regulated Contaminant(s):

CAS No: 0NY100-00-0 HAP CAS No: 0NY998-00-0 VOC

Item 1-3.7:

Compliance Certification shall include the following monitoring:

Capping: Yes WORK PRACTICE INVOLVING SPECIFIC OPERATIONS Monitoring Type: HYTERMITTENT EMISSION TESTING

Monitoring Description:

The emission rate of the Marine vapor combustion unit (VCUM1) shall be limited to keep total HAP emissions below 23.75 tons/year and keep individual HAP emissions below 9.5 tons/year which is less than the applicability thresholds of 40 CFR 63, Subpart R. The emission rate shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6.

Facility wide emissions were determined using the most current AP-42 emission factors and "TANKS" program. The



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throughput limits were calculated using a The Marine Vapor Combustion Unit (VCUM1) will be operated at a maximum emission rate of 10 milligrams per liter.

This compliance test shall also demonstrate compliance with 6 NYCRR 212.4(a)

The vapor recovery unit shall be tested with report submitted to Department within 180 days after permit renewal issuance date or 180 days after complete construction and operability of VCU, to determine if the vapor combustion unit achieves the 10 milligrams per liter limit. The test shall be conducted in accordance with the procedures described in 6 NYCRR 202-1.

Parameter Monitored: 40 CFR 60-63 - TOTAL ORGANIC COMPOUNDS (TOC)

Upper Permit Limit: 10 milligrams per liter

Reference Test Method: Method 25A or 25B, Method 21, Method 2A Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

DESCRIPTION

Averaging Method: MAXIMUM - NOT TO EXCEED STATED VALUE -

SEE MONITORING DESCRIPTION

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2012.

Subsequent reports are due every 12 calendar month(s).

Condition 2-3: Capping Monitoring Condition Effective between the dates of 08/29/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 2-3.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 231-6

Item 2-3.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 2-3.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 2-3.4:



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On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 2-3.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 2-3.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-TANKS

Process: CR1 Emission Source: TKØ31

Emission Unit: 1-TANKS

Process: CR1 Emission Source: TK114

Emission Unit: 1-TANKS

Process: CR1 Emission Source: TK115

Emission Unit: 1-TANKS

Process: CR1 Emission Source: TNK32

Regulated Contaminant(s):
CAS No: 0NY998-00-0

CAS NO. 0IN 1 998-00-0

Item 2-3.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS

Monitoring Description:

The following sources TK114, TK115, TK031, and TNK32 have the flexibility to be utilized as crude oil tanks. Although, at any one time only two of these sources can be utilized to store either gasoline or crude oil. The remaining two tanks will either be in distillate or ethanol service.

VOC

The current emission profile or Potential To Emit (PTE) at the facility incorporporates the aforemetioned scenario. The facility has taken this cap to remain within this current emission profile.

Work Practice Type: PARAMETER OF PROCESS MATERIAL

Process Material: CRUDE OIL TANKS

Replace this condition with (see form):

Applies to:

1-RACKT, RPT

2-RACKR, RPR

3-RACKM, RPM & BSM

Facility-wide refined product throughput (gasoline, ethanol, blendstock, distillate, biodiesel) shall be limited to keep individual and total HAP emissions less than 9.5 tons/yr and 23.75 tons/yr, respectively: that is, less than the applicability thresholds of40 CFR 63, Subpart R. Refined product throughput shall also be limited to keep total VOC emissions below the applicability threshold of 6 NYCRR 231-6.

Upper Permit Limit: 1,929,000,000 gallons



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Parameter Monitored: CRUDE OIL Upper Permit Limit: 2 tanks

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

DESCRIPTION

Averaging Method: MAXIMUM NOT TO EXCEED STATED VALUE -

SEE MONITORING DESCRIPTION

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2012.

Subsequent reports are due every 12 calendar month(s).

Condition 4-3: Capping Monitoring Condition

Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 4-3.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

40 CFR Part 63, Subpart R

Item 4-3.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 4-3.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 4-3.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 4-3.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 4-3.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

1



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Emission Unit: 1-RACK3 3-RACKM Control Device: Process: R3C RPM, BSM, CDM Emission Source: VCUM2

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC CAS No: 0NY100-00-0 HAP

Item 4-3.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: INTERMITTENT EMISSION TESTING WORK PRACTICE INVOLVING SPECIFIC OPERATIONS Monitoring Description:

The emission rate of the Marine Vapor Combustion Unit (VCUM2) shall be limited to keep total HAP emissions below 23.75 tons/year and keep individual HAP emissions below 9.5 tons/year which is less than the applicability thresholds of 40 CFR 63, Subpart R. This also absolves the

facility from applicability from 6 NYCRR 231-6. The emission rate shall also be limited to keep total VOC emissions below the applicability thresholds of

Facility wide emissions were determined using the most 6 NYCRR 231-6. eurrent AP-42 emission factors and "TANKS" program. The throughput limits were calculated using a Vapor Combustion Unit (VCU) emission rate of 2 3 milligrams per liter.

^ The Marine VCU (VCUM2) will be operated at a maximum

The vapor combustion unit shall be tested with report submitted to Department within 180 days after initial notification of startup to determine if the vapor combustion unit achieves the 3 milligrams per liter limit. The test shall be conducted in accordance with the procedures described in 6 NYCRR 202-1.

Parameter Monitored: 40 CFR 60-63 - TOTAL ORGANIC COMPOUNDS (TOC)

Upper Permit Limit: 3 milligrams per liter

Reference Test Method: Method 25A or 25B, Method 21, Method 2A

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

DESCRIPTION

Averaging Method: MAXIMUM - NOT TO EXCEED STATED VALUE -

SEE MONITORING DESCRIPTION

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due $\frac{1}{30}/2013$.

Subsequent reports are due every 12 calendar month(s).

Condition 1-4: Capping Monitoring Condition

Effective between the dates of 08/10/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 1-4.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to



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the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

40 CFR Part 63, Subpart R

Item 1-4.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 1-4.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 1-4.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 1-4.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 1-4.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

1-RACKT

Emission Unit: 1-RACK1 Emission Point: 00001 0TRK1
Process: R1G RPT Emission Source: VRUTK
Control Device:

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC CAS No: 0NY100-00-0 HAP

Item 1-4.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: HNTERMITTENT EMISSION TESTING WORK PRACTICE INVOLVING SPECIFIC OPERATIONS Monitoring Description:

The emission rate of the vapor recovery unit (VRUTK) shall be limited to keep total HAP emissions below 23.75 tons/year and keep individual HAP emissions below 9.5 tons/year which is less than the applicability thresholds

of 40 CFR 63, Subpart R. The emission rate shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6.



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Facility wide emissions were determined using the most eurrent AP-42 emission factors and "TANKS" program. The throughput limits were calculated using a Truck Vapor Recovery Unit (VRUTK) will be operated at a maximum emission rate of 2 milligrams per liter.

The vapor recovery unit shall be tested with report submitted to Department within 180 days after permit renewal issuance date to determine if the vapor recovery unit achieves the 2 milligrams per liter limit. The test shall be conducted in accordance with the procedures described in 6 NYCRR 202-1.

Parameter Monitored: 40 CFR 60-63 - TOTAL ORGANIC COMPOUNDS (TOC)

Upper Permit Limit: 2 milligrams per liter

Reference Test Method: Method 25A or 25B, Method 21, Method 2A Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: MAXIMUM - NOT TO EXCEED STATED VALUE - SEE MONITORING DESCRIPTION

Reporting Requirements: ANNUALLY (CALENDAR)

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due $\frac{1}{30}/2012$.

Subsequent reports are due every 12 calendar month(s).

Condition 4-4: Capping Monitoring Condition Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 4-4.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

40 CFR Part 63, Subpart R

Item 4-4.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 4-4.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 4-4.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This



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certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 4-4.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 4-4.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1

Process: R1D

Emission Unit: 1-RACK2

Process: R2D

Emission Unit: 1-RACK3

Process: R3D

Emission Unit: 1-RACK4

Process: R4D

Regulated Contaminant(s):

CAS No: 0NY100-00-0 HAP

Replace this condition with (see form):

Applies to:

1-TANK1, RP1, CR1, BS1

Tank maintenance emissions will not exceed 22 tons on a rolling annual basis.

Emissions will be calculated using the latest version of AP-42.

Item 4-4.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC

OPERATIONS

Monitoring Description:

Distillate oil throughput shall be limited to keep individual and total HAP emissions less than 9.5 tons/yr and 23.75 tons/yr, respectively; that is, less than the applicability thresholds of 40 CFR 63, Subpart R. This absolves the facility from that NESHAP.

Emissions for this cap were calculated using the most current AP-42 emission factors, "TANKS" program, or other current emission factors. Throughput limits were calculated using a Truck Vapor Recovery Unit emission rate of 2 mg/l, a Rail Vapor Combustion Unit emission rate of 10 milligrams per liter, and a Marine Vapor Combustion Unit (Control: VCUML) emission rate of 10 mg/l and another Marine Vapor Combustion Unit (Control: VCUM2) with an emssion rate of 3 mg/l. An Air Quality Impact Analysis was conducted to ensure that impacts from the facility remained below most recent updated DAR-1 AGC/SGC values



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which were approved by Central Office on 6/28/2012.

Distillate oil throughputs shall be included in the annual report.

Work Practice Type: PROCESS MATERIAL THRUPUT

Process Material: DISTILLATES - NUMBER 1 AND NUMBER 2 OIL

Upper Permit Limit: 229,300,000 gallons Monitoring Frequency: MONTHLY

Averaging Method: ANNUAL TOTAL ROLLED MONTHLY Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2013.

Subsequent reports are due every 12 calendar month(s).

Condition 4-5: Capping Monitoring Condition

Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 4-5.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 231-6 40 CFR Part 63, Subpart R

Item 4-5.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 4-5.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 4-5.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 4-5.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of



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the Act.

Item 4-5.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 3-RACKM Emission Unit: 1-RACK3 3-RACKM

Process: FGM Process: R3C CDM

Regulated Contaminant(s):

VOC CAS No: 0NY998-00-0 CAS No: 0NY100-00-0 HAP

Item 4-5.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC **OPERATIONS**

Monitoring Description:

Crude Oil throughput shall be limited to keep total HAP emissions less than 23.75 tons/yr and keep individual HAP emissions below 9.5 tons/year; that is, less than the applicability thresholds of 40 CFR 63, Subpart R. This absolves the facility from that NESHAP. Also to cap out of Volatile Organic Compunds (VOC) in regards to 6 NYCRR 231-6.

Emissions for this cap were calculated using the most current AP-42 emission factors, "TANKS" program, or other current emission factors. Throughput limits were calculated using a Truck Vapor Recovery Unit emission rate of 2 mg/l, a Rail Vapor Combustion Unit emission rate of 10 milligrams per liter, and a Marine Vapor Combustion Unit (Control: VCUML) emission rate of 10 mg/l and another Marine Vapor Combustion Unit (Control: VCUM2) with an emssion rate of 3 mg/l. An Air Quality Impact Analysis was conducted to ensure that impacts from the facility remained below most recent updated DAR-1 AGC/SGC values which were approved by Central Office on 6/28/2012.

This crude throughput alottment is useable during times when the Marine Vapor Combustion Unit (Source ID: VCUM2) is not operational.

In the event that VCUM2 is operable throughout the annual year this alottment can be converted to 50,000,000 gallons controlled through Source ID: VCUM2 for operational flexibility purposes.

Crude Oil throughputs shall be included in the annual

Add Crude Oil Alternate Operating Scenarios condition.



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report.

Work Practice Type. PROCESS MATERIAL THRUPUT

Process Material: CRUDE OIL Upper Permit Limit: 20,000,000 gallons Monitoring Frequency: MONTHLY

Averaging Method: ANNUAL TOTAL ROLLED MONTHLY

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period. The initial report is due 1/30/2013.

Subsequent reports are due every 12 calendar month(s).

Condition 4-6: Capping Monitoring Condition

Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 4-6.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 231-6 40 CFR Part 63, Subpart R

Item 4-6.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 4-6.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 4-6.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 4-6.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 4-6.6:

The Compliance Certification activity will be performed for the facility:



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The Compliance Certification applies to:

1-RACKT

Emission Unit: 1-RACK1

Process: R1E RPT

Emission Unit: 1-RACK1

Process: R1G

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC CAS No: 0NY100-00-0 HAP

Item 4-6.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC

OPERATIONS

Monitoring Description:

Refined Product Gasoline/Ethanol throughput shall be limited to keep

total HAP emissions less than 23.75 tons/yr and keep individual HAP emissions below 9.5 tons/year; that is, less than the applicability thresholds of 40 CFR 63,

Subpart R. The refined product throughput shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6.

Emissions for this cap were calculated using the most current version of eurrent AP-42 emission factors, "TANKS" program, or other eurrent emission factors. Throughput limits were calculated using a Truck Vapor Recovery Unit emission rate of 2 mg/l, a Rail Vapor Combustion Unit emission rate of 10 milligrams per liter, and a Marine Vapor Combustion Unit (Control: VCUML) emission rate of 10 mg/l and another Marine Vapor Combustion Unit (Control: VCUM2) with an emssion rate of 3 mg/l. An Air Quality Impact Analysis was conducted to ensure that impacts from the facility remained below most recent updated DAR-1 AGC/SGC values which were approved by Central Office on 6/28/2012. with negative pressure loading (vac assist) to eliminate fugitive emissions from loading.

Refined product Gasoline/Ethanol throughputs shall be included in the

annual report. The process material selected is gasoline, however this limit applies to all refined products.

Work Practice Type: PROCESS MATERIAL THRUPUT

Process Material: GASOLINE, ETHANOL, DISTILLATE, BIODIESEL

Upper Permit Limit: 639,583,333 gallons 880,000,000

Monitoring Frequency: MONTHLY

Averaging Method: ANNUAL TOTAL ROLLED MONTHLY

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due $\frac{1}{30}/2013$.

Subsequent reports are due every 12 calendar month(s).

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Condition 1-7: Capping Monitoring Condition

Effective between the dates of 08/10/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 1-7.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

40 CFR Part 63, Subpart R

Item 1-7.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 1-7.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 1-7.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 1-7.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 1-7.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

2-RACKR

Emission Unit: 1-RACK2 Emission Point: 00002 0RRK1
Process: R2G RPR Emission Source: VCURR

Control Device:

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC CAS No: 0NY100-00-0 HAP

Item 1-7.7:

Compliance Certification shall include the following monitoring:



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Capping: Yes

Monitoring Type: INTERMITTENT EMISSION TESTING

Monitoring Description:

The emission rate of the Rail vapor combustion unit (VCURR) shall be limited to keep total HAP emissions below 23.75 tons/year and keep individual HAP emissions below 9.5 tons/year which is less than the applicability thresholds of 40 CFR 63, Subpart R. The emission rate shall also be limited to keep total

VOC emissions below the applicability thresholds of

Facility wide emissions were determined using the most 6 NYCRR 231-6 eurrent AP-42 emission factors and "TANKS" program.

The throughput limits were calculated using a Vapor Combustion Unit (VCU) emission rate of 2 10 milligrams per liter.

vCURR will be operated at a maximum

The vapor combustion unit shall be tested with report submitted to Department within 180 days after permit renewal issuance date to determine if the vapor combustion unit achieves the 10 milligrams per liter limit. The test shall be conducted in accordance with the procedures—described in 6 NYCRR 202-1.

Parameter Monitored: 40 CFR 60-63 - TOTAL ORGANIC COMPOUNDS (TOC)

Upper Permit Limit: 10 milligrams per liter 2 milligrams per liter Reference Test Method: Method 25A or 25B, Method 21, Method 2A Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

DESCRIPTION

Averaging Method: MAXIMUM - NOT TO EXCEED STATED VALUE -

SEE MONITORING DESCRIPTION

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2012.

Subsequent reports are due every 12 calendar month(s).

Condition 4-7: Capping Monitoring Condition Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 4-7.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 231-6 40 CFR Part 63, Subpart R

Item 4-7.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.



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Item 4-7.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 4-7.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 4-7.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 4-7.6:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK3 3-RACKM

Process: R3C CDM

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC CAS No: 0NY100-00-0 HAP

Item 4-7.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS

Monitoring Description:

Crude Oil throughput shall be limited to keep total HAP emissions less than 23.75 tons/yr and keep individual HAP emissions below 9.5 tons/year; that is, less than the applicability thresholds of 40 CFR 63, Subpart R. This absolves the facility from that NESHAP. Crude oil throughput shall also be limited to keep total VOC emissions below the applicability thresholds of 6 NYCRR 231-6.

Emissions for this cap were calculated using the most current version of AP-42 emission factors, "TANKS" program, or other current emission factors. Throughput limits were calculated using a Truck Vapor Recovery Unit emission rate of 2 mg/l, a Rail Vapor Combustion Unit emission rate of



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10 2 milligrams per liter, and a Marine Vapor Combustion
Unit (Control: VCUML) emission rate of 10 mg/l and another
Marine Vapor Combustion Unit (Control: VCUM2) with an
emssion rate of 3 2 mg/l, An Air Quality Impact Analysis
was conducted to ensure that impacts from the facility
remained below most recent updated DAR-1 AGC/SGC values
which were approved by Central Office on 6/28/2012.
and with negative pressure loading (vac assist) to eliminate fugitive emissions from loading.

Crude Oil throughputs shall be included in the annual report.

Work Practice Type: PROCESS MATERIAL THRUPUT

Process Material: CRUDE OIL

Upper Permit Limit: 1,800,000,000 gallons 450,000,000 gallons

Monitoring Frequency: MONTHLY

Averaging Method: ANNUAL TOTAL ROLLED MONTHLY

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due $\frac{1}{30}/2013$.

Subsequent reports are due every 12 calendar month(s).

Condition 31: Notification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 202-1.2

Item 31.1:

A person who is required by the commissioner to submit a stack test report shall notify the commissioner, in writing, not less than 30 days prior to the test, of the time and date of the test. Such notification shall also include the acceptable procedures to be used to stack test including sampling and analytical procedures. Such person shall allow the commissioner, or his representative, free access to observe stack testing being conducted by such person.

Condition 32: Acceptable procedures

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 202-1.3 (a)

Item 32.1:

Emission testing, sampling and analytical determinations to ascertain compliance with this Subchapter shall be conducted in accordance with test methods acceptable to the commissioner. The Reference Methods contained in part 60, appendix A and part 61, appendix B of title 40 of the Code of Federal Regulations and all future technical revisions, additions or corrections made thereto shall be considered as acceptable test methods for those sources and contaminants for which they are expressly applicable, except where the commissioner has issued a specific method to be used instead of a Reference Method contained in these Federal regulations or where the commissioner determines that one or more alternate methods are also acceptable. The person who owns or operates an air contamination source shall submit the emission test report in triplicate, to the commissioner within 60 days after the completion of tests. In the event such source owner/operator can demonstrate to the commissioner such time is not sufficient, he may request in writing and be granted an extension. Where an opacity emission standard is applicable



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to the source tested, the emission test report shall include the opacity observation.

Condition 1-8: Air pollution prohibited

Effective between the dates of 08/10/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 211.1

Item 1-8.1:

No person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property. Notwithstanding the existence of specific air quality standards or emission limits, this prohibition applies, but is not limited to, any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic or deleterious emission, either alone or in combination with others.

Condition 33: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 212.2

Item 33.1:

The Compliance Certification activity will be performed for the Facility.

Regulated Contaminant(s):

CAS No: 000064-17-5 ETHYL ALCOHOL (ETHANOL)

Item 33.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KERPING/MAINTENANCE PROCEDURES Monitoring Description:

When an application is made for a permit to construct or for a certificate to operate for a process emission source, the commissioner will issue an environmental rating for each air contaminant from each emission point in accordance with Table 1 of this Part. Since ethanol has a low toxicity the environmental rating assessed will be a C.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 34: Entissions from new emission sources and/or modifications Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 212.4 (a)

Item 34.1

This Condition applies to:

Renewal 2/Mod 4/Active



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Emission Unit: 1RACK3

Process: R3E

Item 34.2:

No person shall cause or allow emissions that exceed the applicable permissible emission rate as determined from Table 2, Table 3, or Table 4 of 6 NYCRR Part 212 for the environmental rating issued by the commissioner.

Condition 35: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 212.4 (a) 212-3,

Item 35.1;

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK3 Emission Point: 00003
Process: R3E Emission Source: VCUML

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 35.2:

Compliance Certification shall include the following morntoring:

Monitoring Type: MONITORING OF PROCESS OF CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The Volatile Organic Compound (VOC) shall be reduced by a weight percent greater than or equal to 90% to ensure compliance with the emission standard in Table 2.

The emission rate was figured with a maximum loading rate of 168,000 gallons/hr while using the emission factor from AP-42 of 3.9 lbs/ 1000 gallons loaded equals an emission rate of 655 lbs/hour uncontrolled therefore the aforementioned emission standard applies. This condition also satisfies 6 NYCRR 212.10 RACT control of 81% by weight reduction.

Parameter Monitored. VOC

Lower Permit Limit: 90 percent by weight

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: MINIMUM - NOT TO FALL BELOW STATED VALUE AT ANY TIME

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2012.

Subsequent reports are due every 12 calendar month(s).

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Condition 4-8: Compliance Certification

Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 212.10 (c) (4) (i)

Item 4-8.1:

The Compliance Certification activity will be performed for the Facility.

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 4-8.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Volatile organic compound emission points which are equipped with a capture system and a control device with an overall removal efficiency of at least 81 percent are equipped with reasonably available control technology.

Manufacturer Name/Model Number: John Zink Vapor Combustion Unit

Parameter Monitored: VOC

Upper Permit Limit: 81 percent by weight

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

DESCRIPTION

Averaging Method: MINIMUM - NOT TO FALL BELOW STATED VALUE - SEE MONITORING DESCRIPTION

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2013.

Subsequent reports are due every 12 calendar month(s).

Condition 36: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 225-1.2 (a) (2)

Item 36.1:

The Compliance Certification activity will be performed for the Facility.

Item 36.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS

Monitoring Description:

No person shall use, purchase, sell, or offer for sale any distillate fuel oil which has a sulfur content greater than the limit presented below. A log of the sulfur

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content in oil per delivery must be maintained on site for a minimum of five years after the date of the last entry.

Work Practice Type: PARAMETER OF PROCESS MATERIAL Process Material: DISTILLATES - NUMBER 1 AND NUMBER 2 OIL

Parameter Monitored: SULFUR CONTENT Upper Permit Limit: 1.5 percent by weight Monitoring Frequency: PER DELIVERY

Averaging Method: MAXIMUM - NOT TO BE EXCEEDED AT ANY

TIME (INSTANTANEOUS/DISCRETE OR GRAB)

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 37: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 225-1.8 (b)

Item 37.1:

The Compliance Certification activity will be performed for the Facility.

Item 37.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

Any person who sells oil and/or coal must retain, for at least three years, records containing the following information:

- i. fuel analyses and data on the quantities of all oil and coal received; and
- ii. the names of all purchasers, fuel analyses and data on the quantities of all oil and coal sold.

Such fuel analyses must contain as a minimum:

- i. data on the sulfur content, ash content, specific gravity and heating value of residual oil;
- ii. data on the sulfur content, specific gravity and heating value of distillate oil; and
- iii. data on the sulfur content, ash content and heating value of coal.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)



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Reports due 30 days after the reporting period. The initial report is due 7/30/2011. Subsequent reports are due every 6 calendar month(s).

Condition 38: Sampling, compositing, and analysis of fuel samples

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 225-1.8-(d)

Item 38.1:

All sampling, compositing, and analysis of fuel samples, taken to determine compliance with 6 NYCRR Part 225-1, must be done in accordance with methods acceptable to the commissioner.

Condition 39: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 225-3.3 (a)

Item 39.1:

The Compliance Certification activity will be performed for the Facility.

Item 39.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS

Monitoring Description:

Any gasoline sold or supplied to a retailer or wholesale purchaser-consumer, shall have a Reid vapor pressure (RVP) no greater than 9.0 pounds per square inch (psi), during the period May 1st through September 15th of each year. Sampling and testing will be done according to a protocol approved by the Department.

Work Practice Type: PARAMETER OF PROCESS MATERIAL

Process Material: GASOLINE

Parameter Monitored: REID VAPOR PRESSURE Upper Permit Limit: 9.0 pounds per square inch absolute

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

DESCRIPTION

Averaging Method: MAXIMUM - NOT TO BE EXCEEDED AT ANY

TIME (INSTANTANEOUS/DISCRETE OR GRAB)
Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial name of its date 1/20/2012

The initial report is due 1/30/2012.

Subsequent reports are due every 12 calendar month(s).

Condition 40: Petroleum fixed roof tanks - a

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:6 NYCRR 229.1 (d) (2) (i)

Add condition for Crude monthly RVP sampling - see form

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Item 40.1:

This Condition applies to:

1-TANK1 Emission Unit: 1TANKS

Process: GA1 RPM

Item 40.2:

The tank must be retrofitted with an internal floating roof or equivalent control.

Condition 41: Gasoline terminals - a

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 229.1 (d) (2) (iv)

Item 41.1:

This Condition applies to:

Emission Unit: 1RACK1 1-RACKT

Emission Unit: 1RACK2 2-RACKR

Item 41.2:

The gasoline vapor collection and control systems must capture gasoline vapors during loading and unloading of gasoline transport vehicles and must condense, absorb, adsorb, or combust the gasoline vapors so emissions do not exceed 0.67pounds per 1000 gallons of gasoline loaded or unloaded. Any equivalent control system is acceptable.

Condition 42: VOL storage tanks greater than 20,000 gallons - a

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:6 NYCRR 229.1 (d) (2) (v)

Item 42.1:

This Condition applies to:

Emission Unit: 1TANKS 1-TANK

Process: ET1

Item 42.2:

The storage tank must be equipped with an internal floating roof with a liquid-mounted primary seal and gasket fittings or equivalent control. Replacement of other than liquid-mounted seals is to be performed when the tank is cleaned and gas-freed for other purposes.

Condition 43: Internal floating roofs required in fixed roof tanks storing petroleum products

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 229.3 (a)



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Item 43.1:

This Condition applies to:

Emission Unit: 1TANKS 1-TANK1

Process: GA1 RP1

Item 43.2:

No person may store petroleum liquid in a fixed roof tank subject to 6 NYCRR Part 229 unless:

- 1. the tank has been retrofitted with an internal floating roof or equivalent control; and
- 2. the vapor collection and vapor control systems are maintained and operated in such a way as to ensure the integrity and efficiency of the system.

Condition 44: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 229.3 (d)

Item 44.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1-RACK2 2-RACKR

Process: R2G RPR

Item 44.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The gasoline vapor collection and control systems must capture gasoline vapors during loading and unloading of gasoline transport vehicles and must condense, absorb, adsorb, or combust gasoline vapors so emissions do not exceed 0.67 pounds/1000 gallons.

Parameter Monitored: VOC

Upper Permit Limit: 0.67 pounds per 1000 gallons

Monitoring Frequency: PER DELIVERY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 45: VOL fixed roof storage tank requirements
Effective between the dates of 03/03/2011 and 03/02/2016



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Applicable Federal Requirement: 6 NYCRR 229.3 (e) (1)

Item 45.1:

This Condition applies to:

Emission Unit: 1TANKS 1-TANK1

Process: ET1 BS1, CR1

Item 45.2:

For a fixed roof storage tank storing volatile organic liquids, the tank must be equipped with an internal floating roof with a liquid-mounted primary seal and gasket fittings or equivalent control. Replacement of other than liquid-mounted seals is to be performed when the tank is cleaned and gas-free for other purposes.

Condition 4-9: **Compliance Certification**

Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 231-11.2 (c)

Item 4-9.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

3-RACKM

Emission Unit: 1-RACK3 Emission Point: 00003 Process: FG3 FGM Emission Source: RACK3

3-RACKM

Emission Unit: 1-RACK3 Emission Point: 00003 Process: R3E RPM Emission Source: RACK3

Emission Unit: 1-RACK3 Emission Point: 00003 Process: R3G **Emission Source: RACK3**

1-TANK1

Emission Unit: 1 TANKS

Process: CR1 Emission Source: TK031

1-TANK1

Emission Unit: 1-TANKS

Process: CR1 Emission Source: TK114

1-TANK1

Emission Unit: 1-TANKS

Process: CR1 **Emission Source: TK115**

1-TANK1

Emission Unit: 1-TANKS Process: CR1 **Emission Source: TNK32**

TK032

Emission Unit: 1-TANKS

Emission Source: TK031 Process: ET1

Emission Unit: 1-TANKS

Process: ET1 **Emission Source: TK114**



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Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1-TANKS

Process: GA1 RP1 Emission Source: TK114

Emission Unit: 1-TANKS

Process: GA1 RP1 Emission Source: TK115

Emission Unit: 1-TANKS TK039
Process: GA1 RP1 Emission Source: TNK39

Item 4-9.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

For a modification with a project emission potential which is less than 50 percent of the applicable significant project threshold in Table 3, Table 4 or Table 6 of Subpart 231-13 of this Part, but equals or exceeds 50 percent of the applicable significant project threshold when emissions excluded in accordance with Clause 231-4.1(b)(40)(i)(c) of this Part are added, or for a modification with a project emission potential which equals or exceeds 50 percent of the applicable significant project threshold in Table 3, Table 4 or Table 6 of Subpart 231-13 of this Part, the facility owner or operator must submit an application to modify the facility permit under the minor permit provisions of Subpart 201-6 of this Title or obtain a preconstruction permit under the provisions of Subpart 201-6 of this Title, and must:

- (1) maintain the following information for a minimum of five years:
- (i) a description of the modification.
- (ii) an identification of each new or modified emission source(s) including the associated processes and emission unit.
- (iii) the calculation of the project emission potential for each modified emission source(s) including supporting documentation.



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(iv) the date the modification commenced operation.

- (2) monitor the emissions of each regulated NSR contaminant from the emission source(s) that will increase as a result of the modification, and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations after the modification, or for a period of 10 years following resumption of regular operations after the change if the modification increases the design capacity of or potential to emit the regulated NSR contaminant at such emission source(s).
- (3) submit a report to the department within 30 days after the end of each year during which records must be generated in accordance with Paragraph 231-11.2(c)(2) of this Part. The report must contain:
- (i) the name, address, and telephone number of the major facility.
- (ii) the annual emissions as calculated pursuant to Paragraph (c)(2) of this Section.
- (iii) a comparison of actual annual emissions to the projected actual emissions and, if applicable, an explanation as to why the actual annual emissions exceeded the projected actual emissions.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2013.

Subsequent reports are due every 12 calendar month(s).

Condition 4-10: Compliance Certification Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR 231-11.2 (c)

Item 4-10.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

3-RACKM

Emission Unit: 1-RACK3

Process: FG3 FGM Emission Source: RACK3

3-RACKM

Emission Unit: 1-RACK3

Process: R3C CDM Emission Source: VCUM2



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3-RACKM Emission Unit: 1-RACK3 Process: R3C CDM

VCUM1
Emission Source: VCUML

Item 4-10.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

For a modification with a project emission potential which is less than 50 percent of the applicable significant project threshold in Table 3, Table 4 or Table 6 of Subpart 231-13 of this Part, but equals or exceeds 50 percent of the applicable significant project threshold when emissions excluded in accordance with Clause 231-4.1(b)(40)(i)(c) of this Part are added, or for a modification with a project emission potential which equals or exceeds 50 percent of the applicable significant project threshold in Table 3, Table 4 or Table 6 of Subpart 231-13 of this Part, the facility owner or operator must submit an application to modify the facility permit under the minor permit provisions of Subpart 201-6 of this Title or obtain a preconstruction permit under the provisions of Subpart 201-6 of this Title, and must:

- (1) maintain the following information for a minimum of five years:
- (i) a description of the modification.
- (ii) an identification of each new or modified emission source(s) including the associated processes and emission unit.
- (iii) the calculation of the project emission potential for each modified emission source(s) including supporting documentation.
- (iv) the date the modification commenced operation.
- (2) monitor the emissions of each regulated NSR contaminant from the emission source(s) that will increase as a result of the modification, and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations after the modification, or for a period of 10 years following resumption of regular operations after the change if the modification increases the design capacity of or potential to emit the regulated NSR contaminant at such emission source(s).



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(3) submit a report to the department within 30 days after the end of each year during which records must be generated in accordance with Paragraph 231-11.2(c)(2) of this Part. The report must contain:

- (i) the name, address, and telephone number of the major facility.
- (ii) the annual emissions as calculated pursuant to Paragraph (c)(2) of this Section.
- (iii) a comparison of actual annual emissions to the projected actual emissions and, if applicable, an explanation as to why the actual annual emissions exceeded the projected actual emissions.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2013.

Subsequent reports are due every 12 calendar month(s).

Condition 46: EPA Region 2 address.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.4, NSPS Subpart A

Item 46.1:

This Condition applies to:

1-RACKT

Emission Unit: 1RACK1

Emission Unit: 1TANKS 1-TANK1

Process: ET1 RP1 Emission Source: TK031

Emission Unit: 1TANKS 1-TANK1

Process: ET1 RP1 Emission Source: TK114

Emission Unit: 1TANKS 1-TANK1

Process: ET1 RP1 Emission Source: TK115

Emission Unit: 1TANKS 1-TANK1 TK032 Process: ET1 RP1 Emission Source: TNK32

Emission Unit: 1TANKS 1-TANK1 TK039 Process: ET1 RP1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

These changes apply to all Subpart A conditions (Conditions 46 through 66). They should also apply to process BS1 and CD1.

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Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 46.2:

All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted in duplicate to the following address:

Director, Division of Enforcement and Compliance Assistance USEPA Region 2 290 Broadway, 21st Floor New York, NY 10007-1886

Copies of all correspondence to the administrator pursuant to this part shall also be submitted to the NYSDEC Regional Office issuing this permit (see address at the beginning of this permit) and to the following address:

NYSDEC Bureau of Quality Assurance 625 Broadway Albany, NY 12233-3258

Condition 47: Modification Notification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.7(a), NSPS Subpart A

Item 47.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39



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Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 47.2:

Any owner or operator subject to 40 CFR Part 60 shall furnish the Administrator and this office with the following information:

- a notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless the change is specifically exempted under 40 CFR Part 60. The notice shall be post marked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productivity capability of the facility before and after the change, and the expected completion date of the change. The Administrator and/or this Department may request additional information regarding the change.

Condition 48: Recordkeeping requirements.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.7(b), NSPS Subpart A

Item 48.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS



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Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 48.2:

Affected owners or operators shall maintain records of occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

Condition 49: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.7(c), NSPS Subpart A

Item 49.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TNK39

Item 49.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

Affected owners or operators shall submit an excess



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emissions report and/or a summary report form (as defined in 40 CFR 60.7(d)) semi-annually (or more frequently as required by the applicable Subpart or the Administrator), to the Administrator. These reports shall be post marked no later than 30 days after each six (6) month period (or as appropriate), and shall contain the following information:

- 1) the magnitude of excess emissions computed, any conversion factors used, the date and time of each occurrence, and the process operating time during the reporting period;
- 2) specific identification of each period of excess emissions that occur during startup, shutdown, or malfunction, where the nature, cause, and corrective action are provided for a malfunction;
- 3) the date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and
- 4) when no excess emissions have occurred or when the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be provided in the report.

Monitoring Frequency: CONTINUOUS Reporting Requirements: SEMI-ANNUALLY (CALENDAR) Reports due 30 days after the reporting period. The initial report is due 7/30/2011. Subsequent reports are due every 6 calendar month(s).

Condition 50: Excess emissions report.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.7(d), NSPS Subpart A

Item 50.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS



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Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 50.2:

A summary report form, for each pollutant monitored, shall be sent to the Administrator in the form prescribed in Figure 1 of 40 CFR Part 60.7(d).

Condition 51: Monitoring frequency waiver.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.7(e), NSPS Subpart A

Item 51.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

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Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 51.2: Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the conditions in 40 CFR 60.7(e) are met.

Condition 52: Facility files for subject sources.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.7(f), NSPS Subpart A

Item 52.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS Emission Point: 00115
Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS Emission Point: 00115
Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS Emission Point: 00115
Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS Emission Point: 00115
Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS
Process: ET1
Emission Point: 00115
Emission Source: TNK39

Emission Unit: 1TANKS Emission Point: 00115
Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS
Process: GA1
Emission Point: 00115
Emission Source: TK115

Emission Unit: 1TANKS Emission Point: 00115
Process: GA1 Emission Source: TNK39

Item 52.2:

The following files shall be maintained at the facility for all affected sources: all measurements, including continuous monitoring systems, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part, recorded in permanent form suitable for inspections. The file shall be maintained for at least two years following the date of such



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measurements, reports, and records.

Condition 53: Notification Similar to State or Local Agency

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.7(g), NSPS Subpart A

Item 53.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 53.2:

If notification substantially similar to that in 40 CFR Part 60.7(a) is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of 40 CFR Part 60.7(a).

Condition 54: Performance testing timeline.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.8(a), NSPS Subpart A

Item 54.1:

This Condition applies to:

Emission Unit: 1RACK1



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Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 54.2:

Within 60 days after achieving the maximum production rate, but not later than 180 days after initial startup of the facility, the owner or operator of the facility shall conduct performance testing and provide the results of such tests, in a written report, to the Administrator.

Condition 55: Performance test methods.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.8(b), NSPS Subpart A

Item 55.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32



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Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 55.2:

Performance testing shall be conducted in accordance with the methods and procedures prescribed in 40 CFR 60 or by alternative methods and procedures approved by the Administrator.

Condition 56: Required performance test information.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.8(c), NSPS Subpart A

Item 56.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

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Item 56.2:

Performance tests shall be conducted under such conditions specified by the Administrator, based upon representative performance data supplied by the owner or operator of the facility.

Condition 57: Prior notice.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.8(d), NSPS Subpart A

Item 57.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 57.2:

The owner or operator shall provide the Administrator with prior notice of any performance test at least 30 days in advance of testing.

Condition 58: Performance testing facilities.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.8(e), NSPS Subpart A

Item 58.1:

This Condition applies to:



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Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 58.2:

The following performance testing facilities shall be provided during all tests:

- 1) sampling ports adequate for tests methods applicable to such facility;
- 2) a safe sampling platform;
- 3) a safe access to the sampling platform; and
- 4) utilities for sampling and testing equipment.

Condition 59: Number of required tests.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.8(f), NSPS Subpart A

Item 59.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031



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Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 59.2:

Each performance test shall consist of three separate runs, at the specified duration required in the applicable test method. Compliance with all applicable standards shall be determined by using the arithmetic means of the results of the three runs.

Condition 60: Availability of information.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.9, NSPS Subpart A

Item 60.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39



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Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 60.2:

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by 40 CFR Part 2.

Condition 61: Opacity standard compliance testing.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.11, NSPS Subpart A

Item 61.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 61.2:

The following conditions shall be used to determine compliance with the opacity standards:

1) observations shall be conducted in accordance with Reference Method 9, in



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Appendix A of 40 CFR Part 60(or an equivalent method approved by the Administrator including continuous opacity monitors);

2) the opacity standards apply at all times except during periods of start up, shutdown, and malfunction; and

3) all other applicable conditions cited in section 60.11 of this part.

Condition 62: Compliance with Standards and Maintenance Requirements Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.11(d), NSPS Subpart A

Item 62.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 62.2:

At all times, including periods of startup, shutdown, and malfunction, owners and operators of this facility shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department and the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.



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Condition 63: Circumvention.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.12, NSPS Subpart A

Item 63.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 63.2:

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

Condition 64: Monitoring requirements.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.13, NSPS Subpart A

Item 64.1:

This Condition applies to:



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Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 64.2:

All continuous monitoring systems and devices shall be installed, calibrated, maintained, and operated in accordance with the requirements of section 60.13.

Condition 65: Modifications.

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.14, NSPS Subpart A

Item 65.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

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Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39

Item 65.2:

Within 180 days of the completion of any physical or operational change (as defined in section 60.14), compliance with the applicable standards must be achieved.

Condition 66: Reconstruction

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.15, NSPS Subpart A

Item 66.1:

This Condition applies to:

Emission Unit: 1RACK1

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1TANKS

Process: GA1 Emission Source: TNK39



Kb applies to Tanks 31, 32, 39,

114 & 115 for processes RP1,

BS1 and CR1. This applies to

all Kb conditions.

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Item 66.2:

The following shall be submitted to the Administrator prior to reconstruction (as defined in section 60.15):

- 1) a notice of intent to reconstruct 60 days prior to the action;
- 2) name and address of the owner or operator;
- 3) the location of the existing facility;
- 4) a brief description of the existing facility and the components to be replaced;
- 5) a description of the existing air pollution control equipment and the proposed air pollution control equipment;
- 6) an estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility;
- 7) the estimated life of the facility after the replacements; and
- 8) a discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.

Condition 67: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:40CFR 60.113b(a), NSPS Subpart Kb

Item 67.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TNK39

Item 67.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

The facility operator shall conduct the following testing and maintenance procedures on the internal floating roof VOC control system for an applicable storage vessel when storing gasoline:

(1) Visually inspect the internal floating roof, the

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primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

- (2) Visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Department in the inspection report required by this rule in Sec. 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.
- (3) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with Volatile Organic Liquid (VOL). In no event shall inspections conducted in accordance with this requirement occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in item (2).
- (4) Notify the regional office in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by items (1) and (3)



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of this section to afford the Department the opportunity to have an observer present. If the inspection required by item (3) is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Department at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Department at least 7 days prior to the refilling.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 68: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.115b(a), NSPS Subpart Kb

Item 68.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TNK32

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1-TANKS



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Process: GA1 Emission Source: TNK39

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 68.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

The owner or operator shall keep a record of each inspection performed to monitor the condition of the internal floating roof. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

After each inspection that finds holes or tears in the seal or seal fabric, defects in the internal floating roof, or other control equipment defects, a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel, the nature of the defects, and the type and date of each repair made.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 69: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.116b, NSPS Subpart Kb

Item 69.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK031

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK114

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TK115

Emission Unit: 1-TANKS

Process: ET1 Emission Source: TNK32



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Emission Unit: 1-TANKS

Process: ET1 Emission Source: TNK39

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TK114

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TK115

Emission Unit: 1-TANKS

Process: GA1 Emission Source: TNK39

Item 69.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

The facility shall maintain the following readily accessible records, for applicable storage vessels:

- records showing the dimension of the storage vessel
- an analysis showing the capacity of the storage vessel.
- a record of the Volatile Organic Liquid (VOL) stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below:

- (1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.
- (2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:
- (i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar- month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference--see Sec. 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).
- (ii) The true vapor pressure of each type of crude oil



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with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

- (3) For other liquids, the vapor pressure:
- (i) May be obtained from standard reference texts, or
- (ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference--see Sec. 60.17); or
- (iii) Measured by an appropriate method approved by the Administrator; or
- (iv) Calculated by an appropriate method approved by the Administrator.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 70: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.502(b), NSPS Subpart XX

Item 70.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Item 70.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: INTERMITTENT EMISSION TESTING Monitoring Description:

Emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter loaded. An initial performance test is required to demonstrate compliance with the emission limit for the vapor processing system.

Parameter Monitored: VOC

Upper Permit Limit: 35.0 milligrams per liter

Reference Test Method: 25a or 25b

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

DESCRIPTION

Averaging Method: AVERAGING METHOD AS PER REFERENCE TEST



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METHOD INDICATED

Reporting Requirements: SEMI-ANNUALLY (CALENDAR) Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 71: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.502(e), NSPS Subpart XX

Item 71.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Item 71.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:

- 1. The owner or operator shall obtain the vapor tightness documentation described in paragraph 60.505(b) of 40 CFR 60.500 Subpart XX for each gasoline tank truck which is to be loaded at the facility.
- 2. The owner or operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the facility.
- 3. The owner or operator shall cross-check each tank identification number recorded per item 2 above with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded.
- 4. The terminal owner or operator shall notify the owner or operator of each nonvapor-tight gasoline tank truck loaded at the facility within 1 week after the documentation cross-check (Item #3).
- 5. The terminal owner or operator shall take steps assuring that the nonvapor-tight gasoline tank truck will not be reloaded at the facility until vapor tightness documentation for that tank is obtained.

In addition, the terminal owner or operator shall keep documentation of all notifications required under item 4



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above on file at the terminal for at least 5 years.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 72: Truck loading compatibility

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.502(f), NSPS Subpart XX

Item 72.1:

This Condition applies to:

Emission Unit: 1-RACK1 1-RACKT

Item 72.2:

Gasoline loading limited to trucks with vapor collection equipment which is compatible with the terminal vapor collection system.

Condition 73: Vapor collection connection required

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.502(g), NSPS Subpart XX

Item 73.1:

This Condition applies to:

Emission Unit: 1RACK1 1-RACKT

Item 73.2:

The terminal and tank truck vapor collection systems must be connected during gasoline loading.

Condition 74: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 60.502(i), NSPS Subpart XX

Item 74.1:

The Compliance Certification activity will be performed for the facility:

The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Item 74.2:

Compliance Certification shall include the following monitoring:



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Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

No pressure-vacuum vent in the terminal vapor collection system shall begin to open at a pressure less than 4,500

pascals.

Parameter Monitored: PRESSURE Lower Permit Limit: 4,500 Pascals

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 75: Definition of an affected source

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11081(a), Subpart BBBBBB

Item 75.1:

This Condition applies to:

Emission Unit: 1RACK1 1-RACKT

Process: FG1 FGT

Emission Unit: 1RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1RACK2 2-RACKR

Process: FE2 FGR

Emission Unit: 1RACK2 2-RACKR

Process: R2G RPR

Emission Unit: 1TANKS 1-TANK1

Process: GA1 RP1

Item 75.2:

The affected source to which subpart BBBBB applies is each area source bulk gasoline terminal, pipeline breakout station, pipeline pumping station, and bulk gasoline plant as identified below:

- 1) A bulk gasoline terminal that is not subject to the control requirements of 40CFR63, Subpart R or 40CFR63, Subpart CC.
- 2) A pipeline breakout station that is not subject to the control requirements of 40CFR63, subpart R.



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- 3) A pipeline pumping station.
- 4) A bulk gasoline plant.

Condition 76: Compliance date for an existing source

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11083(b), Subpart BBBBBB

Item 76.1:

This Condition applies to:

Emission Unit: 1RACK1 1-RACKT

Process: FG1 FGT

Emission Unit: 1RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1RACK2 2-RACKR

Process: FE2 FGR

Emission Unit:-1RACK2 2-RACKR

Process: R2G RPR

Emission Unit: 1TANKS 1-TANK1

Process: GA1 RP1

Item 76.2:

An existing affected source must comply with the standards of this subpart no later than January 10, 2011.

Condition 77: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11087, Subpart BBBBBB

Item 77.1:

The Compliance Certification activity will be performed for the facility:

The Compliance Certification applies to:

1-TANK1

Emission Unit: 1-TANKS

Process: GA1 RP1

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 77.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:



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A facility which owns or operates a gasoline storage tank subject to this subpart and having a capacity equal to or exceeding 75 cubic meters shall equip each internal floating roof gasoline storage tank according to the requirements in §60.112b(a)(1), except for the secondary seal requirements under §60.112b(a)(1)(ii)(B) and the requirements in §60.112b(a)(1)(iv)-(ix). The facility shall comply with the requirements of subpart BBBBB by the applicable dates specified in §63.11083, except that if a storage vessel with a floating roof is not meeting the requirements of §63.11087(a) it must be in compliance at the first degassing and cleaning activity after January 10, 2011 or by January 10, 2018, whichever is first. The facility must comply with the testing and monitoring requirements specified in §63.11092(e)(1). Finally, the facility shall submit the following information as required in 40 CFR Part 60.115b(a):

- (1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3).
- (2) Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
- (3) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
- (4) After each inspection required by 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of 61.112b(a)(1) or 60.113b(a)(3) and list each repair made.

These records are to be maintained for a minimum of 5



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years.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 78: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11088, Subpart BBBBBB

Item 78.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1-RACK2 2-RACKR

Process: R2G RPR

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 78.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

The owner and/or operator of a gasoline loading rack having a throughput of greater than or equal to 250,000 gallons/day, shall be subject to the following requirements:

- a) Equip the loading rack(s) with a vapor collection system designed to collect the TOC vapors displaced from cargo tanks during product loading; and
- b) Reduce emissions of TOC to less than or equal to 80 mg/l of gasoline loaded into gasoline cargo tanks at the loading rack; and
- c) Design and operate the vapor collection system to prevent any TOC vapors collected at one loading rack from passing to another loading rack; and
- d) Limit the loading of gasoline into gasoline cargo tanks that are vapor tight using the procedures specified in \$60.502(e)-(j). For the purposes of this condition, the term "tank truck' as used in \$60.502(e)-(j) means "cargo tank" as defined in subpart BBBBB in \$63.11100.



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The facility shall comply with the requirements of subpart BBBBBB by the applicable dates specified in §63.11083.

The facility must comply with the testing and monitoring requirements specified in §63.11092(a).

The facility must keep records and submit reports as specified in §63.11094 and 11095.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 7/30/2011.
Subsequent reports are due every 6 calendar month(s).

Condition 79: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11089, Subpart BBBBBB

Item 79.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: FG1 FGT

Emission Unit: 1-RACK2 2-RACKR

Process: FE2 FGR

Item 79.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

Each owner/operator of a bulk gasoline terminal, bulk plant, pipeline breakout station, or pipeline pumping station subject to the provisions of subpart BBBBB shall perform a monthly leak inspection of all equipment in gasoline service, as defined in §63.11100. For this inspection, detection methods incorporating sight, sound, and smell are acceptable.

A log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility.

Each detection of a liquid or vapor leak shall be recorded



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in the log book. When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak, except as provided in §63.11089(d).

Delay of repair of leaking equipment will be allowed if the repair is not feasible within 15 days. The owner or operator shall provide in the semiannual report specified in §63.11095(b), the reason(s) why the repair was not feasible and the date each repair was completed.

The facility must comply with the requirements of subpart BBBBB by the applicable dates in §63.11083.

The facility must submit the applicable notifications as required under §63.11093.

The facility must keep records and submit reports as specified in §63.11094 and 63.11095.

Monitoring Frequency: MONTHLY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 80: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11092(a), Subpart BBBBB

Item 80.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1-RACK2 2-RACKR

Process: R2G RPR

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 80.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: INTERMITTENT EMISSION TESTING

Monitoring Description:

The owner and/or operator of a facility subject to the



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emission standard in §63.11088 for gasoline loading racks must conduct a performance test on the vapor processing and collection systems according to either of the following methods;

- test methods and procedures in §60.503, except a reading of 500ppm shall be used to determine the level of leaks to be repaired under §60.503(b), or;
- alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f).

Upper Permit Limit: 80 milligrams per liter

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

DESCRIPTION

Averaging Method: AVERAGING METHOD AS PER REFERENCE TEST

METHOD INDICATED

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 81: Waiver of new performance test requirement by complying with state rule

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:40CFR 63.11092(a)(2), Subpart

BBBBBB

Item 81.1:

This Condition applies to:

Emission Unit: 1RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1RACK2 2-RACKR

Process: R2G RPR

Item 81.2:

If the facility is operating a gasoline loading rack in compliance with 6 NYCRR Part 229.3(d)(1) which requires the loading rack to meet an emission limit of 80mg/L of gasoline loaded, then the facility may submit a statement by a responsible official of the facility certifying the compliance status of the loading rack in lieu of the test required in §63.11092(a)(1).

Condition 82: Waiver of new testing requirement due to previous test conducted within 5 prior year period

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:40CFR 63.11092(a)(3), Subpart

BBBBBB



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Item 82.1:

This Condition applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1RACK2 2-RACKR

Process: RPR

Item 82.2:

If the facility has conducted a performance test on the vapor processing and collection systems within 5 years prior to January 10, 2008, and the test is for the affected facility and is representative of current or anticipated operating processes and conditions, the facility may submit the results of such testing in lieu of the test required under §63.11092(a)(1), provided the testing was conducted using the test methods and procedures in §60.503.

Should USEPA deem the prior test data unacceptable, the facility is still required to meet the requirement to conduct an initial performance test within 180 days of the applicable compliance date in §63.11083.

Condition 83: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:40CFR 63.11092(b)(1)(i)('B')('1'),

NESHAP Subpart BBBBBB

Item 83.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT

Regulated Contaminant(s):

CAS No: 0NY100-00-0 HAP

Item 83.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES hour rolling average. In the event of CEMS Monitoring Description:

downtime, alternative monitoring parameter

For each performance test required under §63.11092(a)(1), the owner/operator shall determine a monitored operating parameter value for the vapor processing system. When the owner/operator chooses to use carbon adsorption as the vapor processing system, the owner/operator shall install, calibrate, certify, operate, and maintain, according to the manufacturer's specifications, a continuous monitoring system (CMS) while gasoline vapors are displaced to the

Add condition for VRUTK continuous monitoring condition, 40 CFR 63.11092(b). See Form.

The Terminal will use a VRU with a Continuous Emissions Monitoring System (CEMS) capable of measuring organic compound concentration per 40 CFR 63.11092(b)(1)(i)(A). The average hydrocarbon outlet percent will be monitored to ensure it does not exceed a six hour average limit of 0.2 vol% propane (2000 ppm), which corresponds to the permitted limit of 2 mg/L. The averaging time is a six hour rolling average. In the event of CEMS downtime, alternative monitoring parameters will be observed in accordance with 40 CFR 63.11092(b)(1)(i)(B). Each calendar month the vapor collection

system and vapor processing system shall be inspected during loading events for total organic compounds liquid or vapor leaks. For purposes of this paragraph, sight, sound or smell are acceptable inspection/detection methods. Each detection of a leak shall be recorded and the source of the leak repaired.

FINThis condition applies to VRUTK.

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carbon adsorption system.

As an alternative to installing a continuous emissions monitoring system (CEMS) as required in \$63.11092(b)(1)(i)(A), the owner/operator must monitor the carbon adsorption devices as specified in \$63.11092(b)(1)(i)(B).

One of the requirements in §63.11092(b)(1)(i)(B) requires the owner/operator to conduct annual testing of the carbon activity for the carbon in each carbon bed. Carbon activity shall be tested in accordance with the butane working capacity test of the American Society for Testing and Materials (ASTM) Method D 5228-92 (incorporated by reference, see §63.14), or by another suitable procedure as recommended by the manufacturer.

Monitoring Frequency: ANNUALLY

Paparting Paguiroments: SEMLANN

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 84: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:40CFR 63.11092(b)(1)(i)('B')('1'), NESHAP Subpart BBBBB

Item 84.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACKT 1-RACKT

Process: R1G RPT

Regulated Contaminant(s):

CAS No: 0NY100-00-0 HAP

Item 84.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

For each performance test required under §63.11092(a)(1), the owner/operator shall determine a monitored operating parameter value for the vapor processing system. When the owner/operator chooses to use carbon adsorption as the vapor processing system, the owner/operator shall install, calibrate, certify, operate, and maintain, according to the manufacturer's specifications, a continuous monitoring system (CMS) while gasoline vapors are displaced to the



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carbon adsorption system.

As an alternative to installing a continuous emissions monitoring system (CEMS) as required in \$63.11092(b)(1)(i)(A), the owner/operator must monitor the carbon adsorption devices as specified in \$63.11092(b)(1)(i)(B).

One of the requirements in §63.11092(b)(1)(i)(B) requires the owner/operator to conduct monthly measurements of the carbon bed outlet volatile organic compounds (VOC) concentration over the last 5 minutes of an adsorption cycle for each carbon bed, documenting the highest measured VOC concentration. Measurements shall be made using a portable analyzer, in accordance with 40CFR Part 60, Appendix A-7, EPA Method 21 for open-ended lines.

Reference Test Method: Method 21 Monitoring Frequency: MONTHLY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 85: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:40CFR 63.11092(b)(1)(i)('B')('1'), NESHAP Subpart BBBBB

Item 85.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT

Regulated Contaminant(s):

CAS No: 0NY100-00-0 HAP

Item 85.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

For each performance test required under §63.11092(a)(1), the owner/operator shall determine a monitored operating parameter value for the vapor processing system. When the owner/operator chooses to use carbon adsorption as the vapor processing system, the owner/operator shall install, calibrate, certify, operate, and maintain, according to the manufacturer's specifications, a continuous monitoring



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system (CMS) while gasoline vapors are displaced to the carbon adsorption system.

As an alternative to installing a continuous emissions monitoring system (CEMS) as required in \$63.11092(b)(1)(i)(A), the owner/operator must monitor the carbon adsorption devices as specified in \$63.11092(b)(1)(i)(B).

One of the requirements in §63.11092(b)(1)(i)(B) requires the owner/operator to monitor the vacuum level using a pressure transmitter installed in the vacuum pump suction line, with the measurements displayed on a gauge that can be visually observed. Each carbon bed shall be observed during one complete regeneration cycle on each day of operation of the loading rack to determine the maximum vacuum level achieved.

for CEMS with alternative monitoring as back up when CEMS is down. See application forms.

These conditions should all be revised

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 7/30/2011.
Subsequent reports are due every 6 calendar month(s).

Condition 86: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:40CFR 63.11092(b)(1)(i)('B')('2'), NESHAP Subpart BBBBB

Item 86.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT Process: R1G RPT

Regulated Contaminant(s):

CAS No: 0NY100-00-0 HAP

Item 86.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

For each performance test required under §63.11092(a)(1), the owner/operator shall determine a monitored operating parameter value for the vapor processing system. When the owner/operator chooses to use carbon adsorption as the vapor processing system, the owner/operator shall install, calibrate, certify, operate, and maintain, according to



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the manufacturer's specifications, a continuous monitoring system (CMS) while gasoline vapors are displaced to the carbon adsorption system.

As an alternative to installing a continuous emissions monitoring system (CEMS) as required in §63.11092(b)(1)(i)(A), the owner/operator must monitor the carbon adsorption devices as specified in §63.11092(b)(1)(i)(B).

One of the requirements in §63.11092(b)(1)(i)(B) requires the owner/operator to develop and submit to NYSDEC a monitoring and inspection plan that describes the owner/operator's approach for meeting the following requirements:

- 1) The lowest maximum required vacuum level and duration needed to assure regeneration of the carbon beds shall be determined by an engineering analysis or from the manufacturer's recommendation and shall be documented in the monitoring and inspection plan.
- 2) The owner/operator shall verify, during each day of operation of the loading rack, the proper valve sequencing, cycle time, gasoline flow, purge air flow, and operating temperatures. Verification shall be through visual observation or through an automated alarm or shutdown system that monitors and records system operation.
- 3) The owner/operator shall perform semi-annual preventive maintenance inspections of the carbon adsorption system according to the recommendation of the manufacturer of the system.
- 4) The monitoring plan developed above shall specify conditions that would be considered malfunctions of the carbon adsorption system during the inspections of automated monitoring performed under items 1-3 above, describe specific corrective actions that will be taken to correct any malfunction, and define what the owner/operator would consider to be a timely repair for each potential malfunction.
- 5) The owner/operator shall document the maximum vacuum level observed on each carbon bed from each daily inspection and the maximum VOC concentration observed from each carbon bed on each monthly inspection as well as any system malfunction, as defined in the monitoring and inspection plan, and any activation of the automated alarm or shutdown system with a written entry into a log book or other permanent form of record. Such record shall also



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> include a description of the corrective action taken and whether such corrective actions were taken in a timely manner, as defined in the monitoring and inspection plan, as well as an estimate of the amount of gasoline loaded during the period of the malfunction.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING **DESCRIPTION**

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 87: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement:40CFR 63.11092(b)(1)(iii), Subpart

BBBBBB

Item 87.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK2 2-RACKR

Process: R2G RPR **Emission Source: VCURR**

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 87.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

> For each performance test conducted under §63.11092(a)(1), the owner/operator must determine a monitored operating parameter value for any thermal oxidation system other than a flare using one of the following procedures:

- (A) A continuous parameter monitoring system (CPMS) capable of measuring temperature shall be installed in the firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs.
- (B) As an alternative, the facility may choose to meet the requirements listed below:
- (1) The presence of a thermal oxidation system pilot flame shall be monitored using a heat-sensing device, such as an ultraviolet beam sensor or a thermocouple, installed in

Add condition for Continuous Parameter Monitoring System for VCURR temperature monitoring with alternative monitoring as back up. See forms 40 CFR 63.11092(b).



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proximity to the pilot light to indicate the presence of a flame.

- (2) Develop and submit to NYSDEC a monitoring and inspection plan that describes the facility's approach for meeting the following requirements:
- The thermal oxidation system shall be equipped to automatically prevent gasoline loading operations from beginning at any time that the pilot flame is absent.
- The facility shall verify, during each day of operation of the loading rack, the proper operation of the assist-air blower, the vapor line valve, and the emergency shutdown system. Verification shall be through visual observation or through an automated alarm or shutdown system that monitors and records system operation.
- The facility shall perform semi-annual preventive maintenance inspections of the thermal oxidation system according to the recommendations of the manufacturer of the system.
- The monitoring plan developed above shall specify conditions that would be considered malfunctions of the thermal oxidation system during the inspections or automated monitoring performed as stated above, describe specific corrective actions that will be taken to correct any malfunction, and define what the facility would consider to be a timely repair for each potential malfunction.
- The facility shall document any system malfunction, as defined in the monitoring and inspection plan, and any activation of the automated alarm or shutdown system with a written entry into a log book or other permanent form or record. Such record shall also include a description of the corrective action taken and whether such corrective actions were taken in a timely manner, as defined in the monitoring and inspection plan, as well as an estimate of the amount of gasoline loaded during the period of the malfunction.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 88: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11094(b), Subpart BBBBBB

Item 88.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:



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Emission Unit: 1-RACK1 1-RACKT

Process: FT1 FGT

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 88.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

The facility shall keep records of the test results for each gasoline cargo tank loading at the facility as specified below:

- 1) Annual certification testing performed under §63.11092(f)(1) and periodic railcar bubble leak testing performed under §63.11092(f)(2).
- 2) The documentation file shall be kept up-to-date for each gasoline cargo tank loading at the facility. The documentation for each test shall include, as a minimum, the following information:
- Name of Test: Annual Certification Test Method 27 or Periodic Railcar Bubble Leak Test Procedure.
- Cargo tank owner's name and address
- Cargo tank identification number
- Test location and date
- Tester name and signature
- Witnessing inspector, if any: name, signature, affiliation
- Vapor tightness repair: Nature of repair work and when performed in relation to vapor tightness testing
- Test results: Test pressure, pressure or vacuum change, mm of water; time period of test; number of leaks found with instrument; and leak definition
- 3) If the facility is complying with the alternative requirements in §63.11088(b), the facility must keep records documenting that the facility has verified the vapor tightness testing according to the requirements of EPA.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 89: Compliance Certification



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Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11094(c), Subpart BBBBBB

Item 89.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: FT1 FGT

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 89.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

As an alternative to keeping records at the terminal of each gasoline cargo tank test result as required in §63.11094(b), the facility may keep an electronic copy of each record which would be instantly available at the terminal. The copy of each record above must be an exact duplicate image of the original paper record with certifying signatures.

For facilities which use a terminal automation system to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading (e.g., via a card lock-out system), a copy of the documentation must be made available (e.g., via facsimile) for inspection by EPA's or NYSDEC's delegated representatives during the course of a site visit, or within a mutually agreeable time frame.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 90: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11094(d), Subpart BBBBBB

Item 90.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:



Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

Emission Unit: 1-RACK1 1-RACKT

Process: FG1 FGT

Emission Unit: 1-RACK2 2-RACKR

Process: FE2 FGR

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 90.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

If the facility is subject to the equipment leak provisions of §63.11089, then the facility shall prepare and maintain a record describing the types, identification numbers, and locations of all equipment in gasoline service. For facilities electing to implement an instrument program under §63.11089, the record shall contain a full description of the program.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 91: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11094(e), Subpart BBBBBB

Item 91.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: FG1 FGT

Emission Unit: 1-RACK2 2-RACKR

Process: FE2 FGR

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 91.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:



Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

If the facility is subject to the requirements for equipment leak inspections in §63.11089, then the facility shall record in the log book for each leak that is detected, the information below:

- 1) The equipment type and identification number.
- 2) The nature of the leak (i.e., vapor or liquid) and the method of detection (i.e., sight, sound, or smell).
- 3) The date the leak was detected and the date of each attempt to repair the leak.
- 4) Repair methods applied in each attempt to repair the leak.
- 5) "Repair delayed" and the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak.
- 6) The expected date of successful repair of the leak if the leak is not repaired within 15 days.
- 7) The date of successful repair of the leak.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 92: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11094(f), Subpart BBBBBB

Item 92.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT Emission Source: VRUTK

Emission Unit: 1-RACK2 2-RACKR

Process: R2G RPR

Emission Unit: 1-RACK2 2-RACKR

Process: RPR Emission Source: VCURR

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 92.2:

Compliance Certification shall include the following monitoring:



Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

The facility shall keep the following records:

- 1) Keep an up-to-date, readily accessible record of the continuous monitoring data required under \$63.11092(b) or \$63.11092(e). This record shall indicate the time intervals during which loadings of gasoline cargo tanks have occurred or, alternatively, shall record the operating parameter data only during such loadings. The date and time of day shall also be indicated at reasonable intervals on this record.
- 2) Record and report simultaneously with the Notification of Compliance Status required under §63.11093(b) all data and calculations, engineering assessments, and manufacturer's recommendations used in determining the operating parameter value under §63.11092(b) or §63.11092(e).
- 3) Keep an up-to-date, readily accessible copy of the monitoring and inspection plan required under \$63.11092(b)(1)(i)(B)(2) or \$63.11092(b)(1)(iii)(B)(2).
- 4) Keep an up-to-date, readily accessible copy of all system malfunctions, as specified in \$63.11092(b)(1)(i)(B)(2)(v) or \$63.11092(b)(1)(iii)(B)(2)(v).
- 5) If the facility requests approval to use a vapor processing system or monitor an operating parameter other than those specified in §63.11092(b), the facility shall submit a description of planned reporting and recordkeeping procedures.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR) Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 93: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11095(a), Subpart BBBBBB

Item 93.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:



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Emission Unit: 1-RACK1 1-RACKT

Process: FG1 FGT

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1-RACK2 2-RACKR

Process: FE2 FGR

Emission Unit: 1-RACK2 2-RACKR

Process: R2G RPR

Emission Unit: 1-TANKS 1-TANK1

Process: GA1 RP1

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 93.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

Each facility with a bulk terminal or pipeline breakout station that is subject to control requirements of subpart BBBBB shall include in a semiannual compliance report the following information, as applicable:

- 1) For storage vessels, if the facility is complying with options 2(a), 2(b), or 2(c) in table 1 of subpart BBBBBB, the informations specified in §60.115b(a), §60.115b(b), or §60.115b(c), depending upon the control equipment installed, or, if the facility is complying with option 2(d) in table 1 of subpart BBBBBB, the information specified in §63.1066.
- 2) For loading racks, each loading of a gasoline cargo tank for which vapor tightness documentation had not been previously obtained by the facility.
- 3) For equipment leak inspections, the number of equipment leaks not repaired within 15 days after detection.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 94: Compliance Certification



Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11095(b), Subpart BBBBBB

Item 94.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: FG1 FGT

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1-RACK2 2-RACKR

Process: FE2 FGR

Emission Unit: 1-RACK2 2-RACKR

Process: RPR

Regulated Contaminant(s):

CAS No: 0NY100-00-0 HAP

Item 94.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

A facility that is subject to the control requirements in Subpart BBBBB, shall submit an excess emissions report to NYSDEC at the time the semiannual compliance report is submitted. Excess emissions events under subpart BBBBBB, and the information to be included in the excess emissions report, are as follows:

- 1) Each instance of a non-vapor-tight gasoline cargo tank loading at the facility in which the facility failed to take steps to assure that such cargo tank would not be reloaded at the facility before vapor tightness documentation for that cargo tank was obtained.
- 2) Each reloading of a non-vapor-tight gasoline cargo tank at the facility before vapor tightness documentation for that cargo tan is obtained by the facility in accordance with §63.11094(b).
- 3) Each exceedance or failure to maintain, as appropriate, the monitored operating parameter value determined under §63.11092(b). The report shall include the monitoring data for the days on which exceedances or failures to maintain have occurred, and a description and timing of the steps taken to repair or perform maintenance on the



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vapor collection and processing systems or the continuous monitoring system.

- 4) Each instance in which malfunctions discovered during the monitoring and inspections required under §63.11092(b)(1)(i)(B)(2) and (b)(1)(iii)(B)(2) were not resolved according to the necessary corrective actions described in the monitoring and inspection plan. The report shall include a description of the malfunction and the timing of the steps taken to correct the malfunction.
- 5) for each occurrence of an equipment leak for which no repair attempt was made within 5 days or for which repair was not completed within 15 days after detection:
- the date on which the leak was detected;
- the date of each attempt to repair the leak;
- the reasons for the delay of repair; and
- the date of successful repair.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 95: Applicability of MACT General Provisions
Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40CFR 63.11098, Subpart BBBBBB

Item 95.1:

This Condition applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: FG1 FGT

Emission Unit: 1RACK1 1-RACKT

Process: R1G RPT

Emission Unit: 1RACK2 2-RACKR

Process: FE2 FGR

Emission Unit: 1RACK2 2-RACKR

Process: RPR

Emission Unit: 1TANKS 1-TANK1

Process: GA1 RP1

Item 95.2:



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Table 3 of subpart BBBBB lists which parts of the general provisions in subpart A apply to the facility.

Condition 4-11: Compliance Certification

Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 40 CFR Part 64

Item 4-11.1:

The Compliance Certification activity will be performed for the facility:

The Compliance Certification applies to:

3-RACKM Add process RPM

Emission Unit: 1-RACK3

Process: R3C CDM Emission Source: VCUM2

3-RACKM

Emission Unit: 1-RACK3

Process: R3C CDM Emission Source: VCUML

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 4-11.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

Once each day, while the Vapor Combustion Unit (VCU) is operating, the permittee will inspect the VCU for proper operation. Proper operation is that the pilot is lit for loading operations and the Ultraviolet Flame detection equipment indicates the presence of a flame.

An excursion occurs if the product is being loaded without the pilot flame being lit.

The facility shall comply with 40 CFR 64.7 and 64.9.

Monitoring Frequency: PER DELIVERY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2013.

Subsequent reports are due every 6 calendar month(s).

Condition 4-12: Compliance Certification

Effective between the dates of 11/07/2012 and 03/02/2016

Applicable Federal Requirement: 40 CFR Part 64

Item 4-12.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to: Add condition for continuous temperature monitor/MOPV for VCUM1 and VCUM2 to this condition. See separate forms (40 CFR Part 64).

Add condition for continuous temperature monitor/MOPV for VCURR to this condition. See form (40 CFR Part 64).



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3-RACKM

Emission Unit: 1-RACK3

Process: R3C CDM Emission Source: VCUM2

3-RACKM

Emission Unit: 1-RACK3 VCUM1

Process: R3C CDM Emission Source: VCUML

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 4-12.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

A third party contractor specializing in Vapor Combustion Unit (VCU) maintenance shall inspect and perform any necessary maintenance on the unit once every six months. The facility shall comply with 40 CFR 64.7 and 40 CFR 64.9. Records documenting the semi-annual maintenance occured shall be maintained in accordance with 6 NYCRR 201-6.5(c)(1) and (c)(2).

Monitoring Frequency: SEMI-ANNUALLY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2013.

Subsequent reports are due every 6 calendar month(s).

Condition 96: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40 CFR Part 64

Item 96.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

2-RACKR

Emission Unit: 1-RACK2 Emission Point: 00002 0RRK1
Process: R2E RPR Emission Source: VCURR

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 96.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

A third party contractor specializing in Vapor Combustion Unit (VCU) maintenance shall inspect and perform any necessary maintenance on the unit once every six months. The facility shall comply with 40 CFR 64.7 and 40 CFR



Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

64.9. Records documenting the semi-annual maintenance occured shall be maintained in accordance with 6 NYCRR 201-6.5(c)(1) and (c)(2).

Monitoring Frequency: SEMI-ANNUALLY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 101: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40 CFR Part 64

Item 101.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK1 1-RACKT

Process: R1E RPT Emission Source: VRUTK

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 101.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

A third party contractor, specializing in VRU maintenance, shall perform preventative maintenance once each-quarter semi-annual period. The facility shall comply with 40 CFR 64.7 and 64.9. Records documenting that the quarterly semi-annual maintenance occurred shall be maintained in accordance with 201-6.5(c)(1) and (c)

Monitoring Frequency: QUARTERLY SEMI-ANNUAL Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 102: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40 CFR Part 64

Item 102.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to: CAM does not require a specific time frame for PM. 6B Requires semiannual.

*Combine Conditions 102 & 103. See notes on following pages.

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A CEMS is used as the continuous

system. Daily drift checks are used to

The following parameters will be

monitored when the CEMS is not

operational:

evaluate the CEM needs to be calibrated.

monitoring parameter for CAM. Daily drift checks are performed automatically by the

New York State Department of Environmental Conservation

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1-RACKT

Emission Unit: 1-RACK1 Emission Point: 00001 0TRK1
Process: R1E RPT Emission Source: VRUTK

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 102.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Indicator 1: Temperature -- The temperature of the carbon bed will be monitored and recorded daily during truck loading via a probe inserted in the carbon bed. If the temperature is between 150 175 and 200 degree F, a second temperature reading will be obtained during the next loading cycle of that carbon bed.

An excursion:

+ If the the temperature exceeds 200 degree F during a loading cycle of either carbon bed, an excursion has occurred.

2 If the second temperature reading exceeds 450 1)' degree F,an excursion has occurred.

The facility shall comply with 40 CFR 64.7 and 64.9. Records shall be maintained in accordance with Part 201-6.5(c)(1) and (c)(2).

Parameter Monitored: TEMPERATURE Upper Permit Limit: 200 degrees Fahrenheit

Monitoring Frequency: DAILY

Averaging Method: MAXIMUM - NOT TO EXCEED STATED VALUE -

SEE MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 103: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40 CFR Part 64

Item 103.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

1-RACKT

Emission Unit: 1-RACK1 Emission Point: 00001 0TRK1
Process: R1E RPT Emission Source: VRUTK

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Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 103.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Indicator 2: Vacuum -- The facility will monitor the operating vacuum of each carbon bed during a regeneration cycle once per day and manually record the vacuum.

The greatest vacuum during one regeneration cycle of each bed shall be manually recorded based on the gauge reading. The duration of the reading shall be one complete cycle. If the recorded value for either bed is less than the limit, a second reading shall be collected during the course of the next regeneration cycle of the bed, approximately 30 minute cycle.

An excursion: occurs

If the operating vacuum of two consecutive regeneration cycles for a bed fails to attain at least 25 26 in Hg during both regeneration cycles of the bed, an exeursion has occurred.

The facility shall comply with 40 CFR 64.7 and 64.9. Records shall be maintained in accordance with Part 201-6.5 (c)(1) and (c)(2).

Parameter Monitored: VACUUM

Lower Permit Limit: 25 26 inches of mercury

Monitoring Frequency: DAILY

Averaging Method: MINIMUM - NOT TO FALL BELOW STATED VALUE - SEE MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 105: Compliance Certification

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 40 CFR Part 64

Item 105.1:

The Compliance Certification activity will be performed for the facility: The Compliance Certification applies to:

Emission Unit: 1-RACK2 Emission Point: 00002



Permit ID: 4-0101-00112/00029 Facility DEC ID: 4010100112

Process: R2E Emission Source: VCURR

Regulated Contaminant(s):

CAS No: 0NY998-00-0 VOC

Item 105.2:

Compliance Certification shall include the following monitoring:

Duplicate

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES Monitoring Description:

A third party contractor specializing in Vapor Combustion Unit (VCU) maintenance shall inspect and perform any necessary maintenance on the unit once every six months. The facility shall comply with 40 CFR 64.7 and 40 CFR 64.9. Records documenting the semi-annual maintenance occured shall be maintained in accordance with 6 NYCRR 201-6.5(c)(1) and (c)(2).

Monitoring Frequency: SEMI-ANNUALLY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

**** Emission Unit Level ****

Condition 106: Emission Point Definition By Emission Unit

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-6

Item 106.1(From Mod 4):

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 1-RACK3 3-RACKM

Emission Point: 00003 0MDR1 Emission Point: 0MDR3

Height (ft.): 36 Diameter (in.): 72 NYTMN (km.): 4720.724 NYTME (km.): 601.833

Emission Point: 00006 0MDR2

Height (ft.): 36 Diameter (in.): 72 NYTMN (km.): 4720.645 NYTME (km.): 602.056

Item 106.2(From Mod 4):

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 1-RACK4

Emission Point: 00005



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Height (ft.): 36 Diameter (in.): 72 NYTMN (km.): 4720.645 NYTME (km.): 602.056

Item 106.3(From Mod 1):

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 1-RACK1 1-RACKT

Emission Point: 00001 0TRK1 Emission Point: 0TRK2

Height (ft.): 19 Diameter (in.): 12 NYTMN (km.): 4720.691 NYTME (km.): 602.067

Item 106.4(From Mod 1):

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 1-RACK2 2-RACKR

Emission Point: 00002 0RRK1 Emission Point: 0RRK2

Height (ft.): 37 Diameter (in.): 90 NYTMN (km.): 4720.358 NYTME (km.): 601.86

Item 106.5(From Mod 2):

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 1-TANKS 1-TANK1

Emission Point: 00114 0T114

Height (ft.): 48 Diameter (in.): 81 1,440 NYTMN (km.): 4720.724 NYTME (km.): 601.833

Emission Point: 00115 0T115

Height (ft.): 48 Diameter (in.): 81 1,800 NYTMN (km.): 4720.724 NYTME (km.): 601.833

Emission Point: 00117 0T117

Height (ft.): 48 Diameter (in.): 81 1,320 NYTMN (km.): 4720.724 NYTME (km.): 601.833

Emission Point: 00118 0T118

Height (ft.): 48 Diameter (in.): 63 1,200 NYTMN (km.): 4720.675 NYTME (km.): 601.694

Emission Point: 00119 0T119

Height (ft.): 48 Diameter (in.): 57 960 NYTMN (km.): 4720.654 NYTME (km.): 601.762

Emission Point: 00120 0T120

Height (ft.): 48 Diameter (in.): 57 960 NYTMN (km.): 4720.601 NYTME (km.): 601.924

Emission Point: 00121 0T121

Height (ft.): 48 Diameter (in.): 81 1,800



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NYTMN (km.): 4720.724 NYTME (km.): 601.833

Emission Point: 00130 0T130

Height (ft.): 48 Diameter (in.): 81 900 NYTMN (km.): 4720.551 NYTME (km.): 602.053

Emission Point: 00T31

Height (ft.): 45 Diameter (in.): 78 1,500 NYTMN (km.): 4720.645 NYTME (km.): 602.056

Emission Point: 00T32

Height (ft.): 45 Diameter (in.): 78 1,500 NYTMN (km.): 4720.645 NYTME (km.): 602.056

Emission Point: 00T39

Height (ft.): 48 45 Diameter (in.): 78 1,500 NYTMN (km.): 4720.645 NYTME (km.): 602.056

Condition 107: Process Definition By Emission Unit

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable Federal Requirement: 6 NYCRR Subpart 201-6

Item 107.1(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RACK1

Process: R1D Source Classification Code: 4-04-001-50

Process Description: Emissions from Rack 1 while loading distillate.

Emission Source/Control: RACK1 - Process
Design Capacity: 888,300,000 gallons per year

Item 107.2(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RACK1 1-RACKT

Process: R1E FGT Source Classification Code: 4-06-002-98 4-04-001-51

Process Description: Emissions from ethanol loading at Rack 1. Fugitive emissions from loading trucks at Truck Rack.

Emission Source/Control: VRUTK - Control VACTK - Control

Control Type: VAPOR RECOVERY SYS(INCL. Control Type: Vac Assist Vapor Reduction System

CONDENSERS, HOODING, OTHER ENCLOSURES)

RACKT

Emission Source/Control: RACK1 - Process Design Capacity: 888,300,000 gallons per year

Item 107.3(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RACK1 1-RACKT

Process: R1G RPT Source Classification Code: 4-04-001-53

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Process Description: from loading refined products into trucks at Truck Rack.

Emissions associated with loading gasoline/ethanol at

Rack 1.

Emission Source/Control: VRUTK - Control Control Type: VAPOR RECOVERY SYS(INCL.

CONDENSERS, HOODING, OTHER ENCLOSURES)

RACKT

Emission Source/Control: RACK1 - Process
Design Capacity: 888,300,000 gallons per year

Item 107.4(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

2-RACKR

Emission Unit: 1-RACK2

Process: R2D RPR Source Classification Code: 4-04-001-50 4-04-001-53

Process Description:

Emissions associated with loading distillate at Rack 2. refined product into rail cars at Rail Rack.

RACKR

Emission Source/Control: RACK2 - Process Design Capacity: 840,000,000 gallons per year

Item 107.5(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RACK3 2-RACKR

Process: FG3 FGR Source Classification Code: 4-04-001-51

Process Description: Emissions associated with fugitive emissions from loading rail cars at Rail Rack.

Fugitive HAP/VOC emissions from Rack 3 and associated

piping.

RACKR Emission Source/Control: VACRR

Emission Source/Control: RACK3 - Process

Control Type: Vac Assist Vapor Reduction System

Item 107.6(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RACK3 3-RACKM

Process: R3C RPM Source Classification Code: 4-06-002-98

Process Description:

Emissions associated with loading crude oil at marine from loading refined products into marine vessels. loading dock.

Emission Source/Control: VCUM2 - Control Control Type: THERMAL OXIDATION

VCUM1

Emission Source/Control: VCUML - Control

Control Type: VAPOR COMBUSTION SYSTEM (INCL VAPOR

COLLECTION AND COMBUSTION UNIT)

RACKM

Emission Source/Control: RACK3 - Process

Item 107.7(From Mod 4):

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This permit authorizes the following regulated processes for the cited Emission Unit:

3-RACKM

Emission Unit: 1-RACK3

Process: R3D FGM Source Classification Code: 4-04-001-50 4-04-001-51

Process Description:

Emission associated with loading marine vessels with

distillate at Rack 3. fugitive emissions from loading marine vessels at dock.

RACKM

Emission Source/Control: RACK3 - Process

Emission Source/Control: VACMD - Control
Control Type: Vac Assist Vapor Reduction System

Item 107.8(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

3-RACKM

Emission Unit: 1-RACK3

Process: R3E BSM Source Classification Code: 4-06-002-98

Process Description: Marine loading of ethanol at Rack 3. Emissions from loading blendstock into marine vessels.

Emission Source/Control: VCUML - Control VCUM1 Emission Source/Control: VCUM2 - Control

Control Type: VAPOR COMBUSTION SYSTEM (INCL VAPOR

COLLECTION AND COMBUSTION UNIT)

RACKM

Emission Source/Control: RACK3 - Process

Item 107.9(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RACK3 3-RACKM

Process: R3G CDM Source Classification Code: 4-06-002-98

Process Description: Marine loading of gasoline at Rack 3. Emissions from loading crude oil into marine vessels.

VCUM1

Emission Source/Control: VCUML - Control

- Control Emission Source/Control: VCUM2 - Control

Control Type:

Control Type: VAPOR COMBUSTION SYSTEM (INCL VAPOR Control Type:

COLLECTION AND COMBUSTION UNIT)

RACKM

Emission Source/Control: RACK3 - Process

Item 107.10(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

1-FUGTV

Emission Unit: 1-RACK4

Process: FG4 FUG Source Classification Code: 4-04-001-51

Process Description:

Emissions associated with HAP/VOC from Rack 4 and Facility-wide emissions from pumps, valves, flanges,

associated components. and misc appurtenances.

FUGTV

Emission Source/Control: RACK4 - Process

Item 107.11(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RACK4

Process: R4D Source Classification Code: 4-04-001-51

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Process Description:

Emissions associated with distillate loading for additional rail spur.

Emission Source/Control: RACK4 - Process

Item 107.12(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

1-TANK1

Emission Unit: 1-TANKS

Process: CR1 Source Classification Code: 4-03-010-99

Process Description:

Crude Oil Storage Tanks used for storage and distribution

at terminal.

Emission Source/Control: T039C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T114C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T115C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T117C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T118C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T119C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T120C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T121C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T130C - Control

Control Type: FLOATING ROOF

Emission Source/Control: TK31C - Control

Control Type: FLOATING ROOF

Emission Source/Control: TK32C - Control

Control Type: FLOATING ROOF

Emission Source/Control: TK031 - Process

Design Capacity: 3,829,140 gallons

4,200,000

Emission Source/Control: TK114 - Process



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Design Capacity: 3,715,740 gallons

3,887,898

Emission Source/Control: TK115 - Process

Design Capacity: 5,812,800 gallons

5,851,902

Emission Source/Control: TK117 - Process

Design Capacity: 2,717,148 gallons

3,028,032

Emission Source/Control: TK118 - Process

Design Capacity: 1,963,290 gallons

2,426,550

Emission Source/Control: TK119 - Process

Design Capacity: 1,292,886 gallons

1,619,268

Emission Source/Control: TK120 - Process

Design Capacity: 1,364,748 gallons

1,640,940

Emission Source/Control: TK121 - Process

Design Capacity: 4,603,536 gallons

5,370,204

Emission Source/Control: TK130 - Process

Design Capacity: 1,421,868 gallons

1,512,714 TK032

Emission Source/Control: TNK32 - Process

Design Capacity: 3,829,140 gallons

4,200,000 TK039

Emission Source/Control: TNK39 - Process

Design Capacity: 139,344,878 gallons

4,200,00

Item 107.13(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-TANKS 1-TANK1

Process: ET1 RP1 Source Classification Code: 4-03-010-99

Process Description:

Refined product Ethanol storage tanks used for the storage and

distribution at terminal.

Emission Source/Control: T039C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T114C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T115C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T117C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T118C - Control

Control Type: FLOATING ROOF



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Emission Source/Control: T119C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T120C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T121C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T130C - Control

Control Type: FLOATING ROOF

Emission Source/Control: TK31C - Control

Control Type: FLOATING ROOF

Emission Source/Control: TK32C - Control

Control Type: FLOATING ROOF

Emission Source/Control: TK031 - Process

Design Capacity: 3,829,140 gallons

Emission Source/Control: TK114 - Process

Design Capacity: 3,715,740 gallons

Emission Source/Control: TK115 - Process

Design Capacity: 5,812,800—gallons

Emission Source/Control: TK117 - Process

Design Capacity: 2,717,148 gallons

Emission Source/Control: TK118 - Process

Design Capacity: 1,963,290 gallons

Emission Source/Control: TK119 - Process

Design Capacity: 1,292,886 gallons

Emission Source/Control: TK120 - Process

Design Capacity: 1,364,748 gallons

Emission Source/Control: TK121 - Process

Design Capacity: 4,603,536 gallons

Emission Source/Control: TK130 - Process

Design Capacity: 1,421,868 gallons

TK032

Emission Source/Control: TNK32 - Process

Design Capacity: 3,829,140 gallons

TK039

Emission Source/Control: TNK39 - Process Design Capacity: 139,344,878 gallons



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Item 107.14(From Mod 4):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-TANKS 1-TANK1

Process: GA1 BS1 Source Classification Code: 4-04-001-60 4-03-101-99

Process Description:

Blendstock Gasoline storage tanks used for storage and distribution

at terminal.

Emission Source/Control: T039C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T114C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T115C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T117C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T118C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T119C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T120C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T121C - Control

Control Type: FLOATING ROOF

Emission Source/Control: T130C - Control

Control Type: FLOATING ROOF

Emission Source/Control: TK114 - Process

Design Capacity: 3,715,740 gallons

Emission Source/Control: TK115 - Process

Design Capacity: 5,812,800 gallons

Emission Source/Control: TK117 - Process

Design Capacity: 2,717,148 gallons

Emission Source/Control: TK118 - Process

Design Capacity: 1,963,290 gallons

Emission Source/Control: TK119 - Process

Design Capacity: 1,292,886 gallons

Emission Source/Control: TK120 - Process



These need to be modified

per the permit matrix. Add

1-FUGTV for facility wide

fugitives, FGT, FGR and

associated with loading

FGM are fugitives

only.

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Design Capacity: 1,364,748 gallons

Emission Source/Control: TK121 - Process

Design Capacity: 4,603,536 gallons

Add CR1 per emission unit matrix. Same sources and controls as RP1.

Emission Source/Control: TK130 - Process Design Capacity: 1,421,868 gallons

TK039

Emission Source/Control: TNK39 - Process Design Capacity: 139,344,878 gallons

Item 107.15(From Mod 1):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RACK1

Process: FG1 FGT Source Classification Code: 4-04-001-51

Process Description:

Fugitive HAP/VOC emissions from Rack 1 and associated

piping.

RACKT

Emission Source/Control: RACK1 - Process Design Capacity: 888,300,000 gallons per year

Item 107.16(From Mod 1):

This permit authorizes the following regulated processes for the cited Emission Unit:

1-RACKT

Emission Unit: 1-RACK1

Source Classification Code: 4-04-001-54 Process: FT1 FGT

Process Description: Fugitive truck emissions while loading products.

RACKT

Emission Source/Control: TRUC1 - Process

Item 107.17(From Mod 3):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RACK2

Process: FE2 FGR Source Classification Code: 4-04-001-51

Process Description:

Fugitive VOC/HAP emmisions from Rack 2 and associated

piping.

RACKR

Emission Source/Control: RACK2 - Process Design Capacity: 840,000,000 gallons per year

Item 107.18(From Mod 3):

This permit authorizes the following regulated processes for the cited Emission Unit:

2-RACKR

Emission Unit: 1-RACK2

Process: RPR

Process Description:

Emissions while loading ethanol in railcars (Rack 2).

Source Classification Code: 4-06-002-98

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Emission Source/Control: VCURR - Control Control Type: VAPOR RECOVERY SYS(INCL.

CONDENSERS, HOODING, OTHER ENCLOSURES)

RACKR

Emission Source/Control: RACK2 - Process Design Capacity: 840,000,000 gallons per year

Item 107.19(From Mod 3):

This permit authorizes the following regulated processes for the cited Emission Unit:

2-RACKR

Emission Unit: 1-RACK2

Process: R2G RPR Source Classification Code: 4-04-001-53

Process Description:

Emissions associated with loading gasoline/ethanol at

Rack 2.

Emission Source/Control: VCURR - Control Control Type: VAPOR RECOVERY SYS(INCL.

CONDENSERS, HOODING, OTHER ENCLOSURES)

RACKR

Emission Source/Control: RACK2 - Process Design Capacity: 840,000,000 gallons per year

Item 107.20(From Mod 0):

This permit authorizes the following regulated processes for the cited Emission Unit:

1-TANK1

Emission Unit: 1-TANKS

Process: 4FG PCW Source Classification Code: 4-07-999-97

Process Description:

Emissions associated with wastewater tank contaminated

with gasoline and distillates.

Emission Source/Control: 1WATR - Process

Design Capacity: 1,307,796 gallons

1,512,714

Tank 130 is now in this Emission Unit only.



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STATE ONLY ENFORCEABLE CONDITIONS **** Facility Level ****

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

This section contains terms and conditions which are not federally enforceable. Permittees may also have other obligations under regulations of general applicability

Item A: General Provisions for State Enforceable Permit Terms and Condition - 6 NYCRR Part 201-5

Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

STATE ONLY APPLICABLE REQUIREMENTS

The following conditions are state applicable requirements and are not subject to compliance certification requirements unless otherwise noted or required under 6 NYCRR Part 201.

Condition 108: Contaminant List

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable State Requirement: ECL 19-0301

Item 108.1:

Emissions of the following contaminants are subject to contaminant specific requirements in this permit(emission limits, control requirements or compliance monitoring conditions).

CAS No: 000064-17-5

Name: ETHYL ALCOHOL (ETHANOL)



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CAS No: 001634-04-4

Name: METHYL TERTBUTYL ETHER

CAS No: 0NY100-00-0

Name: HAP

CAS No: 0NY998-00-0

Name: VOC

Condition 109: Compliance Demonstration

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable State Requirement: ECL 19-0301 (3) (b)

Item 109.1:

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):

CAS No: 001634-04-4 METHYL TERTBUTYL ETHER

Item 109.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Methyl-tertiary butyl ether (MTBE) shall not be used as a

gasoline additive.

Monitoring Frequency: PER BATCH OF PRODUCT/RAW MATERIAL

CHANGE

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2011.

Subsequent reports are due every 6 calendar month(s).

Condition 110: Unavoidable noncompliance and violations

Effective between the dates of 03/03/2011 and 03/02/2016

Applicable State Requirement: 6 NYCRR 201-1.4

Item 110.1:

At the discretion of the commissioner a violation of any applicable emission standard for necessary scheduled equipment maintenance, start-up/shutdown conditions and malfunctions or upsets may be excused if such violations are unavoidable. The following actions and recordkeeping and reporting requirements must be adhered to in such circumstances.

(a) The facility owner and/or operator shall compile and maintain records of all equipment maintenance or start-up/shutdown activities when they can be expected to result in an exceedance of any applicable emission standard, and shall submit a report of such activities to the commissioner's representative when requested to do so in writing or when so required by a condition of a permit issued for the corresponding air contamination source except where conditions elsewhere in this permit which contain more stringent reporting and notification



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provisions for an applicable requirement, in which case they supercede those stated here. Such reports shall describe why the violation was unavoidable and shall include the time, frequency and duration of the maintenance and/or start-up/shutdown activities and the identification of air contaminants, and the estimated emission rates. If a facility owner and/or operator is subject to continuous stack monitoring and quarterly reporting requirements, he need not submit reports for equipment maintenance or start-up/shutdown for the facility to the commissioner's representative.

- (b) In the event that emissions of air contaminants in excess of any emission standard in 6 NYCRR Chapter III Subchapter A occur due to a malfunction, the facility owner and/or operator shall report such malfunction by telephone to the commissioner's representative as soon as possible during normal working hours, but in any event not later than two working days after becoming aware that the malfunction occurred. Within 30 days thereafter, when requested in writing by the commissioner's representative, the facility owner and/or operator shall submit a written report to the commissioner's representative describing the malfunction, the corrective action taken, identification of air contaminants, and an estimate of the emission rates. These reporting requirements are superceded by conditions elsewhere in this permit which contain reporting and notification provisions for applicable requirements more stringent than those above.
- (c) The Department may also require the owner and/or operator to include in reports described under (a) and (b) above an estimate of the maximum ground level concentration of each air contaminant emitted and the effect of such emissions depending on the deviation of the malfunction and the air contaminants emitted.
- (d) In the event of maintenance, start-up/shutdown or malfunction conditions which result in emissions exceeding any applicable emission standard, the facility owner and/or operator shall take appropriate action to prevent emissions which will result in contravention of any applicable ambient air quality standard. Reasonably available control technology, as determined by the commissioner, shall be applied during any maintenance, start-up/shutdown or malfunction condition subject to this paragraph.
- (e) In order to have a violation of a federal regulation (such as a new source performance standard or national emissions standard for hazardous air pollutants) excused, the specific federal regulation must provide for an affirmative defense during start-up, shutdowns, malfunctions or upsets.

Condition 1-9: Visible Emissions Limited
Effective between the dates of 08/10/2011 and 03/02/2016

Applicable State Requirement: 6 NYCRR 211.2

Item 1-9.1:

Except as permitted by a specific part of this Subchapter and for open fires for which a restricted burning permit has been issued, no person shall cause or allow any air contamination source to emit any material having an opacity equal to or greater than 20 percent (six minute average) except for one continuous six-minute period per hour of not more than 57 percent opacity.



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Total Project Emission Potential

Tank Scenario: 1.929 billion gallons of refined product is distributed amongst all IFR tanks as Conventional Gasoline. 380 million gallons of blendstock/component is distributed amongst the previously permitted blendstock IFR tanks and included in addition to gasoline working losses. Standing losses are included as distillate for all distillate tanks. Working losses are not considered for distillate tanks because it is more conservative to assume the entire 1.929 billion gallons of refined product is gasoline. 900 million gallons of crude oil is distributed amongst all IFR tanks and included in addition to gasoline working losses. Only working losses from crude oil storage are included because it is more conservative to assume IFR tank standing losses are from gasoline and/or blendstock storage.

Loading Scenario: 1.929 billion gallons total throughput, 380 million gallons Blendstock, 880 million gallons conventional gasoline or lower RVP product at Truck Loading w/ VAC and VRU @ 2 mg/L, 300 million gallons conventional gasoline or lower RVP product at Rail Loading w/ VAC and VCU @ 2 mg/L. Up to the total 1.929 billion gallons of refined product throughput may be loaded at the marine rack, however the PEP scenario used maximizes throughput at the truck rack first to minimize the baseline emissions and therefore maximize the PEP.

EMISSION SOURCE		ACT	UALS		BASELINE	PROJECTED	PROJECT EMISSION	PROJECTED THROUGHPUT FOR PEP (gallons)
EMISSION SOURCE	2015	2016	2017	2018	EMISSIONS*	EMISSIONS	POTENTIAL	PROJECTED INCOUGHPUT FOR PEP (gallons)
Marine Loading of Blendstock Gasoline	**	**	**	**	**	3.17	3.17	380,000,000
Marine Loading of Gasoline / Ethanol / Distillate***	2.221	5.251	3.617	0.748	3.74	3.08	NA	369,000,000
Truck Loading of Conventional Gasoline / Ethanol / Distillate***	0.708	0.799	1.057	1.022	0.75	7.34	6.59	880,000,000
Rail Loading of Conventional Gasoline / Ethanol / Distillate***	2.604	2.815	2.883	3.127	2.71	2.50	NA	300,000,000
Marine Loading of Crude Oil	7.258	1.457	0.076	0.000	4.36	3.76	NA	450,000,000
28 (Distillate)***	0.528	0.528	0.695	0.989	0.53	0.43	NA	***
29 (Distillate)***	0.528	0.528	0.695	0.988	0.53	0.43	NA	***
30 (Distillate)***	0.528	0.528	0.695	0.988	0.53	0.43	NA	****
64 (Distillate)***	0.218	0.218	0.431	0.621	0.22	0.43	0.21	***
31 (Gas / Ethanol / Crude)***	3.960	3.195	2.776	2.764	3.58	5.73	2.15	325,509,000
32 (Gas / Ethanol / Crude)***	4.520	3.195	2.776	2.764	3.86	5.73	1.87	325,509,000
33 (Distillate)***	0.065	0.528	0.695	0.988	0.30	0.43	0.13	***
Boiler Emissions	**	**	**	**	**	1.23	1.23	-
Additional Fugitive Emissions Associated with Boilers	**	**	**	**	**	0.84	0.84	-
39 (Gas / Ethanol / Crude)***	3.036	2.545	2.208	4.496	2.79	4.33	1.54	263,140,000
114 (Gas / Ethanol / Crude)***	0.266	0.303	0.345	0.337	0.28	4.06	3.77	324,318,000
115 (Gas / Ethanol / Crude)***	0.369	0.413	0.472	0.462	0.39	5.77	5.38	483,109,000
117 (Gas / Ethanol / Crude)***	3.051	3.050	3.065	3.045	3.05	2.88	NA	234,873,000
118 (Gas / Ethanol / Crude)***	2.968	4.344	4.350	4.351	3.66	5.07	1.41	190,129,000
119 (Gas / Ethanol / Crude)***	3.109	3.306	3.317	3.302	3.21	3.66	0.45	122,792,000
120 (Gas / Ethanol / Crude)***	0.179	0.200	0.202	0.197	0.19	3.21	3.02	122,509,000
121 (Gas / Ethanol / Crude)***	7.215	7.674	7.694	7.666	7.44	9.51	2.06	437,111,000
TOTAL	43.331	40.877	38.046	38.855	42.10	74.00	33.83	
				Project	Emission Potential		33.83	

All emissions in tons per year

Actuals do not include emissions from tank maintenance activities since no modifications to these activities are being requested.

Notes:

- 1. N/A Projected Emissions are lower than the Baseline Emissions (PEP is negative) and therefore PEP was N/A
- 2. Global Plans to paint the distillate storage tanks white which will result in a decrease in distillate storage emissions provided in this table. Tank emissions were calculated using current paint color.
- 3. The projected throughput for the IFR tanks includes both 1.929 billion gallons of gasoline distributed amongst the tanks to give them an equal number of turnovers, and 450 million gallons of crude distributed amongst the tanks to give them an equal number of turnovers. IFR emissions do not include landing and cleaning emissions. Baseline emissions also exclude landing and cleaning emissions.
- 4. Baseline distillate tank emissions only include standing losses.

^{*}Baseline Emissions were calculated using 2015 & 2016.

^{**}No past actual emissions as blendstock loading and the boilers are not currently permitted.

^{***}Distillate storage emissions (projected and past actuals) are standing losses only. The entire facility throughput is assumed to be gasoline as this is the most conservative emissions estimate. Working losses from the 1.929 billion gallons of throughput are included in gasoline storage emissions. Total tank emissions for IFR tanks include working losses from both gasoline storage and crude storage, and standing losses from gasoline storage only as gasoline standing losses are greater than crude oil standing losses.

^{****}No distillate throughput was modeled through distillate tanks, as all of the 1.929 billions gallons of throughput was modeled as gasoline through IFR Tanks. Distillate standing losses were included for all distillate tanks (see note

COVER

GLOBAL COMPANIES

PRODUCT TERMINAL EMISSION REPORT SIC CODE 5171

Albany

Report Purpose 2020 PTE

Version Date 3/19/2020

EMISSION SUMMARY

EMISSION UNIT OVERVIEW

		VOC			HAP		LAR	GEST SINGLE HAP; H	exane
Source Description	Tank Emissions	Tank Landing Emissions	Total Tank Emissions	Tank Emissions	Tank Landing Emissions	Total Tank Emissions	Tank Emissions	Tank Landing Emissions	Total Tank Emissions
Source Description	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
IFR Storage Tanks:	цру	ιρу	гру	тру	тру	цру	ιρу	тру	цу
Tank 117	2.884	2.179	5.063	0.230	0.173	0.403	0.114	0.086	0.200
Tank 119	5.067	1.152	6.220	0.403	0.173	0.495	0.201	0.046	0.246
Tank 119 Tank 120	3.209	1.152	4.361	0.403	0.092	0.345	0.201	0.046	0.246
Tank 121	9.506	4.051	13.557	0.757	0.322	1.079	0.376	0.160	0.537
Tank 114	4.056	1.296	5.353	0.323	0.103	0.426	0.161	0.051	0.212
Tank 115	5.771	4.051	9.822	0.459	0.323	0.782	0.229	0.160	0.389
Tank 118	5.067	1.476	6.543	0.403	0.117	0.521	0.201	0.058	0.259
Tank 39	4.335	4.220	8.554	0.343	0.333	0.676	0.172	0.167	0.339
Tank 31	5.727	1.292	7.019	0.453	0.102	0.555	0.227	0.051	0.278
Tank 32	5.727	1.292	7.019	0.453	0.102	0.555	0.227	0.051	0.278
	Gasoline / Eth		Gasoline / Eth	Gasoline / Eth		Gasoline / Eth	Gasoline / Eth		Gasoline / Eth
1	Loading		Loading	Loading	1	Loading	Loading		Loading
1	Emissions		Emissions	Emissions	1	Emissions	Emissions		Emissions
Gasoline / Ethanol Loading:	tpy		tpy	tpy	-	tpy	tpy		tpy
	0.000		0.000	0.000		0.000	0.000		0.000
Truck Loading Fugitive	0.000		0.000	0.000		0.000	0.000		0.000
Truck Loading Stack	7.343		7.343	0.580		0.580	0.291		0.291
Rail Loading Fugitive	0.000		0.000	0.000		0.000	0.000		0.000
Rail Loading Stack	2.503		2.503	0.198		0.198	0.099		0.099
		Tank Landing	l		Tank Landing	Total Tank		Tank Landing	Total Tank
	Tank Emissions	Emissions	Total Tank Emissions	Tank Emissions	Emissions	Emission	Tank Emissions	Emissions	Emission
Distillate Stavens Tanks	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
Distillate Storage Tanks:									
Tank 28	0.427	NA	0.427	0.043	NA	0.043	0.000	NA	0.000
Tank 29	0.427	NA	0.427	0.043	NA	0.043	0.000	NA	0.000
Tank 64	0.427	NA	0.427	0.043	NA	0.043	0.000	NA	0.000
Tank 33	0.427	NA	0.427	0.043	NA	0.043	0.000	NA	NA
Tank 30	0.427	NA	0.427	0.043	NA	0.043	0.000	NA	0.000
	Distillata		Distillato	Di-till-t-		Distillata	Distillata		Di-dill-4-
1	Distillate		Distillate	Distillate	1	Distillate	Distillate		Distillate
1	Loading		Loading	Loading	1	Loading	Loading		Loading
	Emissions		Emissions	Emissions		Emissions	Emissions		Emissions
	tpy		tpy	tpy		tpy	tpy		tpy
Distillate Loading:									
Truck Loading	0.000		0.000	0.000		0.000	0.000		0.000
Rail Loading	0.000		0.000	0.000		0.000	0.000		0.000
	Source		Source	Source		Source	Source		Source
1	Emissions		Emissions	Emissions	ĺ	Emissions	Emissions		Emissions
	tpy		tpy	tpy		tpy	tpy		tpy
L									
Product / Water Mixture Tank	0.000		0.000	0.000	1	0.000	0.000		0.000
Equipment Fugitives	2.660		2.660	0.548	1	0.548	0.206		0.206
VOCs from Combustion Sources	7.566		7.566	0.505	1	0.505	0.300		0.300
VOCs from Engine Sources	0.029		0.029	0.002	1	0.002	0.001		0.001
Marine Loading	6.835		6.835	0.496	ĺ	0.496	0.271		0.271
Additive Tank Emissions	0.072		0.072	0.072	1	0.072			1
TOTAL OF SOURCES			102.65	• •	•	8.45			4.08
Total VOCs	102.65	tons/yr	102.00			0.40			4.00
10tai VOC8	102.03	torio/yi							

AL OF SOURCES		
Total VOCs	102.65	tons/yr
Total HAPs	8.45	tons/yr
Total Largest Single HAP	4.08	tons/yr
Total GHG**	43,751.79	tons/yr
Total PM***	3.50	tons/yr
Total SOx**	1.33	tons/yr
Total NOx**	41.16	tons/yr
Total CO**	29.52	tons/yr
Total CO2**	42,483.49	tons/yr
Total TRS/H2S****	0.09	tons/yr

NOTE: BLG refers to a gasoline blending scenario.

** From Page 19 & 20 - Combustion and Page 21 - Generators

*** From Page 19 & 20 - Combustion and Page 21 - Generators and Page 26 & 30 - Fugitive Dust

**** From Page 22 - H2S Calculations

EMISSION UNIT HAP SPECIATION

(HAP Emissions (lbs) = Total VOC Emissions (lbs) * HAP Vapor Fraction (%))

		(*****	()		()	vapoi Fractio	(,,,)		Total HAP	Total HAP from	
Source Description	Benzene	Ethylbenzene	Hexane	HAP (lbs) Isooctane	Toluene	Xylene (-m)	Naphthalene	Methanol*	this Page (lbs)	Landings (Next Page) (lbs)	Total HAP (lbs)
IFR Storage Tanks:											
Tank 117	27	8	228	36	50	39	3	68	459	347	806
Tank 119	47	14	401	64	88	68	5	120	807	183	990
Tank 120	26	9	254	40	56	43	3	76	507	182	690
Tank 121	87	26	753	119	165	128	10	224	1,513	645	2,157
Tank 114	37	11	321	51	70	55	4	96	646	206	852
Tank 115	53	16	457	73	100	78	6	136	919	645	1,564
Tank 118	47	14	401	64	88	68	5	120	807	235	1,042
Tank 39	35	12	343	54	75	58	4	102	685	667	1,352
Tank 31	46	16	454	72	100	77	6	135	905	204	1,109
Tank 32	46	16	454	72	100	77	6	135	905	204	1,109
Gasoline / Ethanol Loading: Truck Loading Fugitive	0	0	0	0	0	0	0	0	0	0	0
Truck Loading Stack	60	20	582	92	128	99	8	173	1,161	Ö	1,161
Rail Loading Fugitive	0	0	0	0	0	0	Ö	0	0	0	0
Rail Loading Stack	20	7	198	31	43	34	3	59	396	0	396
. tail 250aing Gask	20	,	100	0.	.0	01	Ū	00			
Distillate Storage Tanks:											
Tank 28	2	3	0	0	20	49	0	10	85	0	85
Tank 29	2	3	0	0	20	49	0	10	85	0	85
Tank 64	2	3	0	Ō	20	49	Ō	10	85	0	85
Tank 33	2	3	Ö	Ö	20	49	Ö	10	85	ő	85
Tank 30	2	3	0	Ö	20	49	Ö	10	85	Ö	85
Distillate Loading: Truck Loading Rail Loading	0	0 0	0	0	0 0	0 0	0	0	0	0 0	0
Product / Water Mixture Tank Equipment Fugitives	59	61	412	127	219	218	1	0	0 1,096	0	0 1,096
VOCs from Combustion Sources	61	21	599	95	131	102	Ó	Ö	1,009	0	1,000
VOCs from Engine Sources	0	0	2	0	1	0	0	0	4	0	4
Marine Loading	59	19	541	86	119	92	3	73	991	0	991
Marine Loading Additive Tank Emissions	0	38	0	0	0	92 106	0	73 0	144	0	144
AUGUIVE TANK EMISSIONS	U	აი	U	U	U	100	U	U			
Total Individual HAP (lbs/yr)	916	381	8,156	1,354	2,020	1,888	69	1,567	13,378	3,519	16,897
Total Individual HAP (tpy)	0.46	0.19	4.08	0.68	1.01	0.94	0.03	0.78			
TOTAL HAPS (lbs/yr) 16,897	_										
TOTAL HAPS (tpy) 8.45											

* Biodiesel Only

TANK LANDING HAP SPECIATION

(HAP Emissions (lbs) = Total VOC Emissions (lbs) * HAP Vapor Fraction (%))

(HAP Emissions (ibs) = Total VOC Emissions (ibs) * HAP Vapor Fraction (%))							Total HAP from		
Source Description	Benzene	Ethylbenzene	Hexane		Toluene	Xvlene (-m)	Naphthalene	Methanol*	
Source Description IFR Storage Tanks: Tank 117 Tank 119 Tank 120 Tank 121 Tank 114 Tank 115 Tank 118 Tank 39 Tank 31 Tank 32	20 11 9 37 12 37 14 34 10 10	Ethylbenzene 6 3 3 11 4 11 4 11 4 4 4 4	173 91 91 321 103 321 117 334 102 102	HAP (lbs) isooctane 27 15 15 16 51 16 51 19 53 16 16 16	Toluene 38 20 70 70 23 70 26 73 22 22	Xylene (-m) 29 16 16 55 17 55 20 57 17 17	2 1 4 1 4 2 4 1 1 1 1 1 1 1 1 1 1 1 1 1	Methanol* 51 27 27 96 31 96 35 100 30 30 30	Landings (lbs) - 347 183 182 645 206 645 235 667 204 204
Total Individual HAP (lbs/yr)	195	61	1,755	278	385	298			3,519
Total Individual HAP (tpy)	0.10	0.03	0.88	0.14	0.19	0.15			1.76

^{*} Biodiesel Only

2020 PTE

	Stored	Rack Loaded	Rail Loaded	Ship/Barge Loaded			_
Gasoline	1,549,000,000	880,000,000	300,000,000	369,000,000		-	gal
							_
Blendstock	380,000,000			380,000,000			
							_
Crude	450,000,000			450,000,000		-	gal
							7
Ethanol						-	gal
							-
Distillate						-	gal
							7
Facility Total	2,379,000,000	880,000,000	300,000,000	1,199,000,000		-	gal
			7				
Additive	528,000	528,000	gal		Product-water	0	gal

NOTE: All distilalte loading was assumed to be loaded at the truck rack as emissions from both truck and rail processes are the same (same emission factor is used for both calculations).

IFR Tanks:

Tank Emissions calculated using AP-42.

Tk. No.	Dia	Leg ht	no land	land avg days	Vol bbls	Volume gals		Turnovers	Thruputs	gal/day
117	110	4	2	2.0	65,315	2,743,229		58.4	160,152,189	438,773
119	80	4	2	2.0	34,147	1,434,161		58.4	83,727,616	229,391
120	80	4	2	2.0	34,068	1,430,858		58.4	83,534,784	228,862
121	150	4	2	2.0	121,554	5,105,286		58.4	298,051,213	816,579
114	120	4	1	2.0	90,188	3,787,905		58.4	221,141,319	605,867
115	150	4	2	2.0	134,346	5,642,527		58.4	329,415,828	902,509
118	100	4	2	2.0	52,872	2,220,637		58.4	129,642,796	355,186
39	125	4	3	2.0	73,176	3,073,373		58.4	179,426,294	491,579
31	125	4	2	2.0	90,520	3,801,825		58.4	221,953,981	608,093
32	125	4	2	2.0	90,520	3,801,825		58.4	221,953,981	608,093
						33,041,626	-		1,929,000,000	
Note:					_		,	Average Turnovers	58.4	

Average Turnovers 58.4

Total IFR Tank Throughput 1,929,000,000

VOCs from Tanks (lb/yr)

		,	
Tk No	Standing	Working*	Total
117	5097	672	5,769
119	9521	613	10,135
120	5988	430	6,418
121	17955	1057	19,012
114	7,205	908	8,113
115	10,517	1,024	11,541
118	9,521	613	10,135
39	8,078	591	8,669
31	10,658	795	11,453
32	10,658	795	11,453

102,697

 $^{^{\}star}$ Working losses include working losses from gasoline, blendstock, and crude throughput.

Distillate Tanks: STANDING LOSSES ONLY

Tank Emissions calculated using AP-42.

				Actual		Calculated	
Tk. No.	Dia	vol bbls	Volume gals	Thruputs	Turnovers	Thruputs	gal/day
28	125	91,17	3,829,140		0.0	0	0
29	125	91,17	3,829,140		0.0	0	0
64	125	87,87	3,690,540		0.0	0	0
33	125	91,17	3,829,140		0.0	0	0
30	125	91,17	3,829,140		0.0	0	0
			19,007,100	-		-	
				Averaç	ge Turnovers	-	

1	VOCs from Tanks (lb/yr)										
Tk No	Standing Working	Total									
28	854	854									
29	854	854									
64	854	854									
33	854	854									
30	854	854									
		4,270.0									

Additive Tanks

Tank Emissions calculated using EPA TANKS Emissions Estimation Software, Version 4.09D.

				Actual		Calculated	
Tk. No.	Dia	vol bbls	Volume gals	Thruputs	Turnovers	Thruputs	gal/day
A-1		257	10,800		13.3	143,510.76	393
A-4		172	7,221		13.3	95,952.89	263
A-5		21	900		13.3	11,959.23	33
A-6		11	450		13.3	5,979.61	16
A-Generic		172	7,221		13.3	95,952.89	263
A-Exxon		85	3,554		13.3	47,225.67	129
SA		175	7,366		13.3	97,879.65	268
A-Red Dye		6	248		13.3	3,295.43	9
A-Red Dye 2		11	450		13.3	5,979.61	16
WHFO		6	250		13.3	3,322.01	9
D-Fire Pump		6	250		13.3	3,322.01	9
R-Fire Pump		3	125		13.3	1,661.00	5
GAFO		21	900		13.3	11,959.23	33
			39,735	0	Total Additive	528,000	

VOCs f	rom	Tanks	s (II	o/yr)
--------	-----	-------	-------	-------

	V 003 110111	Tariks (ID/y	',
Tk No	Standing	Working	Total
A-1	16	23	39
A-4	11	15	26
A-5	1	2	3
A-6	1	1	2
A-Generic	11	15	26
A-Exxon	6	8	13
SA	11	14	25
A-Red Dye	1	1	1
A-Red Dye 2	1	1	2
WHFO	1	1	1
D-Fire Pump	1	1	1
R-Fire Pump	0	0	1
GAFO	1	2	3
			144

Product Water/Mixture tanks

Tank Emissions calculated using EPA TANKS Emissions Estimation Software, Version 4.09D.

					Actual		Calculated	
Tk. No.	Dia	vo	ol bbls	Volume gals	Thruputs	Turnovers	Thruputs	gal/day
65	92		39,072	1,641,015		-		
130	75		33,854	1,421,868		-		
	•	-						

	VOCs from	Tanks (lb/y	r)	
Tk No	Standing	Working	Total	
65				-
130				-
	1		1	

_															
	117	119	120	121	114	115	118	39	31	32	-		Total Thruput	-	
Thruput	-	-	-	-	-	-	-	-	-	-	-		-	gal/yr	
Thruput	160,152,189	83,727,616	83,534,784	298,051,213	221,141,319	329,415,828	129,642,796	179,426,294	221,953,981	221,953,981	-		1,929,000,000	gal/yr	
Throughput (Bbl / Yr):	3,813,147	1,993,515	1,988,923	7,096,457	5,265,269	7,843,234	3,086,733	4,272,055	5,284,619	5,284,619	-		45,928,571	bbl/yr	
	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year	Lb / Year			Lb / Year	Tons /Year
Total VOC***	5,769	10,135	6,418	19,012	8,113	11,541	10,135	8,669	11,453	11,453	-			102,697	51.35
Benzene	27	47	26	87	37	53	47	35	46	46	-			452	0.23
Ethylbenzene	8	14	9	26	11	16	14	12	16	16	-			141	0.07
Hexane	228	401	254	753	321	457	401	343	454	454	-			4,067	2.03
Isooctane	36	64	40	120	51	73	64	54	72	72	-			645	0.32
Toluene	50	88	56	165	70	100	88	75	100	100	-			892	0.45
Xylene (-m)	39	68	43	128	55	78	68	58	77	77	-			691	0.35
Naphthalene	3	5	3	10	4	6	5	4	6	6	-			53	0.03
Methanol	68	120	76	224	96	136	120	102	135	135	-			1,212	0.61
Total HAP Species	459	807	507	1,514	646	919	807	685	905	905	-			8,153	4.08
Non Hap VOC	5,309	9,328	5,911	17,498	7,467	10,622	9,328	7,984	10,548	10,548	-			94,543	47.27
_															
Total VOC:	5,769	10,135	6,418	19,012	8,113	11,541	10,135	8,669	11,453	11,453	-	•		102,697	51.35
Total HAP	459	807	507	1,514	646	919	807	685	905	905	-	•		8,153	4.08
LARGEST SINGLE HAP: Hexane	228	401	254	753	321	457	401	343	454	454	-	•		•	

NOTE: Total working losses from tanks permited to store blendstock are conservatively speciated as if they are entirely blendstock, even though they contain working losses from gasoline, ethanol, and crude.

^{***} Tank Emissions calculated using AP-42.

•			I	ı			1	ī	i	1	1		
	28	29	64	33	30						Total Thruput	7	
Thruput	-	-	-	-	-	-	-	-	-	-	-	gal/yr	
Thruput	-	-	-	-	-	-	-	-	-	-	-	gal/yr	
Throughput (Bbl / Yr):	-	-	-	-	-	-	-	-	-	-	-	bbl/yr	
	Lb / Year							Lb / Year	Tons /Year				
Total VOC*	854	854	854	854	854	-	-	-	-	-		4,270	2.14
Benzene	1.8	1.8	1.8	1.8	1.8	-	-	-	-	-		9	0.00
Ethylbenzene	2.7	2.7	2.7	2.7	2.7	ı	-	•	1	-		13	0.01
Hexane	0.4	0.4	0.4	0.4	0.4							2	0.00
Isooctane	-	-	-	-	1							-	-
Toluene	20.4	20.4	20.4	20.4	20.4	1	-	-	-	-		102	0.05
Xylene (-m)	49.3	49.3	49.3	49.3	49.3	ı	-	•	1	-		247	0.12
Naphthalene	0.4	0.4	0.4	0.4	0.4	ı	-	•	1	-		2	0.00
Methanol	10.1	10.1	10.1	10.1	10.1	ı	-	•	1	-		50	0.03
Total HAP Species	85	85	85	85	85	-	-	-	-	-		426	0.21
Non Hap VOC	769	769	769	769	769	-	-	-	-	-		3,844	1.92
Total VOC:	854	854	854	854	854	-						4,270	2.14
Total HAP:	85	85	85	85	85	-	-	-	-	-		426	0.21
LARGEST SINGLE HAP: Xylene (-m)	49.33	49.33	49.33	49.33	49.33	-	-	-	-	-		247	0.12

^{*} Tank Emissions calculated using AP-42.

Г					1											
	A-1	A-4	A-5	A-6	A-Generic	A-Exxon	SA	A-Red Dye	A-Red Dye 2	WHFO	D-Fire Pump	R-Fire Pump	GAFO	Total	-	
Thruput		-		-	-	-	-	-	-	-		-	-		gal/yr	
Thruput	143,511	95,953	11,959	5,980	95,953	95,953	95,953	95,953	95,953	95,953	95,953	95,953	95,953	1,120,978	gal/yr	
Throughput (Bbl / Yr):	3,417	2,285	285	142	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	2,285	26,690	bbl/yr	
	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year	lb/year		lb/year	tons/year
Total VOC*	39	26	3	2	26	13	25	1	2	1	1	1	3		144.16	0.07
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		-	-
Ethylbenzene	10.4	6.9	0.9	0.4	6.9	3.6	6.5	0.3	0.4	0.4	0.3	0.2	0.9		38.16	0.02
Hexane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		-	-
Isooctane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		-	-
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		-	-
Xylene (-m)	28.8	19.3	2.4	1.2	19.3	9.9	18.2	0.9	1.2	1.1	0.9	0.5	2.4		106.00	0.05
Naphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		-	-
Methanol	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Total HAP Species	39	26	3	2	26	13	25	1	2	1	1	1	3		144	0.07
Non Hap VOC		-		-	-							-	-		-	

 $^{^{\}star}$ Tank Emissions calculated using EPA TANKS Emissions Estimation Software, Version 4.09D.

Loading Summary

		Truck Loading	I			Rail Loading		ı	/larine Loading	I	To	tal
	Gasoline	Distillate	Total		Gas / Eth	Distillate*	Total	Crude Oil	Gas / Eth	Total	lb/yr	Tons/yr
Total VOC lb/yr	14,686	0	14,686		5,007	0	5,007	7,511	6,159	13,670	33,363	16.68
Benzene	60	0	60		20	0	20	30	28	59	139	0.07
Ethylbenzene	20	0	20		7	0	7	10	8	19	46	0.02
Hexane (-n)	582	-	582		198	-	198	297	244	541	1,321	0.66
Iso-octane	92	-	92		31	-	31	47	39	86	209	0.10
Toluene	128	0	128		43	0	43	65	54	119	290	0.14
Xylene (-m)	99	0	99		34	0	34	51	41	92	225	0.11
Naphthalene	8	0	8		3	0	3	-	3	3	13	0.01
Methanol**	173	-	173		59	0	59	-	73	73	305	0.15
Total HAP Species	1,161	0	1,161	1 1	396	0	396	501	490	991	2,548	1.27
Non Hap VOC	13,526	0	13,526	1 [4,611	0	4,611	7,010	5,669	12,678	30,815	15.41

^{*} Distillate Rail Loading Emissions are captured in Distillate Truck Loading.

^{**} Biodiesel Only

Truck Loading - Gasoline

				Loading Lo	sses 2mg/l	Tank-truck	loss 0 mg/l*	To	ital
			Vapor Fraction	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.
Gasoline Throughput at the Rack (MM gal)	880.0	Total VOC	100.00%	14,686	7.343	-	-	14,686	7.343
		Benzene	0.41%	60	0.030	0	i	60	0.030
VRU Emission Rating (mg/liter)	2	Ethylbenzene	0.14%	20	0.010	0	Ī	20	0.010
(VRU Emission Rating is guaranteed by the		Hexane (-n)	3.96%	582	0.291	0	Ī	582	0.291
manufacturer of the VRU and verified with a		Iso-octane	0.63%	92	0.046	0	-	92	0.046
Performance Stack Test every 5 years.)		Toluene	0.87%	128	0.064	0	-	128	0.064
		Xylene (-m)	0.67%	99	0.049	0	1	99	0.049
Tank-Truck Loss Factor (mg/liter)	0*	Naphthalene	0.05%	8	0.004	0	1	8	0.004
		Methanol	1.18%	173	0.087	0	1	173	0.087
Controlled gasoline Loading Losses (lb/yr)	14,686	Total HAP Species*	7.90%	1,161	0.580	-	1	1,161	0.580
		Non Hap VOC	92.10%	13,526	6.763	-	-	13,526	6.763
		Total VO	С	14,686	7.343	-	-	14,686	7.343
		Total HA	Р	1,161	0.580	-	-	1,161	0.580
		Largest Single HAP							

582

0.291

582

0.291

Sample Calculation:

Volume Of Gasoline Loaded (gallons)*3.785 litres/gallon*Overall Emission Rate (mg/liter)*2.2046 lbs/Kg*1 Kg / 1,000,000 mg = Emissions (lbs) 650,000,000 gal * 3.785 L/gal * 2 mg/L * 2.2046 lbs/Kg * 1 Kg / 1,000,000 mg = Emissions (lbs) 10,848 lbs = Emissions (lbs)

NOTE: Loading emission calculations were performed in accordance with guidance in AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I.

Hexane (-n)

^{*} Tank-truck Loss Factor is 0 mg/L as a result of a Vacuum Assist System installed at the Truck Loading Rack.

Loading Losses 2mg/l

582

0.291

Tank-truck loss 8 mg/l*

Total

582

0.291

TRUCK LOADING OF GASOLINE - ALTERNATIVE OPERATING SCENARIO

			Vapor Fraction	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.
Gasoline Throughput at the Rack (MM gal)	176.0	Total VOC	100.00%	14,686	7.343	-	-	14,686	7.343
		Benzene	0.41%	60	0.030	0	-	60	0.030
VRU Emission Rating (mg/liter)	10	Ethylbenzene	0.14%	20	0.010	0	-	20	0.010
(VRU Emission Rating is guaranteed by the	2 plus 8	Hexane (-n)	3.96%	582	0.291	0	-	582	0.291
manufacturer of the VRU and verified with a		Iso-octane	0.63%	92	0.046	0	-	92	0.046
Performance Stack Test every 5 years.)		Toluene	0.87%	128	0.064	0	-	128	0.064
		Xylene (-m)	0.67%	99	0.049	0	=	99	0.049
Tank-Truck Loss Factor (mg/liter)	8*	Naphthalene	0.05%	8	0.004	0	-	8	0.004
		Methanol	1.18%	173	0.087	0	-	173	0.087
Controlled gasoline Loading Losses (lb/yr)	14,686	Total HAP Species*	7.90%	1,161	0.580	-	=	1,161	0.580
		Non Hap VOC	92.10%	13,526	6.763	-	-	13,526	6.763
		•			•			•	·
		Total VO	2	14,686	7.343	-	-	14,686	7.343
		Total HAF	•	1,161	0.580	-	=	1,161	0.580
		Largest Single HAP						•	•

^{*} Tank-truck Loss Factor is 0 mg/L as a result of a Vacuum Assist System installed at the Truck Loading Rack.

Sample Calculation:

Volume Of Gasoline Loaded (gallons)*3.785 litres/gallon*Overall Emission Rate (mg/liter)*2.2046 lbs/Kg*1 Kg / 1,000,000 mg = Emissions (lbs) 650,000,000 gal * 3.785 L/gal * 2 mg/L * 2.2046 lbs/Kg * 1 Kg / 1,000,000 mg = Emissions (lbs) 10,848 lbs = Emissions (lbs)

NOTE: Loading emission calculations were performed in accordance with guidance in AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I.

Hexane (-n)

Truck Loading - Distillate

Fugitive Emissions*

Tons/Yr.

0.0

Loading Losses

			Vapor				
			Fraction	Lbs/Year	Tons/Yr.	Lbs/Year	
Distillate Throughput at the Rack (MM gal)	-	Total VOC	100.00%	0.0	1	0.0	
		Benzene	0.22%	0.0	-	0.0	
		Ethylbenzene	0.31%	0.0	-	0.0	
		Hexane (-n)	0.00%	0.0	-	0.0	
Uncontrolled Bottom Loading Emission Factor (mg/l)	1.7	Iso-octane	0.00%	0.0	-	0.0	
(AP-42, Compilation of Air Pollutant Emission Factors, Fifth		Toluene	2.39%	0.0	-	0.0	
Edition, Volume I, Table 5.2-5.)		Xylene (-m)	5.78%	0.0	-	0.0	
		Naphthalene	0.05%	0.0	-	0.0	
Distillate Loading Rack Loss (lb/year)	-	Methanol	1.18%	0.0	=	0.0	
		Total HAP Species*	9.92%	0.0	=	0.0	
		Non Hap VOC	90.08%	0.0	-	0.0	
		•					
		Total VOC		0.0	0.0	0.0	
		Total HAP		0.0	0.0	0.0	

Largest Single HAP

Xylene (-m)

Sample Calculations

Volume of distillate bottom loaded (gallons) * 3.785 litres/gallon * 1.7 mg/liter of distillate loaded * 2.2046 lbs/kg * 1 kg / 1,000,000 = Emissions (lbs) 229,300,000 gallons * 3.785 L/gal * 1.7 mg/L * 2.2046 * 1kg / 1,000,000 = Emissions (lbs) 3,253 lbs = Emissions (lbs)

^{*} Fugitives are included in the Uncontrolled Bottom Loading Emission Factor and are calculated with the loading emissions.

				Loading Lo	sses 2mg/l	Tank-truck	loss 8 mg/l	To	tal
			Vapor Fraction	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.
Gasoline Throughput at the Rail (MM gal)	300.0	Total VOC	100.00%	5,007	2.503	-	-	5,007	2.503
		Benzene	0.41%	20	0.010	0	-	20	0.010
VCU Emission Rating (mg/liter)	2	Ethylbenzene	0.14%	7	0.003	0	-	7	0.003
(VCU Emission Rating is guaranteed by the		Hexane (-n)	3.96%	198	0.099	0	-	198	0.099
manufacturer of the VCU and verified with a		Iso-octane	0.63%	31	0.016	0	-	31	0.016
Performance Stack Test every 5 years.)		Toluene	0.87%	43	0.022	0	-	43	0.022
		Xylene (-m)	0.67%	34	0.017	0	-	34	0.017
Tank-Truck Loss Factor (mg/liter)	0*	Naphthalene	0.05%	3	0.001	0	-	3	0.001
(EPA Approved Factor. Submerged Loading		Methanol	1.18%	59	0.030	0	-	59	0.030
emission factor of 980 mg/L (AP-42, Compilation		Total HAP Species*	7.90%	396	0.198	-	-	396	0.198
of Air Pollutant Emission Factors, 5th Ed., Vol. I,		Non Hap VOC	92.10%	4,611	2.306	-	-	4,611	2.306
Table 5.2-5), multiplied by the leakage rate of									
0.8% (AP-42, Compilation of Air Pollutant Emission Factors, 5th Ed., Vol. I))		Total VO	С	5,007	2.503	-	-	5,007	2.503
Emission Factors, 5th Ed., Vol. 1))		Total HA	Р	396	0.198	-	-	396	0.198
		Largest Single HAP							
Controlled gasoline Loading Losses (lb/yr)	5,007	Hexane (-n)		198	0.099	-	-	198	0.099

^{*} Tank-truck Loss Factor is 0 mg/L as a result of a Vacuum Assist System installed at the Truck Loading Rack.

Sample Calculations

Volume Of Gasoline Loaded (gallons)*3.785 litres/gallon*Overall Emission Rate (mg/liter)*2.2046 lbs/Kg*1 Kg / 1,000,000 mg = Emissions (lbs) 150,000,000 gal * 3.785 L/gal * (10 mg/L + 8 mg/L) * 2.2046 lbs/Kg * 1 Kg / 1,000,000 mg = Emissions (lbs) 22,530 lbs = Emissions (lbs)

				Loading Lo	sses 2mg/l	Tank-truck	loss 8 mg/l	To	tal
		<u> </u>	Vapor Fraction	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.
Gasoline Throughput at the Rail (MM gal)	60.0	Total VOC	100.00%	5,007	2.503	-	-	5,007	2.503
		Benzene	0.41%	20	0.010	0	-	20	0.010
VCU Emission Rating (mg/liter)	10	Ethylbenzene	0.14%	7	0.003	0	-	7	0.003
(VCU Emission Rating is guaranteed by the	(2 plus 8)	Hexane (-n)	3.96%	198	0.099	0	-	198	0.099
manufacturer of the VCU and verified with a		Iso-octane	0.63%	31	0.016	0	-	31	0.016
Performance Stack Test every 5 years.)		Toluene	0.87%	43	0.022	0	-	43	0.022
		Xylene (-m)	0.67%	34	0.017	0	-	34	0.017
Tank-Truck Loss Factor (mg/liter)	8*	Naphthalene	0.05%	3	0.001	0	-	3	0.001
(EPA Approved Factor. Submerged Loading		Methanol	1.18%	59	0.030	0	-	59	0.030
emission factor of 980 mg/L (AP-42, Compilation		Total HAP Species*	7.90%	396	0.198	-	-	396	0.198
of Air Pollutant Emission Factors, 5th Ed., Vol. I,		Non Hap VOC	92.10%	4,611	2.306	-	-	4,611	2.306
Table 5.2-5), multiplied by the leakage rate of									
0.8% (AP-42, Compilation of Air Pollutant		Total VO	С	5,007	2.503	-	-	5,007	2.503
Emission Factors, 5th Ed., Vol. I))		Total HA	P	396	0.198	-	-	396	0.198
		Largest Single HAP						•	·
Controlled gasoline Loading Losses (lb/yr)	5,007	Hexane (-n)		198	0.099	-	-	198	0.099

^{*} Tank-truck Loss Factor is 0 mg/L as a result of a Vacuum Assist System installed at the Truck Loading Rack.

Sample Calculations

Volume Of Gasoline Loaded (gallons)*3.785 litres/gallon*Overall Emission Rate (mg/liter)*2.2046 lbs/Kg*1 Kg / 1,000,000 mg = Emissions (lbs) 150,000,000 gal * 3.785 L/gal * (10 mg/L + 8 mg/L) * 2.2046 lbs/Kg * 1 Kg / 1,000,000 mg = Emissions (lbs) 22,530 lbs = Emissions (lbs)

Rail Loading - Distillate

Distillate	Through	put at the	Rail (N	IM gal)

Distillate Rail Loading Emissions are included with the Distillate Truck Loading emissions.

Uncontrolled Bottom Loading Emission Factor (mg/l)

(AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I, Table 5.2-5.)

Distillate Loading Rack Loss (lb/year)

		Loading	Losses	Fugitive	Emissions
	Vapor Fraction	Lbs/Year	Tons/Yr.	Lbs/Year	Tons/Yr.
Total VOC	100.00%	0.0	-	0.0	-
Benzene	0.22%	0.0	-	0.0	-
Ethylbenzene	0.31%	0.0	-	0.0	1
Hexane (-n)	0.00%	0.0	-	0.0	-
Iso-octane	0.00%	0.0	-	0.0	1
Toluene	2.39%	0.0	ı	0.0	ı
Xylene (-m)	5.78%	0.0	ı	0.0	ı
Naphthalene	0.05%	0.0	-	0.0	ı
Methanol	1.18%	0.0	-	0.0	-
Total HAP Species*	9.92%	0.0	-	0.0	ı
Non Hap VOC	90.08%	0.0	-	0.0	-
Total VOC		0.0	0.0	0.0	0.0
Total HAP		0.0	0.0	0.0	0.0
Largest Single HAP					
NA		_		_	_

Sample Calculations

Volume of distillate bottom loaded (gallons) * 3.785 litres/gallon * 1.7 mg/liter of distillate loaded * 2.2046 lbs/kg * 1 kg / 1,000,000 = Emissions (lbs) 0 gallons * 3.785 L/gal * 1.7 mg/L * 2.2046 * 1kg / 1,000,000 = Emissions (lbs) 0 lbs = Emissions (lbs)

1.70

EMISSIONS FROM MARINE LOADING OF GAS/ETH:

Throughput: 369 Mmgal

Control Device Emission Rate: 2 mg/L equal to: 0.0167 lbs/1000 gallons

Loading Rack 0% Remaining Total Emissions after 100% Throughput **Emission Factor*** 2 mg/L **Emissions Total Emissions** (lb/yr) Loading into an Uncleaned Barge: (lb/1000 gal) (Mmgal) goes to VDU 100% to VDU from VDU (lbs) (tons) 3.9000 369 1,439,100 1,439,100 6,159 3.08 0 6,159

Max Emissions Per Hour:

25,000 barrels / hr 1,050,000 gal / hr

Emission Factor*	Throughput (Mmgal)	Loading Rack Emissions (lb/hr)	0% Remaining after 100% goes to VDU	100% to VDU	2 mg/L from VDU	Total Emissions (lbs/hr)	Total Emissions (tons/hr)
3.9000	1.05	4095	0	4095	82	82	0.04

^{*} Emission Factor from Table 5.2-2 in AP-42 for an Uncleaned Barge previously loaded with a Volatile Liquid

EMISSIONS FROM MARINE LOADING OF GAS/ETH: ALTERNATIVE OPERATING SCENARIC

 Control Device Emission Rate:
 2 mg/L
 equal to:
 0.0167 lbs/1000 gallons

 Loading Rack
 Emission after
 Total

Loading into an Uncleaned Barge:

		Loading Rack	Emission after			Total	
Emission Factor*	Throughput	Emissions	99.9% goes to	99.9% to	2 mg/L	Emissions	Total Emissions
(lb/1000 gal)	(Mmgal)	(lb/yr)	VCU	VCU	from VCU	(lbs)	(tons)
3.9000	299	1,165,671	1,166	1,164,505	4,989	6,154	3.08

^{*} Emission Factor from Table 5.2-2 in AP-42 for an Uncleaned Barge previously loaded with a Volatile Liquid

Max Emissions Per Hour:

25,000 barrels / hr 1,050,000 gal / hr

			0.1% Fugitive				
		Loading Rack	Emission after			Total	
Emission Factor*	Throughput	Emissions	99.9% goes to	99.9% to	2 mg/L	Emissions	Total Emissions
(lb/1000 gal)	(Mmgal)	(lb/hr)	VCU	VCU	from VCU	(lbs/hr)	(tons/hr)
3.9000	1.05	4095	4	4095	18	22	0.01

EMISSIONS FROM MARINE LOADING OF GAS/ETH:

74 Mmgal Throughput: equal to: 10 mg/L 0.0835 lbs/1000 gallons **Control Device Emission Rate:**

Loading into an Uncleaned Barge:

		Loading Rack	0% Remaining			Total	
Emission Factor*	Throughput	Emissions	after 100%		2 mg/L	Emissions	Total Emissions
(lb/1000 gal)	(Mmgal)	(lb/yr)	goes to VDU	100% to VDU	from VDU	(lbs)	(tons)
3.9000	74	287,820	0	287,820	6,159	6,159	3.08

^{*} Emission Factor from Table 5.2-2 in AP-42 for an Uncleaned Barge previously loaded with a Volatile Liquid

Max Emissions Per Hour:

4,000 barrels / hr 168,000 gal/hr

Emission Factor* Throughput Emissions after 100% 2 mg (lb/1000 gal) (Mmgal) (lb/hr) goes to VDU 100% to VDU from V		Total Emissions (tons/hr)
3,9000 0,17 655 0 655 14	` ,	0.01

EMISSIONS FROM MARINE LOADING OF CRUDE OIL:

Throughput: 450 Mmgal

2 mg/L equal to: 0.0167 lbs/1000 gallons **Control Device Emission Rate:**

> Loading Rack 0% Remaining Total **Emission Factor*** Throughput **Emissions** after 100% 100% to 2 mg/L **Emissions Total Emissions** (lb/1000 gal) (Mmgal) (lb/yr) goes to VDU VDU from VDU (lbs) (tons) 1.7996 450 809,804 0 809,804 7,511 7,511 3.76

Max Emissions Per Hour:

25,000 barrels / hr 1,050,000 gal / hr

		Loading Rack	0% Remaining			Total	
Emission Factor	Throughput	Emissions	after 100%	100% to	2 mg/L	Emissions	Total Emissions
(lb/1000 gal)	(Mmgal)	(lb/hr)	goes to VDU	VDU	from VDU	(lbs/hr)	(tons/hr)
1.7996	1.05	1890	0	1890	18	18	0.01

Emission Factor Calculation from AP-42: CL Cg where: Ca

1.80 0.86 0.94

CL = Total loading loss, lb/1,000 gal of crude oil loaded. Ca = Arrival emission factor (from Table 5.2-3),

contributed by vapors in the empty tank Cg Formula Inputs: Vapor Pressure 12.5 (from EPA Tanks 4.09d)

Molecular Weight 50 (from EPA Tanks 4.09d) compartment before loading, lb/1,000 gal of crude oil loaded.

Vapor Growth Factor 1.02 (from AP-42)

Temperature *R 507.37 (from EPA Tanks 4.09d) Cg = Calculated emission factor (from Equation 3),

contributed by evaporation during loading,

lb/1,000 gal loaded.

Loading into an Uncleaned Barge:

^{*} Emission Factor calculated below, per AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I, Section 5.2, Equation 2.

Facility Fugitives

Fugitive VOC Emissions

Ex	isting Cour	nt*		Light	Heavy	Gas				
Light	Heavy	Gas		Factor (lbs/hr)	Factor (lbs/hr)	Factor (lbs/hr)	Lbs/Hr	Lbs/Year	lb/day	tpy
1,297	243	238	Valves	9.48E-05	9.48E-05	2.87E-05	0.15	1.3E+03	3.67	0.67
10	3	2	Pumps	1.19E-03	1.19E-03	1.43E-04	0.02	1.4E+02	0.38	0.07
123	28	58	Other	2.87E-04	2.87E-04	2.65E-04	0.06	5.1E+02	1.41	0.26
5,809	5,809 1,274 879 Flanges Includes Gas Blending Project, Butane Minor Mod. 20		1.76E-05	1.76E-05	9.26E-05	0.21	1.8E+03	4.95	0.90	
*Includes	Gas Blend	ing Project	t, Butane Minor Mod, 2	2012 Crude Project, and	d Truck Rack Min	or Mod	0.43	3797.49	10.40	1.90
Pro	oject Coun	t**		Light	Heavy	Gas				
Light	Heavy	Gas		Factor (lbs/hr)	Factor (lbs/hr)	Factor (lbs/hr)	Lbs/Hr	Lbs/Year	lb/day	tpy
200	28	150	Valves	9.48E-05	9.48E-05	2.87E-05	0.03	2.3E+02	0.62	0.11
27	28	4	Pumps	1.19E-03	1.19E-03	1.43E-04	0.07	5.8E+02	1.59	0.29
10	28	58	Other	2.87E-04	2.87E-04	2.65E-04	0.03	2.3E+02	0.63	0.11
500	28	500	Flanges	1.76E-05	1.76E-05	9.26E-05	0.06	4.9E+02	1.33	0.24
	Current P			1.702 00	1.702 00	0.20L 00	0.17	1522.54	4.17	0.76
		•				•			•	
	Total Coun	t		Light	Heavy	Gas				
Light	Heavy	Gas		Factor (lbs/hr)	Factor (lbs/hr)	Factor (lbs/hr)	Lbs/Hr	Lbs/Year	lb/day	tpy
1,497	271	388	Valves	9.48E-05	9.48E-05	2.87E-05	0.18	1.6E+03	4.29	0.78
37	31	6	Pumps	1.19E-03	1.19E-03	1.43E-04	0.08	7.2E+02	1.96	0.36
133	56	116	Other	2.87E-04	2.87E-04	2.65E-04	0.08	7.4E+02	2.04	0.37
6,309	1,302	1,379	Flanges	1.76E-05	1.76E-05	9.26E-05	0.26	2.3E+03	6.29	1.15
							0.61	5320.04	14.58	2.66
			Light Liguid	Light Liguid	Heavy Liquid	Heavy Liquid	Gas	Gas	Total	Total
			Fraction	Lbs/Year	Fraction	Lbs/Year	Fraction	Lbs/Year	Lbs/Year	tpy
Total VOC)		100.00%	2937.65	100.00%	890.08	100.00%	1492.30	5320.04	2.66
Benz	ene		1.80%	52.88	0.001%	0.01	0.41%	6.05	58.94	0.03
Ethyll	benzene		2.00%	58.75	0.01%	0.12	0.14%	2.05	60.92	0.03
Hexa	ne		12.00%	352.52	N/A	N/A	3.96%	59.10	411.61	0.21
Isooc	tane		4.00%	117.51	N/A	N/A	0.63%	9.34	126.84	0.06
Tolue	ene		7.00%	205.64	0.03%	0.28	0.87%	12.97	218.89	0.11
Xylen	ne (-m)		7.00%	205.64	0.29%	2.58	0.67%	10.05	218.26	0.11
Naph	thalene		N/A	N/A	0.10%	0.89	N/A	N/A	0.89	0.00
Meth	·		N/A	N/A	0.00%	0.00	N/A	N/A	0.00	0.00
Total HAPS		33.80%	992.93	0.44%	3.88	6.67%	99.55	1096.35	0.55	
Non Hap \	VOC		66.20%	1944.73	99.56%	886.21	93.33%	1392.75	4223.68	2.11

NOTE: Based on facility-specific equipment component counts. Emissions calculated per EPA guidance "Protocol for Equipment Leak Emission Estimates" (USEPA, November 1995).

HAP data

	Worst Case	VAPOR FR	ACTION		LIQUID FRACTION (wt%) Worst Case				
HAP	Refined Product	Blending	Distillate	Additive	Refined Product	Blending	Distillate	Additive	
Benzene	0.41%	0.46%	0.2157%	-	1.80%	2.00%	0.0008%	-	
Ethylbenzene	0.14%	0.14%	0.3114%	26.47%	2.00%	2.00%	0.0130%	23.00%	
Hexane	3.96%	3.96%	0.0449%	-	12.00%	12.00%	0.0001%	-	
Isooctane	0.63%	0.63%	-	-	4.00%	4.00%	-	-	
Toluene	0.87%	0.87%	2.3887%	-	7.00%	7.00%	0.0320%	-	
Xylene (-m)	0.67%	0.67%	5.7760%	73.53%	7.00%	7.00%	0.2900%	77.00%	
Naphthalene	0.0516%	0.0516%	0.0516%	-	0.1000%	0.1000%	0.1000%	-	
Methanol*	1.18%	0.00%	1.18%	-	2.00%	0.00%	2.00%	-	

^{*}Biofuels only

					Tank N	umbers				
	117	119	120	121	114	115	118	39	31	32
Tank Diameter (ft)	110	80	80	150	120	150	100	125	125	125
Heel Height (ft)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume (ft3)	38,013	20,106	20,106	70,686	45,239	70,686	31,416	49,087	49,087	49,087
Volume (bbl)	6,771	3,581	3,581	12,590	8,058	12,590	5,596	8,743	8,743	8,743
Volume (gal)	284,377	150,414	150,414	528,800	338,432	528,800	235,022	367,222	367,222	367,222
Volume (liters)	1,076,367	569,318	569,318	2,001,509	1,280,966	2,001,509	889,560	1,389,937	1,389,937	1,389,937
Avg Temp (F) (T)	54.18	54.18	54.18	54.18	54.18	54.18	54.18	54.18	54.18	54.18
Avg Temp (K) (T)	285.47	285.47	285.47	285.47	285.47	285.47	285.47	285.47	285.47	285.47
temp corr	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568	0.9568
Moles	45,978	24,319	24,319	85,496	54,718	85,496	37,998	59,372	59,372	59,372
VP of VOC (psia)	6.62	6.62	6.62	6.62	6.62	6.62	6.62	6.62	3.72	3.72
VOC theo fraction	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.25	0.25
Saturation Factor	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Moles VOC	12,424	6,571	6,571	23,102	14,785	23,102	10,267	16,043	9,024	9,024
Molecular weight (g/g-mole)	61.00	61.00	61.00	61.00	61.00	61.00	50.00	61.00	49.82	49.82
VOC (grams/landing)	757,841	400,841	400,841	1,409,208	901,893	1,409,208	513,373	978,617	449,541	449,541
VOC (lbs/landing)	1,670.73	884	884	3,107	1,988	3,107	1,132	2,157	991	991
Number of Landings per Yr	2	2	2	2	1	2	2	3	2	2
Average Days per Landing	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
VOC (lbs) Filling	3,341	1,767	1,767	6,213	1,988	6,213	2,264	6,472	1,982.10	1,982.10
VOC (lbs) Standing	1,016	537	537	1,889	604	1,889	688	1,968	602.56	602.56
Total VOC (lbs) (Lf + Ls)	4,357	2,305	2,305	8,102	2,593	8,102	2,952	8,440	2,585	2,585
Total VOC (tons)	2.18	1.15	1.15	4.05	1.30	4.05	1.48	4.22	1.29	1.29

^{*}Modeled as Ethanol Only

^{**}Modeled as Crude Oil Only

	Vapor Fraction		lbs/yr									
Total VOC	100.00%	4,357	2,305	2,305	8,102	2,593	8,102	2,952	8,440	2,585	2,585	
Benzene	0.41%	20	11	9	37	12	37	14	34	10	10	
Ethylbenzene	0.14%	6	3	3	11	4	11	4	12	4	4	
Hexane (-n)	3.96%	173	91	91	321	103	321	117	334	102	102	
Iso-octane	0.63%	27	15	15	51	16	51	19	53	16	16	
Toluene	0.87%	38	20	20	70	23	70	26	73	22	22	
Xylene (-m)	0.67%	29	16	16	55	17	55	20	57	17	17	
Naphthalene	0.05%	2	1	1	4	1	4	2	4	1	1	
Methanol	1.18%	51	27	27	96	31	96	35	100	30	30	
Total HAP Species	7.90%	347	183	182	645	206	645	235	667	204	204	
Non Hap VOC	92.10%	4,010	2,121	2,122	7,458	2,386	7,457	2,717	7,773	2,380	2,380	

NOTE: Landing emissions calculated using methodology from API Technical Report 2567 - Evaporative Loss from Storage Tank Floating Roof Landings.

Fuel Combustion Emissions

Exempt Combustion Sources:

Unit ID	Product	Source	Gal/yr (Liquid)	SCF/yr (Gas)	Liters/year (Gas)	MMBTU/yr
NA	Distillate	Furnace	590			-
NA	Natural Gas	Boiler (water bldg)	-			54
NA	Natural Gas	Boiler (garage)	-			22
NA	Natural Gas	Boiler (office)	-			163
NA	Natural Gas	Boiler (line trace)	-			35,040
NA	Natural Gas	Boiler (tanks)	-			52,560
NA	Natural Gas	Furnace	-			120
NA	Natural Gas	Boiler (lube bldg)	-			86,724
NA	Natural Gas	Boiler (lube bldg)	-			86,724
NA	Natural Gas	Boiler (lube bldg)	-			86,724
NA	Natural Gas	Boiler (lube bldg)	-			86,724

Non-Exempt Combustion Sources:

VCUML/VCUM2/VCURR* Natural Gas VDU –	- 200,000
--------------------------------------	-----------

^{*}Includes natural gas used as assist gas for both marine VCUs (VCUML and VCUM2) and the rail VCU (VCURR)

Distillate Combustion Emissions:

Combustion Emissions										
Pollutant	PM	SOx	NOx	VOC	CO	CH4	N2O	CO2	GHG**	
Emission Factor - lb/1000 gal*	2.00	52.54	20.00	0.20	5.00	0.22	0.26	2.2E+04	(CH4*25)+(N2O*298)+(CO2*1)	
lb/yr	1.18	31.00	11.80	0.12	2.95	0.13	0.15	13157.00	13,205.90	
tons/yr	0.00	0.02	0.01	0.00	0.00	0.00	0.00	6.58	6.60	

^{*} Emission factors used to estimate emissions are from AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I. SOx, Nox, CO, and PM

** GHG Emission calculated by using the CO2 Equivalency Factor for CO2 (1) and CO (3.7).

Example calculation (using SOx):

- = gal/yr / 1000 gal * Emission Factor
- = 590 gal/yr / 1000 gal * 52.54 lb/1000 gal (SOx)
- = 31.00 lb/yr

Natural Gas Combustion Emissions*:

	Combustion Emissions											
Pollutant	PM	SOx	NOx	VOC	CO	CH4	N2O	CO2	GHG***			
Emission Factor - Ib / MM BTU**	0.0075	0.00059	0.098	0.0054	0.082	0.002	0.002	117.647	(CH4*25)+(N2O*298)+(CO2*1)			
lb/yr	4,730.29	373.44	62,240.69	3,423.24	52,282.18	1,431.54	1,369.30	74,688,823.53	75,132,661.86			
tons/yr	2.37	0.19	31.12	1.71	26.14	0.72	0.68	37,344.41	37,566.33			

^{*}Total emissions from natural gas combustion include emissions from the combustion of natural gas in furnaces and boilers and emissions from the combustion of natural gas used as assist gas in the VCUs.

* 0.00059 lb / MM BTU

Example Calculation (using SOx):

= Total Natural Gas Used * Emission Factor

= Total Natural Gas Used (634,855) MMBTU/yr

= 458 lb/yr

VCU Vapor Combustion Emissions

(Emissions from Combustion of Petroleum Product Loaded)

Petroleum Vapor Combusted (lbs):

3,716,777 Total

1,439,100 at VCUML (gasoline and ethanol loading) (See Marine Loading - Gas & Eth Calculations.)

809,804 at VCUM2 (crude loading) (See Marine Loading - Crude Oil Calculations.)

1,467,873 at VCURR (gasoline loading) (See Rail Loading - Gas & Eth Calculations.)

Conversion from Petroleum Vapor Combusted in lbs to MMSCF (as Natural Gas Equivalent):

MMSCF (as Natural Gas) = Petroleum Vapor Combusted (lbs) * (21,000 BTUs / lb gasoline (high avg. for C4-C8 gases)(/ (1000 BTU/SCF) / (1,000,000)

MMSCF (as Natural Gas) combusted at VCUML = 37

MMSCF (as Natural Gas) combusted at VCUM2 = 51

MMSCF (as Natural Gas) combusted at VCURR = 31

Emission Factors are from Table 1.3-1. VOC Emission Factor is from Table 1.3-3. CO2 Emission Factor is from Table 1.3-12.

^{**} Emission factors used to estimate emissions are from AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I, Tables 1.4-1, 1.4-2, and 1.4-3, except for GHG

^{***} GHG Emission calculated by using the CO2 Equivalency Factor for CO2 (1) and CO (3.7).

Marine VCU Emissions from Gasoline & Ethanol Loading (Emission Unit VCUML):

		Combustion Emissions									
Pollutant	PM	PM10	SOx	NOx	VOC*	CH4	CO	CO2	GHG		
Emission Factor - lbs / MM SCF**	7.60	7.60	197.47	150.00	NA	2.30	84.00	120,000.00	(CH4*25)+(N2O*298)+(CO2*1)		
lb/yr	229.68	229.68	5,967.82	4,533.17	NA	69.51	2,538.57	3,626,532.00	4,384,764.29		
tons/yr	0.11	0.11	2.98	2.27	NA	0.03	1.27	1,813.27	2,192.38		

Marine VCU Emissions from Crude Oil Loading (Emission Unit VCUM2):

		Combustion Emissions									
Pollutant	PM	PM10	SOx	NOx	VOC*	CH4	CO	CO2	GHG		
Emission Factor - lbs / MM SCF**	7.60	7.60	197.47	150.00	NA	2.30	84.00	120,000.00	(CH4*25)+(N2O*298)+(CO2*1)		
lb/yr	129.24	129.24	3,358.19	2,550.88	NA	39.11	1,428.49	2,040,706.95	2,467,376.25		
tons/yr	0.06	0.06	1.68	1.28	NA	0.02	0.71	1,020.35	1,233.69		

Rail VCU Emissions from Gasoline & Ethanol Loading (Emission Unit VCURR):

		Combustion Emissions									
Pollutant	PM	PM10	SOx	NOx	VOC*	CH4	CO	CO2	GHG		
Emission Factor - lbs / MM SCF**	7.60	7.60	197.47	150.00	NA	2.30	84.00	120,000.00	(CH4*25)+(N2O*298)+(CO2*1)		
lb/yr	234.27	234.27	6,087.14	4,623.80	NA	70.90	2,589.33	3,699,039.96			
tons/yr	0.12	0.12	3.04	2.31	NA	0.04	1.29	1,849.52	2,236.22		

^{*} These emissions are from gasoline and crude oil vapor combustion and pilot light gas. Gasoline and crude oil VOCs are already accounted for in the VCU emissions (i.e. 2 mg/l loaded or 98% efficiency).

Example calculation of SOx Emission Factor:

SOx Emission Factor = $y_{H2S} * (1/C) * M_{SO2} * MW_{SO2}$

(Equation from EPA Emission Inventory Improvement Program (EIIP) Document Volume 3, Ch.10: Preferred & Alternative Methods for Estimating Air Emissions from Oil and Gas Field Production & Procesing Operations, Sept. 1999, Pg 10.2-16.)

y_{H2S, crude oil} = 0.001 (mole fraction of H2S in inlet gas (lb mole H2S/ lb mole) based on 10 ppm H2S liquid concentration)
C = 379.00 (molar volume of ideal gas at 60F and 1atm (scf/lb-mole))
M = 0.99 (molar conversion ratio from H2S to SO2 (lb-mole SO2/lb-mole H2S) (From VCU Manufacturer))

MW = 64.066 (molecular weight of SO2 (lb SO2/lb-mole SO2))

EF_{SOX,crude oil} = 197.47 lb/ MMSCF

Total of Combustion Sources

Pollutant	PM	PM10	SOx	NOx	VOC	CH4	CO	CO2	GHG
lb/yr	5,324.67	997.64	77,665.64	15,131.20	52,285.13	1,611.18	7,925.84	84,068,259.44	86,470,440.46
tons/yr	2.66	0.50	38.83	7.57	26.14	0.81	3.96	42,034.13	43,235.22

^{**} PM Emission Factor is from AP-42 (Table 1.4-2), as it is higher than the Emission Factor from the VCU manufacturer of zero (0). SOx Emission Factor is calculated as described below. NOx Emission Factor is from VCU manufacturer, as it is higher than the AP-42 Emission factor of 140 lbs/MMSCF (Table 1.4-1). CO Emission Factors is identical from VCU manufacturer and AP-42 (Table 1.4-1). GHG Emission calculated by using the CO2 Equivalency Factor for CO2 (1) and CO (3.7).

Emergency Generators (Exempt)

Emergency Generator Sources:

Fuel Type	Source	Gal/hr (Liquid)	SCF/hr (Gas)	Gal/hr (Gas)	MMBTU/hr*
Propane	QT100 Generator	13.9			1.26
Propane	QT100 Generator	13.9			1.26
Natural Gas	20kw NG Generator		1,020		1.02
Diesel	500kw	26.1			
Diesel	350kw	18.5			
Diesel	350kw	18.5			

^{*}Generac Spec Sheet states, "For BTU content multiply gal/hr x 90950 (LP) or ft3/hr x 1000 (NG)."

Distillate Fired Engine Emissions:

		Pollutant											
Pollutant	PM	SOx	NOx	VOC	CO	CH4	N2O	CO2	GHG**				
Factor - lb/1000 gal*	2.00	52.54	20.00	0.20	5.00	0.22	0.26	2.2E+04	(CH4*25)+(N2O*298)+(CO2*1)				
lb/yr	63.10	1,657.64	631.00	6.31	157.75	6.81	8.20	703,565.00	706,179.86				
tons/yr	0.03	0.83	0.32	0.00	0.08	0.00	0.00	351.78	353.09				

^{*} Emission factors used to estimate emissions are from AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I. SOx, Nox, CO, and

Example calculation:

Natural Gas & Propane Fired Engine Emissions:

		lbs Pollutant / MM BTU											
Pollutant	PM	SOx	NOx	VOC	CO	CH4	N2O	CO2	GHG**				
Factor*	0.0099	0.0006	2.270	0.0296	3.720	0.230	0.2	110.0	(CH4*25)+(N2O*298)+(CO2*1)				
lb/yr	17.58	1.04	4,027.45	52.52	6,600.04	408.07	408.07	195,162.55	326,968.24				
tons/yr	0.01	0.00	2.01	0.03	3.30	0.20	0.20	97.58	163.48				

^{*} Emission factors used to estimate emissions are from AP-42 Table 3.2-3.

Example Calculation of Natural Gas Useage

= Natural Gas Used

1,774 MMBTU/yr

= Natural Gas Used * Emission factor

Total of Generator Sources

Pollutant	PM	SOx	NOx	VOC	CO	CH4	N2O	CO2	GHG
lb/yr	80.68	1,658.68	4,658.45	58.83	6,757.79	414.88	416.27	898,727.55	1,033,148.10
tons/yr	0.04	0.83	2.33	0.03	3.38	0.21	0.21	449.36	516.57

PM Emission Factors are from Table 1.3-1. VOC Emission Factor is from Table 1.3-3. CO2 Emission Factor is from Table 1.3-12.

^{**} GHG Emission calculated by using the CO2 Equivalency Factors for CH4 (25), N2O (298) and CO2 (1)

⁼ gal/yr / 1000 gal * emission factor

^{**} GHG Emission calculated by using the CO2 Equivalency Factors for CH4 (25), N2O (298) and CO2 (1)

H2S Calculations

H2S Calculations

H2S Liquid Conc. (ppm) 10

H2S Vapor Fraction 0.00118 (from EPA TANKS 4.09d)

VCUM2 VOC Emissions 3.76 tpy (from Load-Marine tab of PTE)

Facility Fugitives (light liquid) 2937.65 lbs/yr (from Facility Fugitives tab of PTE) IFR Tank Emissions (inc. landings) 147021.84 lbs/yr (from Emission Summary tab of PTE)

Point Sources

	Emission Rate (tpy)
Emission Unit	(VCUM2 Emissions x H2S Vapor Fraction)
VCUM2	0.004

Volume Sources (Tanks)

	Emission Rate (tpy)
Emission Unit	(IFR Tank Emissions x H2S Vapor Fraction)
TANKS	0.087

Area Sources (Fugitives)

Emission Unit	Emission Rate (tpy)
Facility Fugitives	0.002

Total H2S Emissions (tpy)

0.093

Note: Hydrogen sulfide is the most prevalent of the total reduced sulfurs, and therefore all TRS is assumed to be H2S.

Estimate of Particulate Matter (PM-2.5) Emissions

Paved Roads - Emission Factor Derived from AP-42: 13.2.1 (01/11) (accounts for resuspended road material

Eext = $[k (sL)^{0.91} x (W)^{1.02}] (1 - P/4N)$

Where:

= Annual size specific emission factor extrapolated for natural mitigation (lb/VMT) = PM-2.5 multiplier (lb/VMT) = 0.00054 lb/VMT (Table 13.2-1.1)

sL* = Road Surface Silt Loading (g/m^2) = 1.1 g/m^2 (Table 13.2.1-3)

W = Mean Vechicle Weight (tons)

P = Number of precipitation days per year (>0.01 in precipitation) = 138 days (Albany, NY data)

N = Number of days in the averaging period = 365 days (Annual Average)

Paved Roads - Emission Factor Derived Using EPA MOVES Model (includes vehicle exhaust, brake wear, and tire wear

Assumptions Used in Model:

k

Scale: National (utilizes data from EPA databases)

Year Selected: 2013
Months Selected: All Months
Hours Selected: All Hours
Time Aggregation Level: Hourly
Geographic Bounds: Albany County

Vehicle Selected: Combination long-haul truck

Fuel Selected: Diesel Fuel

Road Type: Urban, Restricted Access

Emissions Accounted for: Running exhaust, crankcase running exhaust, brake wear, tire wear

Calculation of Number of Tanker Trucks at Facility Per Day

10,500.00 gallons =storage capacity of each truck

373,192,668.00 gallons =throughput of product at the truck rack in 2013

35,542.16 trucks per year =trucks entering the facility in 2013 (product loaded at the truck rack/storage capacity of each truck

35,543 trucks per year

97.38 trucks per day =trucks entering the facility each day (trucks per year/365)

98 trucks per day

Calculation of Average Tanker Truck Weight

80000 pounds =loaded weight of smaller tanker trucks used (information obtained from terminal)
102000 pounds =loaded weight of larger tanker trucks used (information obtained from terminal)

91000 pounds =average weight of truck travelling through terminal (conservatively assume that half of the trucks are the larger trucks,

conservatively assume that trucks are at their loaded weight when entering and exiting the facility)

45.5 tons =average weight of truck traveling through terminal

Road Length - Paved Roads

18550 inches =length of paved road traveled by trucks, determined using facility site plan

1545.83 feet =length of paved road traveled by trucks 0.29 miles =length of paved road traveled by trucks

^{*}Given the industrial processes listed in Table 13.2.1-3, operations at a terminal were determined to be closest to those at a corn wet mill. Therefore, the silt

Estimate of Particulate Matter (PM-2.5) Emissions

Paved Roads - Emission Factors Derived from AP-42: 13.2.1 (01/11) and EPA MOVES Model

Tanker Trucks (TT):

98 Tanker trucks per day ===> Average weight = 45.5 tons 45.5 tons

98

Length of Paved Roads:

L(TT) =0.29 miles Length of paved road tanker trucks travel on one way.

Emission Factors:

E(TT) =0.026 lb/VMT Emission Factor derived from AP-42, Volume 1, Fifth Edition, Section 13.2.1 (January 2011)

E(EPA MOVES) = 4.09216E-06 lb/VMT Average hourly emission factor resulting from MOVES run

Emission Factor (total) = 0.026 lb/VMT Sum of AP-42 and EPA MOVES Emission Factors

Estimate of Particulate Matter (PM-2.5) Emissions:

Tanker Truck: Trips/day 1 ways

E(TT) =0.75 lb PM-2.5/day

TOTAL = 0.75 lb PM-2.5/day

> 0.14 tons PM-2.5/year

Unpaved Roads - Emission Factors Derived from AP-42: 13.2.2 (11/06)

Where:

= Annual size specific emission factor extrapolated for natural mitigation (lb/VMT)

s* = Surface material silt content (%) = 4.3 (Table 13.2.2-1)

W = Mean Vehicle Weight (tons)

k = 0.15 lb/VMT (Table 13.2.2-2) a = 0.9 (Table 13.2.2-2)

b = **0.45** (Table 13.2.2-2)

P = Number of precipitation days per year (>0.01 in percipitation) = 138 days (Albany, NY data)

Estimated Number of Trucks at Facility Per Day

5 trucks per day assume one maintenance crew on site each day with one truck entering and exiting the facility approximately

five times each day

Average Truck Weight

5000 lbs average weight of a light duty pickup truck (maintenance truck)

2.5 tons

Road Length - Unpaved Roads

1500 feet estimated distance driven by each maintenance truck on each trip through the terminal

0.28 miles

^{*}The unpaved road at the terminal was determined to have a silt content most similar to a service road. The silt content given for a taconite

Estimate of Particulate Matter (PM-2.5) Emissions

Unpaved Roads - Emission Factors Derived from AP-42: 13.2.1 (11/06)

Maintenance Trucks (MT):

5 Maintenance Trucks per day ===> Average weight = 2.5 tons
5 2.5 tons

Length of Unpaved Roads:

L(MT) = 0.28 miles Length of unpaved road maintenance trucks travel on one way.

Emission Factors:

E(MT) = 0.034 lb/VMT

Estimate of Particulate Matter (PM-2.5) Emissions:

Maintenance Truck: 5 Trips/day 1 ways

E(MT) = 0.05 lb PM-2.5/day

TOTAL = 0.05 lb PM-2.5/day

0.01 tons PM-2.5/year

Estimate of Particulate Matter (PM-2.5) Emissions

Total PM-2.5 Emissions:

0.14 tons/year total PM-2.5 emissions from tanker trucks traveling on paved roads

0.01 tons/year total PM-2.5 emissions from maintenance vehicles traveling on unpaved roads

0.15 tons/year total fugitive PM-2.5 emissions from facility roads

Estimate of Particulate Matter (PM-10) Emissions

Paved Roads - Emission Factor Derived from AP-42: 13.2.1 (01/11) (accounts for resuspended road material)

Eext = $[k (sL)^{0.91} x (W)^{1.02}] (1 - P/4N)$

Where:

= Annual size specific emission factor extrapolated for natural mitigation (lb/VMT)

k = PM-10 multiplier (lb/VMT) = 0.0022 lb/VMT (Table 13.2-1.1)

 \mathbf{sL}^* = Road Surface Silt Loading (g/m²) = **1.1** g/m² (Table 13.2.1-3)

W = Mean Vechicle Weight (tons)

P = Number of precipitation days per year (>0.01 in precipitation) = 138 days (Albany, NY data)

N = Number of days in the averaging period = 365 days (Annual Average)

Paved Roads - Emission Factor Derived Using EPA MOVES Model (includes vehicle exhaust, brake wear, and tire wear)

Assumptions Used in Model:

Scale: National (utilizes data from EPA databases)

Year Selected: 2013
Months Selected: All Months
Hours Selected: All Hours
Time Aggregation Level: Hourly
Geographic Bounds: Albany County

Vehicle Selected: Combination long-haul truck

Fuel Selected: Diesel Fuel

Road Type: Urban, Restricted Access

Emissions Accounted for: Running exhaust, crankcase running exhaust, brake wear, tire wear

Calculation of Number of Tanker Trucks at Facility Per Day

10,500.00 gallons =storage capacity of each truck

373,192,668.00 gallons =throughput of product at the truck rack in 2013

35,542.16 trucks per year =trucks entering the facility in 2013 (product loaded at the truck rack/storage capacity of each truck)

35,543 trucks per year

97.38 trucks per day =trucks entering the facility each day (trucks per year/365)

98 trucks per day

Calculation of Average Tanker Truck Weight

80000 pounds =loaded weight of smaller tanker trucks used (information obtained from terminal)
102000 pounds =loaded weight of larger tanker trucks used (information obtained from terminal)

91000 pounds =average weight of truck travelling through terminal (conservatively assume that half of the trucks are the larger trucks,

conservatively assume that trucks are at their loaded weight when entering and exiting)

45.5 tons =average weight of truck traveling through terminal

Road Length - Paved Roads

18550 inches =length of paved road traveled by trucks, determined using facility site plan

1545.83 feet =length of paved road traveled by trucks
0.29 miles =length of paved road traveled by trucks

^{*}Given the industrial processes listed in Table 13.2.1-3, operations at a terminal were determined to be closest to those at a corn wet mill. Therefore, the silt

Estimate of Particulate Matter (PM-10) Emissions

Paved Roads - Emission Factors Derived from AP-42: 13.2.1 (01/11) and EPA MOVES Model

Tanker Trucks (TT):

98 Tanker trucks per day ===> Average weight = 45.5 tons

98 45.5 tons

Length of Paved Roads:

L(TT) = 0.29 miles Length of paved road tanker trucks travel on one way.

Emission Factors:

E(TT) = 0.107 lb/VMT Emission Factor derived from AP-42

E(EPA MOVES) = 5.507E-06 lb/VMT Average hourly emission factor resulting from MOVES run

Emission Factor (total) = 0.107 lb/VMT Sum of AP-42 and EPA MOVES Emission Factors

Estimate of Particulate Matter (PM-10) Emissions:

Tanker Truck: 98 Trips/day 1 ways

E(TT) = 3.06 lb PM-10/day

TOTAL = 3.06 lb PM-10/day

0.56 tons PM-10/year

Unpaved Roads - Emission Factors Derived from AP-42: 13.2.2 (11/06)

Where:

= Annual size specific emission factor extrapolated for natural mitigation (lb/VMT)

s = Surface material silt content for MSW Lanfills (%) = 4.3 (Table 13.2.2-1)

W = Mean Vehicle Weight

k = 1.5 lb/VMT (Table 13.2.2-2) a = 0.9 (Table 13.2.2-2) b = 0.45 (Table 13.2.2-2)

P = Number of precipitation days per year (>0.01 in percipitation) = 138 days (Albany, NY data)

Estimated Number of Trucks at Facility Per Day

5 trucks per day assume one maintenance crew on site each day with one truck entering and exiting the facility approximately

five times each day

Average Truck Weight

5000 lbs average weight of a light duty pickup truck (maintenance truck)

2.5 tons

Road Length - Unpaved Roads

1500 feet estimated distance driven by each maintenance truck on each trip through the terminal

0.28 miles

^{*}The unpaved road at the terminal was determined to have a silt content most similar to a service road. The silt content given for a taconite

Estimate of Particulate Matter (PM-10) Emissions

Unpaved Roads - Emission Factors Derived from AP-42: 13.2.1 (11/06)

Maintenance Trucks (MT):

5	Maintenance Trucks per day	===>	Average weight =	2.5	tons
5				2.5	tons

Length of Unpaved Roads:

L(MT) = 0.28 miles Length of unpaved road maintenance trucks travel on one way.

Emission Factors:

E(MT) = 0.341 lb/VMT

Estimate of Particulate Matter (PM-10) Emissions:

Maintenance Truck: 5 Trips/day 1 ways

E(MT) = 0.48 lb PM-10/day

TOTAL = 0.48 lb PM-10/day

0.09 tons PM-10/year

Estimate of Particulate Matter (PM-10) Emissions

Total PM-10 Emissions:

0.56 tons/year total PM-10 emissions from tanker trucks traveling on paved roads
0.09 tons/year total PM-10 emissions from maintenance vehicles traveling on unpaved roads

0.65 tons/year total fugitive PM-10 emissions from facility roads

TANK EMISSION CALCULATION
(Note - Cells in pink are input cells. All other cells are calculated cells.)

		(Note - Cells	in pink are input cells. All other	er cens are calculated c	elis.)			
Tank No. 117		Tank type	Internal Floating Roof		Date			
Material stored Gasoline (Average RVP 13)		Company	Global		Performed by		Nicole Browe	r
City Albany		State	NY					
Description Aboveground Storage Tank								
INPUT DATA					CALCULATIONS			
			Units			Symbo		Units
	Symbo		<u>Units</u>		q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR		lb-mole/ft*yr
Molecular Weight					ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft
Molecular weight	Mν	62	Lb/lb-mole		ependent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data					ent wind speed at tank site; if IFR use Zerc	V		mph
Shell height	Hs	48.00			ind speed exponent; see Table 7.1-8	n	1.6	
Diameter	D	110.00			e function; see Figure 7.1-19	P*	0.13	
Tank volume		2,743,229	gallons	Tank diameter		D	110.00	
Turnovers	N	58.38			molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput	Q	160,152,189		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
Number of fixed roof support columns	Nc	0.00	NA 0	APOLITIC STREET	(F. 0.40 LWD 1/(0.040)00 WII VDW14 (N. F. 17)		074	0.7
Effective column diameter; 1.1, 0.7, or 1.0	Fc	1.10	π		(Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/D)])	LW	274.59	
Deck seam loss per unit seam length factor; 0.0 or 0.14	KD-		lb-mole/ft-yr	Annual through		Q C-	3,813,147	
Zero wind speed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		factor; see Table 7.1-10	Cs		bbl/1,000 ft2
Wind speed dependent LR factor; see Table 7.1-8	KRb	0.3			nic liquid density	WL	5.60	
Average ambient wind speed at tank site; if IFR use Zerc Seal-related wind speed exponent; see Table 7.1-8	v	1.6	mph	Tank diameter Constant		0.943	110.00	ft 1,000 ft3*gal/bbl2
	II D*				d f			
Vapor pressure function; see Figure 7.1-19		0.126			d roof support columns	Nc	0.00 1.10	
Shell clingage factor; see Table 7.1-10	Cs WL		bbl/1,000 ft2	Effective colun	nn diameter; 1.1, 0.7, or 1.0	Fc	1.10	π
Average organic liquid density Deck seam length factor; Length of Seam / Area of Deck	SD	5.60 0.20		Dook Fitting Loope	s (Eq.2-13: LF = FF P*MvKc)	LF	476.83	lb/ur
Average Reid Vapor Pressure	RVP	13.00	IVILZ		ng loss factor; see Eq. 2-14	FF		lb-mole/yr
Stock ASTM-D86 Distillation Slope at 10vol% evaporation (*F/vol%)	RVP	3.00			e function; see Figure 7.1-19	FF D*	0.13	
Stock ASTNI-Doo distillation Slope at Tovor // evaporation (17/01///)	3	3.00			molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Equation 1-25 PvA = exp(A-(B/TLA))	PvA	5.8026			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
Equation 1-201 VX = exp(x-(B/12/V))	1 4/1	0.0020		1 Toddet Idetor,	, 0.4 for crade one of 1 for other organic liquids	110	1.00	TV/
Eg from Fig 7.1-15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.644		Deck Seam Losses	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	2.648.38	lh/vr
Eg from Fig 7.1-15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	5.043.6			ss per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
		2,2.2.2			ngth factor; Length of Seam / Area of Deck	SD	0.20	
TLA = 0.4*TAA + 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter		D	110.00	
Average daily ambient temperature (Equation 1-30)	TAA	508.2			e function; see Figure 7.1-19	P*	0.13	
Liquid bulk temperature (Equation 1-31)	TB	509.1	*R	Average vapor	molecular weight; see Note 1 to Equation 1-21	Μv	62.00	lb/lb-mole
Tank paint solar absorptance, dimensionless, Table 7.1-6	α	0.3		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
Daily total solar insolation on a horizontal surface, Btu/(ft2 day)	1	1180.0			•			
Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eq.2-	-1 & 2-2: LT = LR+LW+LF+LD)	LT	4,775.58	lb/yr
TAA = ((TAX+TAN)/2)	TAA	508.20						
average daily maximum ambient temperature, Table 7.1-2	TAX	517.10						
average daily minimum ambient temperature, Table 7.1-2	TAN	499.30	*R					
Liquid Bulk Temperature; Eq 1-31: TB = TAA + 0.003 αs I	TB	509.09	*R	_				
Total deck fitting loss factor using Equation 2-14; see Eq. 2-6								
		Loss Factor						
Quanity of Each Fitting:	Qty	Kf 1.0	Source	_				
Access Hatch (Bolted/Gasketed)	2		Table 7.1-12	_				
Automatic Gauge Hatch (Bolted/Gasketed)	0		Table 7.1-12	_				
Column Well (Built-Up; Gasketed Sliding Cover)	0		Table 7.1-12 Table 7.1-12					
Sample Pipe/Well (Slit Fabric Seal 10% Open) Stub Drain (Slit Fabric Seal 10% Open)	23		Table 7.1-12 Table 7.1-12	_				
			Fg.2-7 & Table 7.1-12					
Vacuum Breaker (Weighted Mech. Actu.; Gasketed) Slotted Guide-Pole (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12 Eq.2-7 & Table 7.1-12					
Legs	0		Table 7.1-12	-				
Ladder	0		Table 7.1-12					
Ladder / Guide-Pole Combination	0		Table 7.1-12					
2000 F Calco F	- 0	30.0	10001.1-12					

Total deck fitting loss factor:

Notes:

1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

61.00 Eq. 2-6

TANK EMISSION CALCULATION
(Note - Cells in pink are input cells. All other cells are calculated cells.)

Tank No.	118		Tank type	Internal Floating Roof		Date		03/19/20	
Material stored	Gasoline (Average RVP 13)		Company	Global		Performed by		Nicole Browe	r
City	Albany		State	NY					
Description	Aboveground Storage Tank								
	INPUT DATA					CALCULATIONS			
				Units			Symbol		Units
		Symbo	<u> </u>	<u>Units</u>		q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR		lb-mole/ft*yr
Molecular Weight				L		ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft
Molecular weight		Mν	62	Lb/lb-mole		ependent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data			40.00			ent wind speed at tank site; if IFR use Zero	V		mph
Shell height		Hs	48.00	0		ind speed exponent; see Table 7.1-8	n D*	1.6	
Diameter		D	100.00			e function; see Figure 7.1-19	Ρ'	0.13	NA n
Tank volume Turnovers		N	2,220,637 58.38	galions	Tank diameter		Μv	100.00	π lb/lb-mole
Throughput		O	129,642,796			0.4 for crude oils or 1 for other organic liquids	Kc		NA
		۷.	0.00		Product factor	0.4 for crude oils or 1 for other organic liquids	NC	1.00	NA
	diameter; 1.1, 0.7, or 1.0	Nc Fc	1.10	NA #	Withdrawal looses	(Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/	TI VA/	244.51	lb/ur
	per unit seam length factor; 0.0 or 0.14	KD		Ib-mole/ft-yr	Annual throug			3,086,733	
		KRa		lb-mole/(mph)nft*yr		factor; see Table 7.1-10	Cs		bbl/1.000 ft2
	endent LR factor; see Table 7.1-8	KRb	0.3			ic liquid density	WL		lb/gal
	t wind speed at tank site; if IFR use Zerc	IXIXD		mph	Tank diameter		D.	100.00	fi fi
	d speed exponent; see Table 7.1-8	n	1.6		Constant		0.943		1,000 ft3*gal/bbl2
	function; see Figure 7.1-19	P*	0.126			ed roof support columns	Nc	0.00	
		Cs		bbl/1,000 ft2		nn diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic		WL		lb/gal	Ellocato colai	an diamotor, 1.1, 0.7, or 1.0		1.10	
		SD	0.20		Deck Fitting Losse	s (Eq.2-13: LF = FF P*MvKc)	LF	4,968.44	lb/vr
Average Reid Va		RVP	13.00			ng loss factor; see Eq. 2-14	FF		lb-mole/yr
		S	3.00			e function; see Figure 7.1-19	P*	0.13	
	(molecular weight; see Note 1 to Equation 1-21	Mν		lb/lb-mole
Equation 1-25 Pv	vA = exp(A-(B/TLA))	PvA	5.8026			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
,	1, , , , ,					,			
Eg from Fig 7.1-	15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.644		Deck Seam Losses	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	2,188.74	lb/yr
		В	5,043.6			s per unit seam length factor; 0.0 or 0.14	KD	0.14	lb-mole/ft-yr
					Deck seam ler	ngth factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2
TLA = 0.4*TAA +	+ 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter		D	100.00	ft
Average daily an	nbient temperature (Equation 1-30)	TAA	508.2	*R	Vapor pressur	e function; see Figure 7.1-19	P*	0.13	NA
Liquid bulk temp	erature (Equation 1-31)	TB	509.1	*R	Average vapor	molecular weight; see Note 1 to Equation 1-21	Mν	62.00	lb/lb-mole
Tank paint solar	absorptance, dimensionless, Table 7.1-6	α	0.3		Product factor	0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
Daily total solar i	insolation on a horizontal surface, Btu/(ft2 day)		1180.0						
	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eq.2	1 & 2-2: LT = LR+LW+LF+LD)	LT	8,652.40	lb/yr
	-								
TAA = ((TAX+TA		TAA	508.20						
	aximum ambient temperature, Table 7.1-2	TAX	517.10						
average daily mi	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R					
		TB	509.09	*R					
Total deck fitting	loss factor using Equation 2-14; see Eq. 2-6								
L			Loss Factor	_					
Quanity of Each		Qty	Kf 1.0	Source					
Access Hatch (B		2		Table 7.1-12					
	e Hatch (Bolted/Gasketed)	0		Table 7.1-12					
	uilt-Up; Gasketed Sliding Cover)	0		Table 7.1-12					
	ell (Slit Fabric Seal 10% Open)	1		Table 7.1-12					
	Fabric Seal 10% Open)	80		Table 7.1-12					
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12					
	ole (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12					
Legs Ladder		58 0		Table 7.1-12 Table 7.1-12	—				
	Pole Combination	1		Table 7.1-12	 				
Ladder / Guide-F	Fole Combination	1	0.00	1 dule 1.1-12					

Total deck fitting loss factor:

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	I 1119		Tank type	Internal Floating Roof		Date	-	03/19/20	1
Material stored	Gasoline (Average RVP 13)		Company	Global		Performed by	-	Nicole Browe	r
City	Albany		State	NY		i criorinea by		THEORE DIOWE	
Description	Aboveground Storage Tank		Sidle	lie i		-			
	INPUT DATA				1	CALCULATIONS			
l	INFOI DAIA			Units		ONE OF THE PARTY O	Symbol		Units
					-		o y		00
		Symbo		Units	Rim Soal Lossos (F	q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	1 000 57	lb-mole/ft*yr
Molecular Weight		Syllibo	1	Units		ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*
Molecular weight		Mν	62	Lb/lb-mole		ependent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data		1010		EB/ID-IIIOIC		ent wind speed at tank site; if IFR use Zero	v		mph
Shell height		Hs	48.00			ind speed exponent; see Table 7.1-8	n		NA
Diameter		D	80.00	ft		e function; see Figure 7.1-19	P*	0.13	
Tank volume			1,434,161	gallons	Tank diameter		n i	80.00	ft
Turnovers		N	58.38	galloris		molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput		Q	83.727.616	gal/yr		0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
	roof support columns	Nc	0.00		i roddot idotor,	0.4 for crude one or 1 for other organic liquids	110	1.00	100
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses	(Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/	/II W	197.39	lh/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		0	1.993.515	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*vr		factor; see Table 7.1-10	Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb		NA		ic liquid density	WL		lb/gal
	t wind speed at tank site; if IFR use Zerc	V		mph	Tank diameter		D.	80.00	ft
	d speed exponent; see Table 7.1-8	n		NA .	Constant		0.943		1,000 ft3*gal/bbl2
	unction; see Figure 7.1-19	P*	0.126			d roof support columns	Nc	0.00	
		Cs		bbl/1,000 ft2		nn diameter; 1.1, 0.7, or 1.0	Fc	1.10	
Average organic		WL	5.60	lb/gal	Lilcotive coluit	in didirect, 1.1, 0.7, or 1.0	10	1.10	it.
	h factor; Length of Seam / Area of Deck	SD		ft/ft2	Deck Fitting Losses	s (Eq.2-13: LF = FF P*MvKc)	LF	3,586.72	lh/vr
Average Reid Va		RVP	13.00	10162		ng loss factor; see Eq. 2-14	FF		lb-mole/yr
	5 Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00			e function; see Figure 7.1-19	P*	0.13	
Olddic / IO / III Doc	Blockmation diopo at 10101/0 oraporation (17101/0)		5.55			molecular weight; see Note 1 to Equation 1-21	Μv		lb/lb-mole
Equation 1-25 Pv	$A = \exp(A - (B/TLA))$	PvA	5.8026			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
							1		
Ea from Fig 7.1-1	15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.644		Deck Seam Losses	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	1,400.79	lb/vr
	15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	5.043.6			s per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
			-,,,,,,,,,			igth factor; Length of Seam / Area of Deck	SD		ft/ft2
TI A = 0.4*TAA +	- 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter		D	80.00	
	nbient temperature (Equation 1-30)	TAA	508.2			e function; see Figure 7.1-19	P*	0.13	
	erature (Equation 1-31)	ТВ	509.1			molecular weight; see Note 1 to Equation 1-21	Mν	62.00	lb/lb-mole
	absorptance, dimensionless, Table 7.1-6	α	0.3			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
	nsolation on a horizontal surface, Btu/(ft2 day)	Ī	1180.0				1		
, , , , , , , , , , , , , , , , , , , ,	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eg.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	6,185.47	lb/vr
	, , , , , , , , , , , , , , , , ,				, ,	,			,
TAA = ((TAX+TA	(N)/2)	TAA	508.20	*R					
		TAX	517.10		1				
	nimum ambient temperature, Table 7.1-2	TAN	499.30						
	•			İ					
Liquid Bulk Temp	perature; Eq 1-31: TB = TAA + 0.003 as I	ТВ	509.09	*R					
	loss factor using Equation 2-14; see Eq. 2-6			İ					
	- ' '		Loss Factor	İ	_				
Quanity of Each	Fitting:	Qty	Kf	Source	_				
Access Hatch (B		2	1.6	Table 7.1-12	_				
	e Hatch (Bolted/Gasketed)	0		Table 7.1-12	_				
	illt-Up; Gasketed Sliding Cover)	0	33.0	Table 7.1-12	_				
	Il (Slit Fabric Seal 10% Open)	1		Table 7.1-12	_				
Stub Drain (Slit F	abric Seal 10% Open)	51	1.2	Table 7.1-12	_				
	(Weighted Mech. Actu.; Gasketed)	- 1		Eq.2-7 & Table 7.1-12	_				
	ole (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12	_				
Legs	, , , , , , , , , , , , , , , , , , , ,	40		Table 7.1-12	_				
Ladder		0		Table 7.1-12	_				
Ladder / Guide-F	Pole Combination	1		Table 7.1-12	_				
			,		_				
	Total deck fitting loss factor:		458.84	Eq. 2-6	_				
				i .					
<u> </u>				•					

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No. 120		Tank type	Internal Floating Roof	Date		03/19/20	
Material stored Gasoline (Average RVP 13)		Company	Global	Performed by		Nicole Brower	
City Albany		State	NY				
Description Aboveground Storage Tank							
INPUT DATA				CALCULATIONS			
			Units		Symbo	bol Unit	
	Symbo	l	<u>Units</u>	Rim Seal Losses (Eq.2-3: LR = (KRa + KRb v^n)DP* Mv Kc	LR	1,000.57	lb-mole/ft*yr
Molecular Weight				Zero wind speed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft
Molecular weight	Mv	62	Lb/lb-mole	Wind speed dependent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data				Average ambient wind speed at tank site; if IFR use Zen	V		mph
Shell height	Hs	48.00		Seal-related wind speed exponent; see Table 7.1-	n	1.6	
Diameter	D	80.00		Vapor pressure function; see Figure 7.1-1!	P*	0.13	NA
Tank volume		1,430,858	gallons	Tank diameter	D	80.00	
Turnovers	N Q	58.38	16	Average vapor molecular weight; see Note 1 to Equation 1-2		1.00	lb/lb-mole
Throughput		83,534,784 0.00		Product factor; 0.4 for crude oils or 1 for other organic liquid	NC	1.00	NA
Number of fixed roof support columns	Nc	1.10		Withdrawal leases (Eq. 2.40; I WD=[//0.042\0CeWi \/D]t[4+/Net	1 14/	196.93	lb/ur
Effective column diameter; 1.1, 0.7, or 1.0 Deck seam loss per unit seam length factor; 0.0 or 0.14	Fc KD		π lb-mole/ft-yr	Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcF Annual throughpu	_ VV	1,988,923	
Zero wind speed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr	Shell clingage factor; see Table 7.1-10	Cs		bbl/1,000 ft2
Wind speed LR factor; see Table 7.1-8	KRb	0.3		Average organic liquid density	WL	5.60	
Average ambient wind speed at tank site; if IFR use Zeri	v		mph	Tank diameter	D	80.00	
Seal-related wind speed exponent; see Table 7.1-	n	1.6		Constant	0.943		1,000 ft3*gal/bbl
Vapor pressure function; see Eq. 2-4	P*	0.126		Number of fixed roof support columns	Nc	0.00	
Shell clingage factor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective column diameter; 1.1, 0.7, or 1.0	Fc	1.10	
Average organic liquid density	WL		lb/gal		i -		
Deck seam length factor; Length of Seam / Area of Deck	SD	0.20		Deck Fitting Losses (Eq.2-13: LF = FF P*MvKc	LF	3,586.72	lb/yr
Average Reid Vapor Pressure	RVP	13.00		Total deck fitting loss factor; see Eq. 2-14	FF		lb-mole/yr
Stock ASTM-D86 Distillation Slope at 10vol% evaporation (*F/vol%	S	3.00		Vapor pressure function; see Figure 7.1-1!	P*	0.13	NA
				Average vapor molecular weight; see Note 1 to Equation 1-2	Μv	62.00	lb/lb-mole
Equation 1-25 PvA = exp(A-(B/TLA))	PvA	5.8026		Product factor; 0.4 for crude oils or 1 for other organic liquid	Kc	1.00	NA
Eq from Fig 7.1-15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP	Α	11.644		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc)	LD	1,400.79	
Eq from Fig 7.1-15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	5,043.6		Deck seam loss per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
				Deck seam length factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2
TLA = 0.4 *TAA + 0.6 *TB + 0.005 * α *I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter	D	80.00	tt
Average daily ambient temperature (Equation 1-30	TAA	508.2		Vapor pressure function; see Figure 7.1-1!	P*	0.13	
Liquid bulk temperature (Equation 1-31	TB	509.1	*R	Average vapor molecular weight; see Note 1 to Equation 1-2			lb/lb-mole
Tank paint solar absorptance, dimensionless, Table 7.1- Daily total solar insolation on a horizontal surface, Btu/(ft2 da)	α	0.3 1180.0		Product factor; 0.4 for crude oils or 1 for other organic liquid	Kc	1.00	NA
Average Daily Liquid Surface Temperature	-	50.5	*E	Total Losses (Eq.2-1 & 2-2: LT = LR+LW+LF+LD)	LT	6,185.02	lh/ur
Average Daily Liquid Suriace Temperature	 	50.5	1	10tal 203363 (Eq.2-1 & 2-2. E1 - ERTEWTEFTED)	 - '	0,100.02	io, yi
TAA = ((TAX+TAN)/2)	TAA	508.20	*R			<u> </u>	
average daily maximum ambient temperature, Table 7.1-2	TAX	517.10		┨			
average daily minimum ambient temperature, Table 7.1-2	TAN	499.30		╡			
g,mun umbion temperature, rubie 1.11		.00.00	**	_			
Liquid Bulk Temperature; Eq 1-31: TB = TAA + 0.003 αs	ТВ	509.09	*R	7			
Total deck fitting loss factor using Equation 2-14; see Eq. 2-				1			
<u> </u>		ĺ		7			
		Loss Factor		7			
Quanity of Each Fitting:	Qty	<u>Kf</u>	Source	3			
Access Hatch (Bolted/Gasketed)	2		Table 7.1-12				
Automatic Gauge Hatch (Bolted/Gasketed)	0		Table 7.1-12				
Column Well (Built-Up; Gasketed Sliding Cover	0		Table 7.1-12	_			
Sample Pipe/Well (Slit Fabric Seal 10% Open)	1		Table 7.1-12				
Stub Drain (Slit Fabric Seal 10% Open	51		Table 7.1-12	_			
Vacuum Breaker (Weighted Mech. Actu.; Gasketed	1		Eq.2-7 & Table 7.1-12	4			
Slotted Guide-Pole (Gasketed Sliding Cover w Sleeve/Wiper	0		Eq.2-7 & Table 7.1-12	╡			
Legs	40		Table 7.1-12	╡			
Ladder Cuida Pala Combination	0		Table 7.1-12	╡			
Ladder / Guide-Pole Combinatior	1	60.0	Table 7.1-12	╡			
Total deck fitting loss factor	-	458 94	Eq. 2-6	Ⅎ			
L	1	400.04	-4 7	┨			
	1	·		₫			

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	404		Tonk time	Internal Floating Boof		Date		02/10/20	
Tank No. Material stored	121		Tank type	Internal Floating Roof Global				03/19/20	
	Gasoline (Average RVP 13)		Company			renormea by		Nicole Browe	r
City Description	Albany Aboveground Storage Tank		State	NY					
Description	INPUT DATA				1	CALCULATIONS			
	INPUT DATA	1		Units	-	CALCULATIONS	Symbol		Units
				Onits			Symbol		Ullits
		Svmbo		I I - i i -	Dim Coal Lagons (E.	g.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	1 976 06	lb-mole/ft*yr
Molecular Weight		Symbo		<u>Units</u>		ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*
Molecular weight		Mv	62	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data		IVIV	02	LD/ID-ITIOIE		nt wind speed at tank site; if IFR use Zerc	KKU		mph
Shell height		Hs	48.00			nd speed exponent; see Table 7.1-8	v n	1.6	
Diameter		ПЪ	150.00	#		function; see Figure 7.1-19	D*	0.13	
Tank volume		U	5,105,286	gollong	Tank diameter	runction, see Figure 7.1-19	г D	150.00	NA 4
Turnovers		NI	58.38	galloris		molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput		Q	298,051,213	gol/sr		0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
		Nc	0.00		Froduct factor,	0.4 for crude oils of 1 for other organic liquids	NU	1.00	INA
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal loccoc (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/	II W	374.75	lh/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		0	7.096.457	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		factor; see Table 7.1-10	Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb	0.3		Average organi		WL		lb/gal
	wind speed at tank site; if IFR use Zerc	V		mph	Tank diameter	io iiquiu ucrisity	D.	150.00	
	d speed exponent; see Table 7.1-8	n	1.6		Constant		0.943		1,000 ft3*gal/bbl2
	unction; see Figure 7.1-19	P*	0.126			d roof support columns	Nc	0.00	
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2		n diameter; 1.1, 0.7, or 1.0	Fc	1.10	
Average organic		WL		lb/gal	Lifective coluin	in diameter, 1.1, 0.7, or 1.0	10	1.10	ıı
	h factor; Length of Seam / Area of Deck	SD	0.20		Dock Fitting Lossos	(Eq.2-13: LF = FF P*MvKc)	LF	8,137.43	lh/vr
Average Reid Va		RVP	13.00	10162		g loss factor; see Eq. 2-14	FF.		lb-mole/yr
	5 Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00				P*	0.13	
Olock AOTH-Boo	Bistiliation Glope at 1000/3 evaporation (1700/3)	0	0.00				Mv		lb/lb-mole
Equation 1-25 Pv	$A = \exp(A-(B/TLA))$	PvA	5.8026			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
Equation 1 20 1 1	on one (or terry)		0.0020		1 Toddot Idotol;	o. The stade one of The outer organic inquide	110	1.00	
Ea from Fig 7 1-1	15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.644		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc)		LD	4,924.67	lh/vr
	15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	5,043.6				KD		lb-mole/ft-yr
			2,010.0				SD	0.20	
TLA = 0.4*TAA +	0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter	g	D	150.00	
	bient temperature (Equation 1-30)	TAA	508.2			function; see Figure 7.1-19	P*	0.13	
	erature (Equation 1-31)	ТВ	509.1			molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
	absorptance, dimensionless, Table 7.1-6	α	0.3			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
	nsolation on a horizontal surface, Btu/(ft2 day)	1	1180.0						
,	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eg.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	15,312.91	lb/vr
	, , ,					,			
TAA = ((TAX+TA	N)/2)	TAA	508.20	*R					•
average daily ma	ximum ambient temperature, Table 7.1-2	TAX	517.10	*R	1				
	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R	1				
					-				
Liquid Bulk Temp	perature; Eq 1-31: TB = TAA + 0.003 αs I	TB	509.09	*R	1				
Total deck fitting I	loss factor using Equation 2-14; see Eq. 2-6				_				
			Loss Factor		_				
Quanity of Each		Qty	<u>Kf</u>	Source	_				
Access Hatch (Bo		2		Table 7.1-12	_				
	e Hatch (Bolted/Gasketed)	1		Table 7.1-12	<u>-</u>				
	ilt-Up; Gasketed Sliding Cover)	0		Table 7.1-12	- 				
	II (Slit Fabric Seal 10% Open)	1		Table 7.1-12	-				
	abric Seal 10% Open)	60		Table 7.1-12					
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12	_				
	le (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12	_				
Legs		112		Table 7.1-12	_				
Ladder		0		Table 7.1-12	_				
Ladder / Guide-P	ole Combination	1	60.0	Table 7.1-12	_				
					_				
	Total deck fitting loss factor:		1,041.00	Eq. 2-6	-				
]				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	144.4	-	Tank tuna	Internal Floating Boof		Date		03/40/20	1
Tank No. Material stored	114 Gasoline (Average RVP 13)		Tank type	Internal Floating Roof Global				03/19/20	
			Company			генонпеа ву		Nicole Browe	
City Description	Albany Aboveground Storage Tank		State	NY					
Description	INPUT DATA				1	CALCULATIONS			
 	INPUT DATA			Units	-	CALCULATIONS	Symbol		Units
-				Units	-		Symbol		Uiiila
		C b		11-24-	Dim Coal Lagons (E.	g.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	1 500 95	lb-mole/ft*yr
Molecular Weight		Symbo		<u>Units</u>		ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*
Molecular weight		Μv	62	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data		IVIV	02	LD/ID-ITIOIE		nt wind speed at tank site; if IFR use Zerc	KKU		mph
Shell height		Hs	48.00			nd speed exponent; see Table 7.1-8	v n	1.6	
Diameter		ПЪ	120.00	#		function; see Figure 7.1-19	D*	0.13	
Tank volume		U	3,787,905	anliana	Tank diameter	runction, see Figure 7.1-19	г D	120.00	NA 4
Turnovers		N	58.38	galloris		molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput		Q	221,141,319	gol/sr		0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
		Nc	0.00		Froduct factor,	0.4 for crude oils of 1 for other organic liquids	NU	1.00	INA
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal loccoc (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/	II W	347.56	lb/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		0	5.265.270	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		factor; see Table 7.1-10	Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb	0.3		Average organi		WL		lb/gal
	wind speed at tank site; if IFR use Zerc	V		mph	Tank diameter	io iiquiu ucrisity	D.	120.00	ft ft
	I speed exponent; see Table 7.1-8	n	1.6		Constant		0.943		1,000 ft3*gal/bbl2
	unction; see Figure 7.1-19	P*	0.126			d roof support columns	Nc	0.00	
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2		n diameter; 1.1, 0.7, or 1.0	Fc	1.10	#
Average organic		WL		lb/gal	Lifective coluin	in diameter, 1.1, 0.7, or 1.0	10	1.10	ıı
	h factor; Length of Seam / Area of Deck	SD	0.20		Dock Fitting Lossos	(Eq.2-13: LF = FF P*MvKc)	LF	1,341.70	lh/vr
Average Reid Va		RVP	13.00	10162		g loss factor; see Eq. 2-14	FF.		lb-mole/yr
	5 Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00				P*	0.13	
Olock ACTIVI Doc	Distillation clope at 1000/30 evaporation (1700/30)	0	0.00				Mv		lb/lb-mole
Equation 1-25 Pv	$A = \exp(A - (B/TLA))$	PvA	5.8026			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
Equation 1 20 1 1	or orphic (or to ti)	, .	0.0020		1 Toddot Idotol;	o. The stade one of The outer organic inquide	110	1.00	
Fa from Fig 7 1-1	5: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.644		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc)		LD	3,151.79	lh/vr
	5: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	5.043.6				KD		lb-mole/ft-yr
			-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			gth factor; Length of Seam / Area of Deck	SD	0.20	
TLA = 0.4*TAA +	0.6*TB + 0.005*a*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter	g	D	120.00	
	bient temperature (Equation 1-30)	TAA	508.2			function; see Figure 7.1-19	P*	0.13	
	erature (Equation 1-31)	ТВ	509.1			molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
	absorptance, dimensionless, Table 7.1-6	α	0.3			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
	nsolation on a horizontal surface, Btu/(ft2 day)	Ī	1180.0				1		
, , , , , , , , , , , , , , , , , , , ,	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eg.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	6,341.90	lb/vr
						,			
TAA = ((TAX+TA	N)/2)	TAA	508.20	*R					
average daily ma	ximum ambient temperature, Table 7.1-2	TAX	517.10	*R	1				
	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R	1				
	•				-11				
Liquid Bulk Temp	perature; Eq 1-31: TB = TAA + 0.003 αs I	ТВ	509.09	*R	T				
	oss factor using Equation 2-14; see Eq. 2-6				4				
			Loss Factor		=				
Quanity of Each	Fitting:	Qty	Kf	Source	=				
Access Hatch (Bo		2	1.6	Table 7.1-12	=				
	Hatch (Bolted/Gasketed)	0		Table 7.1-12	=				
	ilt-Up; Gasketed Sliding Cover)	0	33.0	Table 7.1-12	=				
Sample Pipe/Wel	II (Slit Fabric Seal 10% Open)	2	12.0	Table 7.1-12	-				
Stub Drain (Slit F	abric Seal 10% Open)	115	1.2	Table 7.1-12					
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12	_				
	le (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12	=				
Legs	. ,	0		Table 7.1-12	=				
Ladder		0		Table 7.1-12	=				
Ladder / Guide-P	ole Combination	0	60.0	Table 7.1-12	=				
					=				
	Total deck fitting loss factor:		171.64	Eq. 2-6	_				
					1				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

k No.	115		Tank type	Internal Floating Roof		Date		03/19/20		
erial stored	Gasoline (Average RVP 13)		Company	Global		Performed by		Nicole Browe	r	
	Albany		State	NY						
cription	Aboveground Storage Tank									
	INPUT DATA		1	Units		CALCULATIONS	Symbol		Units	
				Units			Syllibol		UIIIIS	
		Symbol		Units	Dim Cool Loopes (E	g.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	4 976 06	lb-mole/ft*vr	
ecular Weigh		Syllibo		Offits		ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)	
olecular weigh		Mv	62	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb	0.3		
k design data		1010	02	Eb/ID-IIIOIC		ent wind speed at tank site; if IFR use Zero	V		mph	
nell height		Hs	48.00			nd speed exponent; see Table 7.1-8	n		NA	
ameter		D	150.00	ft		e function; see Figure 7.1-19	P*	0.13		
nk volume			5,642,527	gallons	Tank diameter		D	150.00	ft	
irnovers		N	58.38		Average vapor	molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole	
roughput		Q	329,415,828		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA	
	i roof support columns	Nc	0.00							
	n diameter; 1.1, 0.7, or 1.0	Fc	1.10			[Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc		414.19		
	s per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		Q	7,843,234		
	d LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		factor; see Table 7.1-10	Cs		bbl/1,000 ft2	
	pendent LR factor; see Table 7.1-8	KRb	0.3			ic liquid density	WL		lb/gal	
	nt wind speed at tank site; if IFR use Zero	V		mph	Tank diameter Constant		0.943	150.00	1,000 ft3*gal/b	
	nd speed exponent; see Table 7.1-8	n D*	1.6 0.126			d roof ournort columns		0.94		
	function; see Figure 7.1-19 actor; see Table 7.1-10	Cs		bbl/1,000 ft2		d roof support columns in diameter; 1.1, 0.7, or 1.0	Nc Fc	1.10		
	c liquid density	WL		Ib/gal	Ellective coluit	in diameter, 1.1, 0.7, or 1.0	FC	1.10	IL	
ork seem lend	gth factor; Length of Seam / Area of Deck	SD		ft/ft2	Deck Fitting Losses	s (Eq.2-13: LF = FF P*MvKc)	LF	1,949.54	lh/vr	
	/apor Pressure	RVP	13.00	10102	Total deck fitting	ig loss factor; see Eq. 2-14	FF	249.40	lb-mole/yr	
	36 Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00			e function; see Figure 7.1-19	P*	0.13		
001(71011111111111111111111111111111111	So Biolination Crops at 1010170 Oraporation (1710170)	Ü	0.00			molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole	
quation 1-25 F	PvA = exp(A-(B/TLA))	PvA	5.8026			0.4 for crude oils or 1 for other organic liquids		1.00		
	-15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.644			(Eq.2-18: LD = KDSDD2P*MvKc)	LD	4,924.67		
from Fig 7.1	-15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	5,043.6			s per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	
						gth factor; Length of Seam / Area of Deck	SD	0.20		
	+ 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter		D	150.00		
	mbient temperature (Equation 1-30)	TAA	508.2			function; see Figure 7.1-19	P*	0.13		
	perature (Equation 1-31)	TB	509.1			molecular weight; see Note 1 to Equation 1-21			lb/lb-mole	
	r absorptance, dimensionless, Table 7.1-6 insolation on a horizontal surface. Btu/(ft2 day)	α	0.3 1180.0		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA	
ally total solar	Average Daily Liquid Surface Temperature:	1	50.5	*E	Total Lossos (Eg.2	1 & 2-2: LT = LR+LW+LF+LD)	LT	9,164.46	lb/vr	
	Average Daily Elquid Surface Temperature.		30.3		Total Losses (Lq.2-	1 & 2-2. LT = LK+LW+LT+LD)		3,104.40	IU/yi	
AA = ((TAX+T	AN)/2)	TAA	508.20	*R			<u> </u>		1	
	naximum ambient temperature, Table 7.1-2	TAX	517.10							
	ninimum ambient temperature, Table 7.1-2	TAN	499.30							
J j	p. s. s. s. s. s. s. s. s. s. s. s. s. s.				ш					
	nperature; Eq 1-31: TB = TAA + 0.003 αs I	TB	509.09	*R						
ıl deck fitting	loss factor using Equation 2-14; see Eq. 2-6									
			Loss Factor							
uanity of Eac		Qtv	Kf	Source						
	Bolted/Gasketed)	2		Table 7.1-12						
	ge Hatch (Bolted/Gasketed)	0		Table 7.1-12						
oiumn Well (B	tuilt-Up; Gasketed Sliding Cover) fell (Slit Fabric Seal 10% Open)	2		Table 7.1-12						
	ell (Slit Fabric Seal 10% Open) Fabric Seal 10% Open)			Table 7.1-12 Table 7.1-12						
	Fabric Sear 10% Open) er (Weighted Mech. Actu.; Gasketed)	180		Eq.2-7 & Table 7.1-12						
	Pole (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12						
egs	ore (Gashered Ghalling Gover w Greever wilper)	0		Table 7.1-12						
ıdder		0		Table 7.1-12						
	Pole Combination	0		Table 7.1-12						
	Total deck fitting loss factor:		249.40	Eq. 2-6						
										
otes:										

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions

Tank No.	31		Tank type	Internal Floating Roof	Date	03/19/20	
Material stored	Gasoline (Average RVP 13)		Company	Global	Performed by	Nicole Browe	r
City	Albany			NY	renormed by	NICOLE DIOWE	#I
Description	Aboveground Storage Tank		State	NI .			
Description	INPUT DATA				CALCULATIONS		
	INI OI DAIA			Units	Symi	ol	Units
				0			00
		Svmbo		Units	Rim Seal Losses (Eq.2-3: LR = (KRa + KRb v^n)DP* Mv Kc) LR	3 224 48	lb-mole/ft*vr
Molecular Weight		CYIIIDO		Onits	Zero wind speed LR factor; see Table 7.1-8 KRa		lb-mole/(mph)n
Molecular weight		Mv	62	Lb/lb-mole	Wind speed dependent LR factor; see Table 7.1-8 KRb		NA
Tank design data			-	Ebrib Mole	Average ambient wind speed at tank site: if IFR use Zero v		mph
Shell height		Hs	45.00		Seal-related wind speed exponent; see Table 7.1-8		NA
Diameter		D	125.00	ft	Vapor pressure function; see Figure 7.1-19 P*	0.13	
Tank volume			3,801,825		Tank diameter D	125.00	
Turnovers		N	58.38		Average vapor molecular weight; see Note 1 to Equation 1-21 Mv	62.00	lb/lb-mole
Throughput		Q	221,953,981	gal/vr	Product factor; 0.4 for crude oils or 1 for other organic liquids Kc	1.00	
Number of fixed	roof support columns	Nc	10.00	NA			
	diameter: 1.1. 0.7. or 1.0	Fc	1.10		Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/LW	364.35	lb/vr
Deck seam loss	per unit seam length factor; 0.0 or 0.14	KD	0.14	lb-mole/ft-yr	Annual throughput Q	5,284,619	bbl/vr
	LR factor; see Table 7.1-8	KRa		Ib-mole/(mph)nft*yr	Shell clingage factor; see Table 7.1-10 Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb	0.1		Average organic liquid density WL		lb/gal
	t wind speed at tank site; if IFR use Zero	V		mph	Tank diameter D	125.00	
	d speed exponent; see Table 7.1-8	n	3.0		Constant 0.9		1,000 ft3*gal/bb
	function; see Figure 7.1-19	P*	0.126	NA	Number of fixed roof support columns Nc	10.00	
	ictor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective column diameter; 1.1, 0.7, or 1.0 Fc	1.10	
Average organic		WL		lb/gal			
	th factor; Length of Seam / Area of Deck	SD	0.20		Deck Fitting Losses (Eq.2-13: LF = FF P*MvKc) LF	4,013.21	lb/yr
Average Reid Va	apor Pressure	RVP	13.00		Total deck fitting loss factor; see Eq. 2-14 FF	513.40	lb-mole/yr
Stock ASTM-D86	6 Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00		Vapor pressure function; see Figure 7.1-19 P*	0.13	NA
	. , ,				Average vapor molecular weight; see Note 1 to Equation 1-21 Mv	62.00	lb/lb-mole
Equation 1-25 Pv	vA = exp(A-(B/TLA))	PvA	5.8026		Product factor; 0.4 for crude oils or 1 for other organic liquids Kc	1.00	NA
	15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.644		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc) LD	3,419.91	
Eq from Fig 7.1-1	15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	5,043.6		Deck seam loss per unit seam length factor; 0.0 or 0.14 KD		lb-mole/ft-yr
					Deck seam length factor; Length of Seam / Area of Deck SD		ft/ft2
	+ 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter D	125.00	
	nbient temperature (Equation 1-30)	TAA	508.2		Vapor pressure function; see Figure 7.1-19 P*	0.13	
	erature (Equation 1-31)	TB	509.1	*R	Average vapor molecular weight; see Note 1 to Equation 1-21 Mv		lb/lb-mole
	absorptance, dimensionless, Table 7.1-6	α	0.3		Product factor; 0.4 for crude oils or 1 for other organic liquids Kc	1.00	NA
Daily total solar is	insolation on a horizontal surface, Btu/(ft2 day)	I	1180.0				
	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eq.2-1 & 2-2: LT = LR+LW+LF+LD) LT	11,021.96	lb/yr
TAA = ((TAX+TA		TAA	508.20				
	aximum ambient temperature, Table 7.1-2	TAX	517.10				
average daily mir	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R			
	perature; Eq 1-31: TB = TAA + 0.003 αs I	TB	509.09	*R			
Total deck fitting	loss factor using Equation 2-14; see Eq. 2-6						
0	- Flatter		Loss Factor	0			
Quanity of Each		Qtv	<u>Kf</u>	Source			
Access Hatch (B		2		Table 7.1-12			
	e Hatch (Bolted/Gasketed)	0		Table 7.1-12			
	uilt-Up; Gasketed Sliding Cover)	10		Table 7.1-12	<u></u>		
	ell (Slit Fabric Seal 10% Open)	2		Table 7.1-12			
	Fabric Seal 10% Open)	125		Table 7.1-12			
	r (Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12			
	ole (Gasketed Sliding Cover w Sleeve/Wiper)	0	8.3	Eq.2-7 & Table 7.1-12	<u></u>		
Legs Ladder		0		Table 7.1-12 Table 7.1-12			
	Only Combination	0			<u></u>		
Ladder / Guide-F	Pole Compination	0	60.0	Table 7.1-12			
	T-t-1 d1.500		540.10	F- 00			
ļ	Total deck fitting loss factor:		513.40	Eq. 2-6			
1					<u></u>		
·							
Notes:							

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions

Tank No.	32			Internal Floating Roof	Date	03/19/20	
Material stored	Gasoline (Average RVP 13)			Global	Performed by	Nicole Browe	er
City	Albany		State	NY			
Description	Aboveground Storage Tank			•			
	INPUT DATA				CALCULATIONS		
				Units	Syn	nbol	Units
·							
		Symbo	<u>!</u>	Units	Rim Seal Losses (Eq.2-3: LR = (KRa + KRb v^n)DP* Mv Kc) LR		lb-mole/ft*yr
Molecular Weight					Zero wind speed LR factor; see Table 7.1-8 KRa		lb-mole/(mph)nf
Molecular weight		Mν	62	Lb/lb-mole	Wind speed dependent LR factor; see Table 7.1-8 KRt		NA
Tank design data					Average ambient wind speed at tank site; if IFR use Zero v		mph
Shell height		Hs	45.00		Seal-related wind speed exponent; see Table 7.1-8 n		NA
Diameter		D	125.00		Vapor pressure function; see Figure 7.1-19 P*	0.13	
Tank volume			3,801,825		Tank diameter D	125.00	
Turnovers		N	58.38		Average vapor molecular weight; see Note 1 to Equation 1-21 Mv		lb/lb-mole
Throughput		Q	221,953,981		Product factor; 0.4 for crude oils or 1 for other organic liquids Kc	1.00	NA
	roof support columns	Nc	10.00				
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/LW	364.35	
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual throughput Q	5,284,619	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr	Shell clingage factor; see Table 7.1-10 Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb		NA	Average organic liquid density WL		lb/gal
	t wind speed at tank site; if IFR use Zero	V		mph	Tank diameter D	125.00	
	d speed exponent; see Table 7.1-8	n		NA			1,000 ft3*gal/bb
	unction; see Figure 7.1-19	P*	0.126		Number of fixed roof support columns Nc	10.00	
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective column diameter; 1.1, 0.7, or 1.0 Fc	1.10	ft
Average organic	liquid density	WL		lb/gal			
Deck seam lengt	h factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2	Deck Fitting Losses (Eq.2-13: LF = FF P*MvKc) LF	4,013.21	
Average Reid Va		RVP	13.00		Total deck fitting loss factor; see Eq. 2-14 FF		lb-mole/yr
Stock ASTM-D86	3 Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00		Vapor pressure function; see Figure 7.1-19 P*	0.13	
					Average vapor molecular weight; see Note 1 to Equation 1-21 Mv		lb/lb-mole
Equation 1-25 Pv	/A = exp(A-(B/TLA))	PvA	5.8026		Product factor; 0.4 for crude oils or 1 for other organic liquids Kc	1.00	NA
	15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.644		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc) LD	3,419.91	
Eq from Fig 7.1-1	15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	5,043.6		Deck seam loss per unit seam length factor; 0.0 or 0.14 KD		lb-mole/ft-yr
L					Deck seam length factor; Length of Seam / Area of Deck SD		ft/ft2
	- 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter D	125.00	
	nbient temperature (Equation 1-30)	TAA	508.2		Vapor pressure function; see Figure 7.1-19 P*	0.13	
	erature (Equation 1-31)	TB	509.1		Average vapor molecular weight; see Note 1 to Equation 1-21 Mv		lb/lb-mole
	absorptance, dimensionless, Table 7.1-6	α	0.3		Product factor; 0.4 for crude oils or 1 for other organic liquids Kc	1.00	NA
Daily total solar in	nsolation on a horizontal surface, Btu/(ft2 day)	I	1180.0				
L	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eq.2-1 & 2-2: LT = LR+LW+LF+LD) LT	11,021.96	lb/yr
L							
TAA = ((TAX+TA		TAA	508.20				
	aximum ambient temperature, Table 7.1-2	TAX	517.10				
average daily mir	nimum ambient temperature, Table 7.1-2	TAN	499.30	^K			
			#05				
	perature; Eq 1-31: TB = TAA + 0.003 αs I	TB	509.09	^K			
lotal deck fitting	loss factor using Equation 2-14; see Eq. 2-6		l		<u></u>		
			Loss Factor		<u></u>		
Quanity of Each		Qtv	Kf	Source	<u></u>		
Access Hatch (Bo		2		Table 7.1-12	<u></u>		
	e Hatch (Bolted/Gasketed)	0		Table 7.1-12	<u></u>		
	ilt-Up; Gasketed Sliding Cover)	10		Table 7.1-12	<u></u>		
	II (Slit Fabric Seal 10% Open)	2		Table 7.1-12			
	abric Seal 10% Open)	125		Table 7.1-12	<u></u>		
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12	<u>—</u>		
	ole (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12	<u></u>		
Legs		0		Table 7.1-12	<u></u>		
		0		Table 7.1-12	<u></u>		
Ladder	role Compination	0	60.0	Table 7.1-12	<u></u>		
Ladder / Guide-P							
	Total deck fitting loss factor:		513.40	Eq. 2-6			
			513.40	Eq. 2-6			
			513.40	Eq. 2-6			

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions

Tank No. 39		Tank type	Internal Floating Roof	Date	03/19/20	
Material stored Gasoline (Average RVP 13)		Company	Global	Performed by	Nicole Browe	er
City Albany		State	NY			
Description Aboveground Storage Tank			•			
INPUT DATA				CALCULATIONS		
			Units	Sym	bol	Units
	Symbo	<u>) </u>	Units	Rim Seal Losses (Eq.2-3: LR = (KRa + KRb v^n)DP* Mv Kc) LR		lb-mole/ft*yr
Molecular Weight				Zero wind speed LR factor; see Table 7.1-8 KRa	3.3	lb-mole/(mph)nf
Molecular weight	Mν	62	Lb/lb-mole	Wind speed dependent LR factor; see Table 7.1-8 KRb		NA
Tank design data				Average ambient wind speed at tank site; if IFR use Zero v		mph
Shell height	Hs	45.00		Seal-related wind speed exponent; see Table 7.1-8 n		NA
Diameter	D	125.00	ft	Vapor pressure function; see Figure 7.1-19 P*	0.13	
Tank volume		3,073,373	gallons	Tank diameter D	125.00	ft
Turnovers	N	58.38		Average vapor molecular weight; see Note 1 to Equation 1-21 Mv		lb/lb-mole
Throughput	Q	179,426,294	gal/yr	Product factor; 0.4 for crude oils or 1 for other organic liquids Kc	1.00	NA
Number of fixed roof support columns	Nc	0.00	NA			
Effective column diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft	Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/LW	270.72	lb/yr
Deck seam loss per unit seam length factor; 0.0 or 0.14	KD	0.14	lb-mole/ft-yr	Annual throughput Q	4,272,055	bbl/yr
Zero wind speed LR factor; see Table 7.1-8	KRa	3.3	lb-mole/(mph)nft*yr	Shell clingage factor; see Table 7.1-10 Cs	0.0015	bbl/1,000 ft2
Wind speed dependent LR factor; see Table 7.1-8	KRb		NA	Average organic liquid density WL	5.60	lb/gal
Average ambient wind speed at tank site; if IFR use Zero	V	0.0	mph	Tank diameter D	125.00	ft
Seal-related wind speed exponent; see Table 7.1-8	n		NA	Constant 0.9		1,000 ft3*gal/bb
Vapor pressure function; see Figure 7.1-19	P*	0.126	NA	Number of fixed roof support columns Nc	0.00	
Shell clingage factor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective column diameter; 1.1, 0.7, or 1.0 Fc	1.10	
Average organic liquid density	WL		lb/gal			
Deck seam length factor; Length of Seam / Area of Deck	SD		ft/ft2	Deck Fitting Losses (Eq.2-13: LF = FF P*MvKc) LF	1,433.63	lb/vr
Average Reid Vapor Pressure	RVP	13.00	10102	Total deck fitting loss factor; see Eq. 2-14 FF		lb-mole/yr
Stock ASTM-D86 Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00		Vapor pressure function; see Figure 7.1-19 P*	0.13	
Older File Time Book Blockmarion Grope at Total A Graph allon (1710/70)		0.00		Average vapor molecular weight; see Note 1 to Equation 1-21 Mv		lb/lb-mole
Equation 1-25 PvA = exp(A-(B/TLA))	PvA	5.8026		Product factor; 0.4 for crude oils or 1 for other organic liquids Kc	1.00	
Equation 1201 VI Oxplit (E1121))		0.0020		Troduction, c. Flor drade one of Front original inquide The	1.00	
Eg from Fig 7.1-15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.644		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc) LD	3,419.91	lh/vr
Eg from Fig 7.1-15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	B	5.043.6		Deck seam loss per unit seam length factor; 0.0 or 0.14 KD		lb-mole/ft-yr
		0,0.0.0		Deck seam length factor; Length of Seam / Area of Deck SD		ft/ft2
TLA = 0.4*TAA + 0.6*TB + 0.005*a*l (Ean. 1-28)	TLA	510.21	*R	Tank diameter D	125.00	
Average daily ambient temperature (Equation 1-30)	TAA	508.2		Vapor pressure function; see Figure 7.1-19 P*	0.13	
Liquid bulk temperature (Equation 1-31)	TB	509.1		Average vapor molecular weight; see Note 1 to Equation 1-21 Mv		lb/lb-mole
Tank paint solar absorptance, dimensionless, Table 7.1-6	α	0.3		Product factor; 0.4 for crude oils or 1 for other organic liquids Kc	1.00	
Daily total solar insolation on a horizontal surface. Btu/(ft2 day)	Ť	1180.0				
Average Daily Liquid Surface Temperature:		50.5		Total Losses (Eq.2-1 & 2-2: LT = LR+LW+LF+LD) LT	8,348.74	lb/vr
					-,	
TAA = ((TAX+TAN)/2)	TAA	508.20	*R			
average daily maximum ambient temperature, Table 7.1-2	TAX	517.10	*R			
average daily minimum ambient temperature, Table 7.1-2	TAN	499.30				
• , ,						
Liquid Bulk Temperature; Eq 1-31: TB = TAA + 0.003 as I	TB	509.09	*R			
Total deck fitting loss factor using Equation 2-14; see Eq. 2-6						
, ,		Loss Factor				
Quanity of Each Fitting:	Qtv	Kf	Source			
Access Hatch (Bolted/Gasketed)	2		Table 7.1-12			
Automatic Gauge Hatch (Bolted/Gasketed)	ō		Table 7.1-12			
Column Well (Built-Up; Gasketed Sliding Cover)	0		Table 7.1-12			
Sample Pipe/Well (Slit Fabric Seal 10% Open)	2		Table 7.1-12			
Stub Drain (Slit Fabric Seal 10% Open)	125		Table 7.1-12			
Vacuum Breaker (Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12			
Slotted Guide-Pole (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12			
Legs	0		Table 7.1-12			
Ladder	0		Table 7.1-12			
Ladder / Guide-Pole Combination	0		Table 7.1-12			
Edddor / Saldo / Sio Offillilliation	+ "	30.0	14010 1.1-12			
Total deck fitting loss facto	-	183 40	Eq. 2-6			
i otal deck litting loss facto		103.40	Ly. 2-0			
	+		1			
	+		1			
		1	1			
Notes:						

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions

Tank No.	N117		Tank type	Internal Floating Roof		Date	1	03/19/20	1
Material stored	Component (Average RVP 14.33)		Company	Global		Performed by		Nicole Browe	r
City	Albany		State	NY		r enomied by		MICOIE DI OWE	
Description	Aboveground Storage Tank		Sidle	lie i		-			
	INPUT DATA				1	CALCULATIONS		1	
l	INFOI DATA			Units		ONE OF THE PARTY O	Symbol		Units
				- Cinto	-		ojzo.		- Cinto
		Symbo		Units	Rim Soal Lossos (F	q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	1 557 95	lb-mole/ft*yr
Molecular Weight		Syllibo	1	Units		ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*
Molecular weight		Mν	60 67	Lb/lb-mole		ependent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data		1010	00.07	EB/ID-IIIOIC		ent wind speed at tank site; if IFR use Zero	v		mph
Shell height		Hs	48.00			ind speed exponent; see Table 7.1-8	n		NA
Diameter		n D	110.00	ft		e function; see Figure 7.1-19	D*	0.15	
Tank volume			2,743,229	gallons	Tank diameter		n.	110.00	ft
Turnovers		N	15.38	galloris		molecular weight; see Note 1 to Equation 1-21	Μv		lb/lb-mole
Throughput		Q	42,180,000	nal/vr		0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
	roof support columns	Nc	0.00		1 Toddet factor,	0.4 for crude one or 1 for other organic liquids	110	1.00	14/1
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses	(Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/	/II W	72.32	lh/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		0	1.004.286	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		factor; see Table 7.1-10	Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb		NA		ic liquid density	WL		lb/gal
	wind speed at tank site; if IFR use Zerc	v		mph	Tank diameter		D	110.00	
	d speed exponent; see Table 7.1-8	n		NA .	Constant		0.943		1,000 ft3*gal/bbl2
	unction; see Figure 7.1-19	P*	0.146			d roof support columns	Nc	0.00	
		Cs		bbl/1,000 ft2		nn diameter; 1.1, 0.7, or 1.0	Fc	1.10	
Average organic		WL	5.60	lb/gal	Elicotivo colali	ar didirector, 1.11, 0.11, or 1.0		1.10	
	h factor; Length of Seam / Area of Deck	SD		ft/ft2	Deck Fitting Losses	s (Eq.2-13: LF = FF P*MvKc)	LF	539.97	lb/vr
Average Reid Va		RVP	14.33			ng loss factor; see Eq. 2-14	FF		lb-mole/yr
	Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00			e function; see Figure 7.1-19	P*	0.15	
		_				molecular weight; see Note 1 to Equation 1-21	Μv		lb/lb-mole
Equation 1-25 Pv	$A = \exp(A-(B/TLA))$	PvA	6,4846			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
	· rv · v				,				
Ea from Fia 7.1-1	15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.614		Deck Seam Losses	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	2,999.05	lb/vr
	15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	4.971.7			s per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
, , ,						igth factor; Length of Seam / Area of Deck	SD		ft/ft2
TLA = 0.4*TAA +	0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter		D	110.00	ft
	bient temperature (Equation 1-30)	TAA	508.2		Vapor pressure	e function; see Figure 7.1-19	P*	0.15	
Liquid bulk tempe	erature (Equation 1-31)	ТВ	509.1	*R	Average vapor	molecular weight; see Note 1 to Equation 1-21	Mν	60.67	lb/lb-mole
	absorptance, dimensionless, Table 7.1-6	α	0.3			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
	nsolation on a horizontal surface, Btu/(ft2 day)	1	1180.0		,				
,	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eq.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	5,169.30	lb/yr
	, , ,				1	•			
TAA = ((TAX+TA	N)/2)	TAA	508.20	*R			•		
average daily ma	ximum ambient temperature, Table 7.1-2	TAX	517.10	*R					
	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R	7				
				İ					
Liquid Bulk Temp	perature; Eq 1-31: TB = TAA + 0.003 αs I	ТВ	509.09	*R					
Total deck fitting I	loss factor using Equation 2-14; see Eq. 2-6				_				
			Loss Factor		_				
Quanity of Each		Qty	<u>Kf</u>	Source	_				
Access Hatch (Bo		2		Table 7.1-12	_				
Automatic Gauge	e Hatch (Bolted/Gasketed)	0		Table 7.1-12	_				
	ilt-Up; Gasketed Sliding Cover)	0		Table 7.1-12	_				
	II (Slit Fabric Seal 10% Open)	2		Table 7.1-12	_				
	abric Seal 10% Open)	23		Table 7.1-12	_				
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12	_				
Slotted Guide-Po	ele (Gasketed Sliding Cover w Sleeve/Wiper)	0	8.3	Eq.2-7 & Table 7.1-12					
Legs		0	7.9	Table 7.1-12					
Ladder		0		Table 7.1-12					
Ladder / Guide-P	Pole Combination	0	60.0	Table 7.1-12					
					_				
	Total deck fitting loss factor:		61.00	Eq. 2-6	_				
					_				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	118		Tank type	Internal Floating Roof		Date	-	03/19/20	1
Material stored	Component (Average RVP 14.33)		Company	Global		Performed by		Nicole Browe	•
City	Albany		State	NY		r enormed by	-	AICOIG DI OMG	
Description	Aboveground Storage Tank		Sidle	ivi i					
	INPUT DATA				1	CALCULATIONS			
l	INFOI DATA			Units		ONE-OFF HOMO	Symbol		Units
				5 15	-		cyzc.		00
		Symbo	1	Units	Rim Seal Losses (F	q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	1 416 32	lb-mole/ft*yr
Molecular Weight		Syllibo	1	Onits		ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*
Molecular weight		Mν	60.67	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data			55.57	LEGIE MOIO		ent wind speed at tank site; if IFR use Zero	v		mph
Shell height		Hs	48.00			nd speed exponent; see Table 7.1-8	n	1.6	
Diameter		D	100.00	ft		e function; see Figure 7.1-19	P*	0.15	
Tank volume			2,220,637	gallons	Tank diameter		D	100.00	ft
Turnovers		N	18.99	ganorio			Mv		lb/lb-mole
Throughput		Q	42,180,000	nal/vr		0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
	oof support columns	Nc	0.00		T TOUGOT TUOTOT,	c. 1 for order one of 1 for other organic inquies	110	1.00	
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses	Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/	ILW	79.55	lb/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		0	1.004.286	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		factor; see Table 7.1-10	Cs		bbl/1,000 ft2
	Indent LR factor; see Table 7.1-8	KRb	0.3			ic liquid density	WL		lb/gal
	wind speed at tank site; if IFR use Zerc	v		mph	Tank diameter		D	100.00	ft
	speed exponent; see Table 7.1-8	n		NA	Constant		0.943		1,000 ft3*gal/bbl2
	Inction; see Figure 7.1-19	P*	0.146			d roof support columns	Nc	0.00	
		Cs		bbl/1,000 ft2		n diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic I		WL	5.60	lb/gal					
	n factor; Length of Seam / Area of Deck	SD	0.20		Deck Fitting Losses	s (Eq.2-13: LF = FF P*MvKc)	LF	5,626.33	lb/vr
Average Reid Var		RVP	14.33			ig loss factor; see Eq. 2-14	FF		lb-mole/yr
	Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00			e function; see Figure 7.1-19	P*	0.15	
	, , ,						Mν	60.67	lb/lb-mole
Equation 1-25 Pv	$A = \exp(A - (B/TLA))$	PvA	6.4846			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
						·			
Eg from Fig 7.1-1	5: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.614		Deck Seam Losses	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	2,478.56	lb/yr
	5: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	4,971.7		Deck seam los	s per unit seam length factor; 0.0 or 0.14	KD	0.14	lb-mole/ft-yr
					Deck seam len	gth factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2
TLA = 0.4*TAA +	0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter		D	100.00	ft
Average daily am	bient temperature (Equation 1-30)	TAA	508.2	*R	Vapor pressure	e function; see Figure 7.1-19	P*	0.15	NA
Liquid bulk tempe	erature (Equation 1-31)	TB	509.1	*R	Average vapor	molecular weight; see Note 1 to Equation 1-21	Mν	60.67	lb/lb-mole
Tank paint solar a	absorptance, dimensionless, Table 7.1-6	α	0.3		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
Daily total solar in	solation on a horizontal surface, Btu/(ft2 day)	I	1180.0						
	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eq.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	9,600.75	lb/yr
TAA = ((TAX+TAI)		TAA	508.20						
		TAX	517.10		_				
average daily min	imum ambient temperature, Table 7.1-2	TAN	499.30	*R					
		TB	509.09	*R					
Total deck fitting lo	oss factor using Equation 2-14; see Eq. 2-6				_				
			Loss Factor		_				
Quanity of Each		Qty	<u>Kf</u>	Source	_				
Access Hatch (Bo		2		Table 7.1-12	_				
	Hatch (Bolted/Gasketed)	0		Table 7.1-12	_				
	It-Up; Gasketed Sliding Cover)	0		Table 7.1-12	_				
	I (Slit Fabric Seal 10% Open)	1		Table 7.1-12	_				
	abric Seal 10% Open)	80		Table 7.1-12	_				
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12	_				
	le (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12	_				
Legs		58		Table 7.1-12	_				
Ladder		0		Table 7.1-12	_				
Ladder / Guide-Po	ole Combination	1	60.0	Table 7.1-12	_				
	T. (1.1.1 Post 1 - 4 - 4		005.00	E. 0.0	_				
	Total deck fitting loss factor:		635.60	Eq. 2-6					
				l					

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	1119		Tank type	Internal Floating Roof		Date		03/19/20	1
Material stored	Component (Average RVP 14.33)		Company	Global		Performed by		Nicole Browe	r
City	Albany		State	NY		errormed by		THEORE DIOWE	
Description	Aboveground Storage Tank		Otate						
	INPUT DATA					CALCULATIONS			
	01 5/1//			Units		5/12/02/11/01/0	Symbol		Units
							-		
		Symbo	1	Units	Rim Seal Losses (E	g.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	1.133.05	lb-mole/ft*yr
Molecular Weight						ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*
Molecular weight		Mν	60.67	Lb/lb-mole	Wind speed do	ependent LR factor; see Table 7.1-8	KRb	0.3	NA
Tank design data					Average ambi	ent wind speed at tank site; if IFR use Zerc	٧	0.0	mph
Shell height		Hs	48.00		Seal-related w	rind speed exponent; see Table 7.1-8	n	1.6	NÁ
Diameter		D	80.00	ft	Vapor pressur	e function; see Figure 7.1-19	P*	0.15	NA
Tank volume			1,434,161	gallons	Tank diameter	•	D	80.00	ft
Turnovers		N	29.41		Average vapo	r molecular weight; see Note 1 to Equation 1-21	Mν	60.67	lb/lb-mole
Throughput		Q	42,180,000	gal/yr	Product factor	; 0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
	roof support columns	Nc	0.00	NA					
Effective column	diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft	Withdrawal losses	(Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/	ILW	99.44	
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual throug		Q	1,004,286	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		factor; see Table 7.1-10	Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb		NA		nic liquid density	WL		lb/gal
	wind speed at tank site; if IFR use Zerc	v		mph	Tank diameter	·	D	80.00	ft
	d speed exponent; see Table 7.1-8	n		NA	Constant		0.943		1,000 ft3*gal/bbl2
	unction; see Figure 7.1-19	P*	0.146			ed roof support columns	Nc	0.00	
		Cs		bbl/1,000 ft2	Effective colur	nn diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic		WL	5.60	lb/gal					
	h factor; Length of Seam / Area of Deck	SD		ft/ft2		s (Eq.2-13: LF = FF P*MvKc)	LF	4,061.65	
Average Reid Va		RVP	14.33			ng loss factor; see Eq. 2-14	FF		lb-mole/yr
Stock ASTM-D86	S Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00			e function; see Figure 7.1-19	P*	0.15	
F	A (A (D/TLA))	D 4	6.4846			r molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Equation 1-25 PV	$A = \exp(A - (B/TLA))$	PvA	6.4846		Product factor	; 0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
Fa farm Fig 7.4.4	15. 45.04.4.054*CA0.5(0.0740.0.2000.*.CA0.5) l= (D)(D)	^	11.614		Deels Coom Looses	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	1,586.28	lle 6 or
	I5: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) ln (RVP) I5: 8742-1042*S^0.5 - (1049-179 * S^0.5) ln (RVP)	A	4.971.7			ss per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
Eq IIOIII ig 7.1-1	13. 6742-1042 3 0.5 - (1049-179 3 0.5) (1047)	ь	4,371.7			ngth factor; Length of Seam / Area of Deck	SD		ft/ft2
TI A = 0.4*TAA ±	0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter		D D	80.00	
	nbient temperature (Equation 1-30)	TAA	508.2			e function; see Figure 7.1-19	D*	0.15	
	erature (Equation 1-31)	TB	509.1			r molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
	absorptance, dimensionless, Table 7.1-6	n	0.3	.,		; 0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
	nsolation on a horizontal surface, Btu/(ft2 day)	ĭ	1180.0		1 Toddot Idotor	, o. r for orace one or r for outer organic inquite	1.0	1.00	
	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eg.2	-1 & 2-2: LT = LR+LW+LF+LD)	LT	6,880.42	lb/vr
							T 1	0,000	
TAA = ((TAX+TA	N)/2)	TAA	508.20	*R					
		TAX	517.10						
	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R					
					_				
		TB	509.09	*R					
Total deck fitting I	loss factor using Equation 2-14; see Eq. 2-6								
			Loss Factor		_				
Quanity of Each		Qty	Kf	Source	_				
Access Hatch (Bo		2		Table 7.1-12	_				
	e Hatch (Bolted/Gasketed)	0		Table 7.1-12	_				
	ilt-Up; Gasketed Sliding Cover)	0		Table 7.1-12	_				
	II (Slit Fabric Seal 10% Open)	_1		Table 7.1-12	_				
	fabric Seal 10% Open)	51		Table 7.1-12	_				
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12	_				
	le (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12	_				
Legs		40		Table 7.1-12	_				
Ladder / Cuido B	tala Cambination	0		Table 7.1-12 Table 7.1-12	_				
Ladder / Guide-P	UIE COMDINATION	1	0.00	Table 1.1-12	_				
<u> </u>	Total deck fitting loss factor:		459 04	Eq. 2-6	_				
<u> </u>	Total deck litting loss factor:		400.04	Lq. 2-0	_				
<u> </u>			1	l	_				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	121		Tank type	Internal Floating Boof	1	Date	1	03/19/20	1
Material stored	Blendstock (Average RVP 15)		Company	Internal Floating Roof Global		Performed by		Nicole Browe	
	Albany		State	NY		renormed by		NICOle Blowe	•
City Description	Aboveground Storage Tank		State	NT					
Description	INPUT DATA				1	CALCULATIONS			
	INFOT DATA			Units	-	CALCULATIONS	Symbol		Units
				Onits	-		Cymbol		Omto
		Svmbo		<u>Units</u>	Dim Soal Losens (E	g.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	2 254 95	lb-mole/ft*yr
Molecular Weight		oamye		Units		d LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*
Molecular weight		Μv	60	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data		IVIV	00	Eb/Ib-IIIole		nt wind speed at tank site; if IFR use Zerc	NIND V		mph
Shell height		Hs	48.00			nd speed exponent; see Table 7.1-8	n		NA
Diameter		ח	150.00	#		function; see Figure 7.1-19	D*	0.16	
Tank volume		D	5,105,286	gallone	Tank diameter	Turiction, see rigure 7:1-19	D.	150.00	
Turnovers		N	37.22	galloris		molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput		Q	190,000,000	gal/vr		0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
		Nc	0.00		Froduct factor,	0.4 for crade oils of 1 for other organic liquids	NC	1.00	INA
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/	IIW	238.89	lh/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		0	4.523.810	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		actor; see Table 7.1-10	Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb	0.3		Average organi		WL		lb/gal
	wind speed at tank site; if IFR use Zerc	v		mph	Tank diameter	o nquia donony	D	150.00	
	I speed exponent; see Table 7.1-8	n	1.6		Constant		0.943		1,000 ft3*gal/bbl2
	unction; see Figure 7.1-19	P*	0.157			d roof support columns	Nc	0.00	
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2		n diameter; 1.1, 0.7, or 1.0	Fc	1.10	
Average organic		WL		lb/gal	Elicotive coluin	ir diameter, 1.1, 0.7, or 1.0	10	1.10	ıı
	h factor; Length of Seam / Area of Deck	SD	0.20		Deck Fitting Losses	(Eq.2-13: LF = FF P*MvKc)	LF	9,780.83	lh/vr
Average Reid Va		RVP	15.00	10102		g loss factor; see Eq. 2-14	FF.		lb-mole/yr
	Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00			function; see Figure 7.1-19	P*	0.16	
Oldon / IO I III Dod	Sisting and Crope at 1010/10 Oraporation (1710/10)		0.00			molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Fouation 1-25 Pv	$A = \exp(A - (B/TLA))$	PvA	6.8317			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
Fa from Fig 7.1-1	5: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.600		Deck Seam Losses	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	5,919.23	lb/vr
	5: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	4,937.9			s per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
			.,			gth factor; Length of Seam / Area of Deck	SD	0.20	
TLA = 0.4*TAA +	0.6*TB + 0.005*a*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter	y	D	150.00	
	bient temperature (Equation 1-30)	TAA	508.2			function; see Figure 7.1-19	P*	0.16	
	erature (Equation 1-31)	ТВ	509.1				Mv	60.00	lb/lb-mole
	absorptance, dimensionless, Table 7.1-6	α	0.3			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	
	nsolation on a horizontal surface, Btu/(ft2 day)	<u> </u>	1180.0				1		
	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eg.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	18,193.90	lb/vr
						,		,	,
TAA = ((TAX+TA	N)/2)	TAA	508.20	*R					
average daily ma	ximum ambient temperature, Table 7.1-2	TAX	517.10	*R	1				
	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R	1				
,	•				-11				
Liquid Bulk Temp	perature; Eq 1-31: TB = TAA + 0.003 αs I	ТВ	509.09	*R	T				
	oss factor using Equation 2-14; see Eq. 2-6				4				
			Loss Factor		=				
Quanity of Each	Fitting:	Qty	Kf	Source	=				
Access Hatch (Bo		2	1.6	Table 7.1-12	=				
	Hatch (Bolted/Gasketed)	1		Table 7.1-12	=				
	ilt-Up; Gasketed Sliding Cover)	0	33.0	Table 7.1-12	=				
Sample Pipe/Wel	II (Slit Fabric Seal 10% Open)	1	12.0	Table 7.1-12	=				
Stub Drain (Slit F	abric Seal 10% Open)	60	1.2	Table 7.1-12	=				
Vacuum Breaker	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12	=				
	lle (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12	=				
Legs	. ,	112		Table 7.1-12	=				
Ladder		0		Table 7.1-12	=				
Ladder / Guide-P	ole Combination	1		Table 7.1-12	=				
					=				
	Total deck fitting loss factor:		1,041.00	Eq. 2-6	=				
	3				1				
					=				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	114		Tank type	Internal Floating Roof		Date	-	03/19/20	
Material stored	Blendstock (Average RVP 15)		Company	Global		Performed by		Nicole Browe	r
City	Albany		State	NY		i criorinica by		THEORE DIOWE	
Description	Aboveground Storage Tank		Otate						
	INPUT DATA		•			CALCULATIONS			
	01 5/1//			Units			Symbol		Units
		Symbo	1	Units	Rim Seal Losses (E	q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	1.803.96	lb-mole/ft*yr
Molecular Weight		0,		00		ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*
Molecular weight		Μv	60	Lb/lb-mole		ependent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data						ent wind speed at tank site; if IFR use Zerc	v		mph
Shell height		Hs	48.00			ind speed exponent; see Table 7.1-8	n		NA
Diameter		D	120.00	ft		e function; see Figure 7.1-19	P*	0.16	NA
Tank volume			3,787,905	gallons	Tank diameter		D	120.00	ft
Turnovers		N	25.08	g			Mν		lb/lb-mole
Throughput		Q	95,000,000	gal/vr		0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
	roof support columns	Nc	0.00						
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses	(Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/	ILW	149.31	lb/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		Q	2,261,905	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		factor; see Table 7.1-10	Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb		NA		ic liquid density	WL		lb/gal
	wind speed at tank site; if IFR use Zerc	٧		mph	Tank diameter		D	120.00	
	speed exponent; see Table 7.1-8	n		NA	Constant		0.943		1,000 ft3*gal/bbl2
	unction; see Figure 7.1-19	P*	0.157		Number of fixe	d roof support columns	Nc	0.00	
		Cs		bbl/1,000 ft2		nn diameter; 1.1, 0.7, or 1.0	Fc	1.10	
Average organic		WL	5.60	lb/gal		, , , , , , , , , , , , , , , , , , , ,			
	h factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2	Deck Fitting Losses	s (Eq.2-13: LF = FF P*MvKc)	LF	1,612.66	lb/yr
Average Reid Va		RVP	15.00		Total deck fittir	ng loss factor; see Eq. 2-14	FF	171.64	lb-mole/yr
Stock ASTM-D86	Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00			e function; see Figure 7.1-19	P*	0.16	NA
					Average vapor	molecular weight; see Note 1 to Equation 1-21	Mν	60.00	lb/lb-mole
Equation 1-25 Pv	$A = \exp(A-(B/TLA))$	PvA	6.8317			0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
Eq from Fig 7.1-1	15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	A	11.600		Deck Seam Losses	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	3,788.31	lb/yr
Eq from Fig 7.1-1	15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	4,937.9		Deck seam los	s per unit seam length factor; 0.0 or 0.14	KD	0.14	lb-mole/ft-yr
					Deck seam len	igth factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2
TLA = 0.4*TAA +	· 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter		D	120.00	ft
Average daily am	bient temperature (Equation 1-30)	TAA	508.2	*R	Vapor pressure	e function; see Figure 7.1-19	P*	0.16	NA
Liquid bulk tempe	erature (Equation 1-31)	TB	509.1	*R	Average vapor	molecular weight; see Note 1 to Equation 1-21	Mν	60.00	lb/lb-mole
Tank paint solar	absorptance, dimensionless, Table 7.1-6	α	0.3		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
Daily total solar in	nsolation on a horizontal surface, Btu/(ft2 day)		1180.0						
	Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Eq.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	7,354.24	lb/yr
TAA = ((TAX+TA	N)/2)	TAA	508.20	*R					
		TAX	517.10						
average daily mir	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R					
		TB	509.09	*R					
Total deck fitting I	oss factor using Equation 2-14; see Eq. 2-6				_				
			Loss Factor						
Quanity of Each		Qty	Kf	Source					
Access Hatch (Bo		2		Table 7.1-12					
	e Hatch (Bolted/Gasketed)	0		Table 7.1-12					
	ilt-Up; Gasketed Sliding Cover)	0		Table 7.1-12					
	II (Slit Fabric Seal 10% Open)	2		Table 7.1-12					
	abric Seal 10% Open)	115		Table 7.1-12					
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12					
	le (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12					
Legs	· · · · · · · · · · · · · · · · · · ·	0		Table 7.1-12					
Ladder		0		Table 7.1-12					
Ladder / Guide-P	ole Combination	0	60.0	Table 7.1-12					
	Total deck fitting loss factor:		171.64	Eq. 2-6	_				
				1					

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No. 115		Tank type	Internal Floating Roof		Date		03/19/20	
Material stored Blendstock (Average RVP 15)		Company	Global		Performed by		Nicole Browe	r
City Albany		State	NY					
Description Aboveground Storage Tank INPUT DATA				i i	CALCULATIONS			
INPUT DATA	_	1	Units		CALCULATIONS	Symbol		Units
	+		Offics			Symbol		Units
	Svmbo		Units	Pim Soal Lossos (Eq.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR	2 254 95	lb-mole/ft*vr
Molecular Weight	Syllibo	1	Ollits		ed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)r
Molecular weight	Mv	60	Lb/lb-mole		ependent LR factor: see Table 7.1-8	KRb	0.3	
Tank design data	1010		EB/ID-ITIOIC		ent wind speed at tank site; if IFR use Zero	V		mph
Shell height	Hs	48.00			ind speed exponent; see Table 7.1-8	n	1.6	
Diameter	D	150.00	ft		e function; see Figure 7.1-19	P*	0.16	
Tank volume	Ē	5,642,527		Tank diameter		D	150.00	
Turnovers	N	16.84		Average vapo	molecular weight; see Note 1 to Equation 1-21	Mv	60.00	lb/lb-mole
Throughput	Q	95,000,000	gal/yr		0.4 for crude oils or 1 for other organic liquids		1.00	
Number of fixed roof support columns	Nc	0.00						
Effective column diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses	(Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc	LW	119.45	lb/yr
Deck seam loss per unit seam length factor; 0.0 or 0.14	KD	0.14	lb-mole/ft-yr	Annual throug	hput	Q	2,261,905	bbl/yr
Zero wind speed LR factor; see Table 7.1-8	KRa	1.6	lb-mole/(mph)nft*yr	Shell clingage	factor; see Table 7.1-10	Cs	0.0015	bbl/1,000 ft2
Wind speed dependent LR factor; see Table 7.1-8	KRb		NA	Average organ	nic liquid density	WL		lb/gal
Average ambient wind speed at tank site; if IFR use Zero	V		mph	Tank diameter	•	D	150.00	
Seal-related wind speed exponent; see Table 7.1-8	n		NA	Constant		0.943		1,000 ft3*gal/bl
Vapor pressure function; see Figure 7.1-19	P*	0.157			ed roof support columns	Nc	0.00	
Shell clingage factor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective colur	nn diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic liquid density	WL		lb/gal					
Deck seam length factor; Length of Seam / Area of Deck	SD		ft/ft2		s (Eq.2-13: LF = FF P*MvKc)	LF	2,343.26	
Average Reid Vapor Pressure	RVP	15.00			ng loss factor; see Eq. 2-14	FF		lb-mole/yr
Stock ASTM-D86 Distillation Slope at 10vol% evaporation (*F/vol%)	S	3.00			e function; see Figure 7.1-19	P*	0.16	
				Average vapor	molecular weight; see Note 1 to Equation 1-21	Mv	60.00	lb/lb-mole
Equation 1-25 PvA = exp(A-(B/TLA))	PvA	6.8317		Product factor	0.4 for crude oils or 1 for other organic liquids	Kc	1.00	NA
	1.							
Eq from Fig 7.1-15: 15.64-1.854*S^0.5 - (0.8742-0.3280 * S^0.5) In (RVP)	Α	11.600			(Eq.2-18: LD = KDSDD2P*MvKc)	LD	5,919.23	
Eq from Fig 7.1-15: 8742-1042*S^0.5 - (1049-179 * S^0.5) In (RVP)	В	4,937.9			ss per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
TIA 0 (4TA) 0 04TD 1 0 00TA 41 (5 4 00)		=	*B		ngth factor; Length of Seam / Area of Deck	SD		ft/ft2
TLA = 0.4*TAA + 0.6*TB + 0.005*a*I (Eqn. 1-28)	TLA	510.21	*R	Tank diameter		D P*	150.00 0.16	
Average daily ambient temperature (Equation 1-30)	TB	508.2			e function; see Figure 7.1-19 r molecular weight; see Note 1 to Equation 1-21			Ib/lb-mole
Liquid bulk temperature (Equation 1-31) Tank paint solar absorptance, dimensionless, Table 7.1-6	а	509.1 0.3	-R			Kc	1.00	
Daily total solar insolation on a horizontal surface, Btu/(ft2 day)	u	1180.0		Product factor	, 0.4 for crude oils or 1 for other organic liquids	NC	1.00	INA
Average Daily Liquid Surface Temperature:		50.5	*F	Total Losses (Fg.2	-1 & 2-2: LT = LR+LW+LF+LD)	LT	10,636.89	lh/vr
Average Baily Elquid Outlace Temperature.		50.5		Total E03363 (Eq.2	-1 G 2-2. E1 - EK-EW-E1 - ED/		10,000.00	io/yi
TAA = ((TAX+TAN)/2)	TAA	508.20	*R			<u> </u>		1
average daily maximum ambient temperature, Table 7.1-2	TAX	517.10						
average daily minimum ambient temperature, Table 7.1-2	TAN	499.30						
v / · · · · · · · · · · · · · · · · · ·								
Liquid Bulk Temperature; Eq 1-31: TB = TAA + 0.003 αs I	TB	509.09	*R					
Total deck fitting loss factor using Equation 2-14; see Eq. 2-6				*				
<u> </u>		Loss Factor						
Quanity of Each Fitting:	Qtv	<u>Kf</u>	Source					
Access Hatch (Bolted/Gasketed)	2		Table 7.1-12					
Automatic Gauge Hatch (Bolted/Gasketed)	0		Table 7.1-12					
Column Well (Built-Up; Gasketed Sliding Cover)	0		Table 7.1-12					
Sample Pipe/Well (Slit Fabric Seal 10% Open)	2		Table 7.1-12					
Stub Drain (Slit Fabric Seal 10% Open)	180		Table 7.1-12					
Vacuum Breaker (Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-12					
Slotted Guide-Pole (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-12					
Legs	0	7.9	Table 7.1-12					
Ladder	0		Table 7.1-12					
Ladder / Guide-Pole Combination	0	60.0	Table 7.1-12					
		1	1					
Table 1000 1 1		040.10	E- 0.0					
Total deck fitting loss factor	:	249.40	Eq. 2-6					
Total deck fitting loss factor		249.40	Eq. 2-6					
Total deck fitting loss factor	:	249.40	Eq. 2-6					

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions

Tank No.	117		Tank type	Internal Floating Re	oot	Date		03/19/20	
Material stored	Crude (Average RVP 12.5)		Company	Global		Performed by		Nicole Browe	r
City	Albany		State	NY					
Description	Aboveground Storage Tank								
	INPUT DATA					CALCULATIONS			
				Units			Symbol	1	Units
		Symbo	<u> </u>	<u>Units</u>		q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR		lb-mole/ft*yr
Molecular Weight		l.,		11.00		d LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft
Molecular weight		Mν	50	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb		NA mph
Tank design data Shell height		Hs	48.00			nt wind speed at tank site; if IFR use Zerc and speed exponent; see Table 7.1-8	V		MA
Diameter		D	110.00	fi		function; see Figure 7.1-19	D*	0.22	
Tank volume		D	2.743.229		Tank diameter	Turiction, see Figure 7.1-19	n	110.00	
Turnovers		N	13.62	galions		molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput		Q	37,360,542	nal/vr		0.4 for crude oils or 1 for other organic liquids	Kc	0.40	
	roof support columns	Nc	0.00		1 Todact Idotor,	o. Their drade one of Their earter organic inquite	1.0	0.10	
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFd	/ILW	324.86	lb/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		Q	889,537	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		actor; see Table 7.1-10	Cs		bbl/1,000 ft2
Wind speed dep	endent LR factor; see Table 7.1-8	KRb	0.3	NA	Average organi	c liquid density	WL	7.10	lb/gal
	t wind speed at tank site; if IFR use Zerc	٧		mph	Tank diameter		D	110.00	
	d speed exponent; see Table 7.1-8	n		NA	Constant		0.943		1,000 ft3*gal/bbl2
	unction; see Figure 7.1-19	P*	0.224			d roof support columns	Nc	0.00	NA
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective colum	n diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic		WL		lb/gal			<u> </u>		
	th factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2		(Eq.2-13: LF = FF P*MvKc)	LF	272.86	
Average Reid Va	ipor Pressure	RVP	12.50			g loss factor; see Eq. 2-14	FF		lb-mole/yr
Carretian 4 OF D	$A = \exp(A - (B/TLA))$	D. A	8.7173			function; see Figure 7.1-19	Mv	0.22	
Equation 1-25 P	/A = exp(A-(B/TLA))	PvA	6./1/3			molecular weight; see Note 1 to Equation 1-21 0.4 for crude oils or 1 for other organic liquids	Kc	0.40	lb/lb-mole
Ea from Eia 7.1	16: 12.82 - 0.9672 In (RVP)	Α	10.377		FIOUUCI IACIOI,	0.4 for crude ons or 1 for other organic liquids	NC	0.40	INA
	16: 7261 - 1216 In (RVP)	В	4,189.7		Dock Soam Loseos	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	1,515.51	lb/vr
Eq IIOIII ig 7.1-	10. 7201 - 1210 111 (1101)		4,100.7			s per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
TLA = 0.4*TAA +	- 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R		gth factor; Length of Seam / Area of Deck	SD		ft/ft2
	nbient temperature (Equation 1-30)	TAA	508.2	*R	Tank diameter	, , .	D	110.00	ft
Liquid bulk temp	erature (Equation 1-31)	TB	509.1	*R	Vapor pressure	function; see Figure 7.1-19	P*	0.22	NA
Tank paint solar	absorptance, dimensionless, Table 7.1-6	α	0.3		Average vapor	molecular weight; see Note 1 to Equation 1-21	Mν	50.00	lb/lb-mole
Daily total solar i	nsolation on a horizontal surface, Btu/(ft2 day)	l	1180.0		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	0.40	NA
	Average Daily Liquid Surface Temperature:		50.5	*F					
					Total Losses (Eq.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	2,900.51	lb/yr
TAA = ((TAX+TA		TAA	508.20						
	aximum ambient temperature, Table 7.1-2	TAX	517.10						
average daily mi	nimum ambient temperature, Table 7.1-2	TAN	499.30	~K	U				
Liquid Bulk Tons	perature; Eq 1-31: TB = TAA + 0.003 αs I	ТВ	509.09	*R	ī				
	loss factor using Equation 2-14; see Eq. 2-6	I D	509.09	IX.	J.				
TOTAL WEEK HILLING	1033 Iuctor using Equation 2-14, 366 Eq. 2-6	 	Loss Factor	 	-				
Quanity of Each	Fitting:	Qty	Kf	Source	-				
Access Hatch (B		2		Table 7.1-12	-				
	e Hatch (Bolted/Gasketed)	0		Table 7.1-12	•				
	illt-Up; Gasketed Sliding Cover)	0		Table 7.1-12	-				
Sample Pipe/We	II (Slit Fabric Seal 10% Open)	2		Table 7.1-12	-				
	abric Seal 10% Open)	23	1.2		_				
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-1					
	ole (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-1	2				
Legs		0		Table 7.1-12	_				
Ladder	N. C. aktaria	0		Table 7.1-12	_				
Ladder / Guide-F	Pole Combination	0	60.0	Table 7.1-12	-				
				i					
	Total deck fitting loss factor:		04.00	Eq. 2-6	-				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	118		Tank type	Internal Floating Ro	oof	Date		03/19/20	
Material stored	Crude (Average RVP 12.5)		Company	Global		Performed by		Nicole Browe	r
City	Albany		State	NY					
Description	Aboveground Storage Tank								
	INPUT DATA					CALCULATIONS			
				Units			Symbol		Units
		Symbo	<u> </u>	<u>Units</u>		q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR		lb-mole/ft*yr
Molecular Weight				11.00		d LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft
Molecular weight		Mv	50	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb		NA mph
Tank design data Shell height		Hs	48.00			nt wind speed at tank site; if IFR use Zerc and speed exponent; see Table 7.1-8	V		MA
Diameter		D	100.00	ft		function; see Figure 7.1-19	D*	0.22	
Tank volume		D	2.220.637		Tank diameter	Turiction, see Figure 7.1-19	n	100.00	
Turnovers		N	13.62	galions		molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput		Q	30,243,265	nal/vr		0.4 for crude oils or 1 for other organic liquids	Kc	0.40	
	roof support columns	Nc	0.00		1 Todact Idotor,	o. The drage one of The earth organic inquite	1.0	0.10	
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFd	/ILW	289.27	lb/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		Q	720.078	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		actor; see Table 7.1-10	Cs		bbl/1,000 ft2
Wind speed dep	endent LR factor; see Table 7.1-8	KRb	0.3	NA	Average organi	c liquid density	WL	7.10	lb/gal
	t wind speed at tank site; if IFR use Zerc	v		mph	Tank diameter		D	100.00	
	d speed exponent; see Table 7.1-8	n		NA	Constant		0.943		1,000 ft3*gal/bbl2
	function; see Figure 7.1-19	P*	0.224			d roof support columns	Nc	0.00	NA
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective colum	n diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic		WL		lb/gal			<u> </u>		
	th factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2		(Eq.2-13: LF = FF P*MvKc)	LF	2,843.15	
Average Reid Va	apor Pressure	RVP	12.50			g loss factor; see Eq. 2-14	FF		lb-mole/yr
Carretian 4 OF D	vA = exp(A-(B/TLA))	D. A	8.7173			function; see Figure 7.1-19	Mv	0.22	
Equation 1-25 P	VA = exp(A-(B/TLA))	PvA	6./1/3			molecular weight; see Note 1 to Equation 1-21 0.4 for crude oils or 1 for other organic liquids	Kc	0.40	lb/lb-mole
Ea from Eia 7.1	16: 12.82 - 0.9672 In (RVP)	Α	10.377		FIOUUCI IACIOI,	0.4 for crude ons or 1 for other organic liquids	NC	0.40	INA
	16: 7261 - 1216 In (RVP)	В	4,189.7		Dock Spam Lossos	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	1,252.49	lh/vr
Lq IIOIII ig 7.1-	10. 7201 - 12 10 III (IXVF)	В	4,105.7			s per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
TI A = 0.4*TAA +	+ 0.6*TB + 0.005*a*I (Eqn. 1-28)	TLA	510.21	*R		gth factor; Length of Seam / Area of Deck	SD	0.20	
	nbient temperature (Equation 1-30)	TAA	508.2		Tank diameter	,, ==g = - = - = - = - = - = - = - = - = -	D	100.00	
	erature (Equation 1-31)	TB	509.1		Vapor pressure	function; see Figure 7.1-19	P*	0.22	NA
Tank paint solar	absorptance, dimensionless, Table 7.1-6	α	0.3		Average vapor	molecular weight; see Note 1 to Equation 1-21	Mν	50.00	lb/lb-mole
Daily total solar i	nsolation on a horizontal surface, Btu/(ft2 day)	I	1180.0		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	0.40	NA
	Average Daily Liquid Surface Temperature:		50.5	*F					
					Total Losses (Eq.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	5,100.62	lb/yr
TAA = ((TAX+TA		TAA	508.20						
	aximum ambient temperature, Table 7.1-2	TAX	517.10						
average daily mi	nimum ambient temperature, Table 7.1-2	TAN	499.30	-K	U				
Liquid Bulk Tons	perature; Eq 1-31: TB = TAA + 0.003 αs I	ТВ	509.09	*R	ī				
	loss factor using Equation 2-14; see Eq. 2-6	1D	509.09	11	J.				
TOTAL WEEK HILLING	1000 Idotor doing Equation 2-14, oce Eq. 2-0	 	Loss Factor		-				
Quanity of Each	n Fitting:	Qty	Kf	Source	-				
Access Hatch (B		2		Table 7.1-12	-				
	e Hatch (Bolted/Gasketed)	0		Table 7.1-12	-				
	illt-Up; Gasketed Sliding Cover)	0		Table 7.1-12	-				
Sample Pipe/We	ell (Slit Fabric Seal 10% Open)	1	12.0	Table 7.1-12	_				
	abric Seal 10% Open)	80	1.2		-				
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-1					
	ole (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-1	2				
Legs		58		Table 7.1-12	_				
Ladder	N. L. Combiner	0		Table 7.1-12	_				
Ladder / Guide-F	Pole Combination	1	60.0	Table 7.1-12	-				
				l .					
	Total deck fitting loss factor:		005.00	Eq. 2-6	-				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	119		Tank type	Internal Floating Ro	oof	Date		03/19/20	
Material stored	Crude (Average RVP 12.5)		Company	Global		Performed by		Nicole Browe	r
City	Albany		State	NY					
Description	Aboveground Storage Tank								
	INPUT DATA					CALCULATIONS			
				Units			Symbol		Units
		Symbo	<u> </u>	<u>Units</u>		q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR		lb-mole/ft*yr
Molecular Weight						d LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*
Molecular weight		Mv	50	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb	0.3	
Tank design data			40.00			nt wind speed at tank site; if IFR use Zerc	٧		mph
Shell height		Hs D	48.00			nd speed exponent; see Table 7.1-8	n D*	1.6	
Diameter Tank volume		D	80.00 1,434,161	π gallons	Vapor pressure Tank diameter	function; see Figure 7.1-19	D.	0.22 80.00	NA
Turnovers		N	13.62	galions		molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput		Q	19,532,103	aallur		0.4 for crude oils or 1 for other organic liquids	Kc	0.40	
	roof support columns	Nc	0.00		r roduct ractor,	0.4 for crude ons or 1 for other organic liquids	ICC	0.40	INA
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc	/ILW	233.52	lb/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		Q	465,050	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		actor; see Table 7.1-10	Cs		bbl/1,000 ft2
Wind speed depe	endent LR factor; see Table 7.1-8	KRb	0.3	NA	Average organi	c liquid density	WL	7.10	lb/gal
	wind speed at tank site; if IFR use Zerc	٧		mph	Tank diameter		D	80.00	ft
	speed exponent; see Table 7.1-8	n		NA	Constant		0.943		1,000 ft3*gal/bbl2
	unction; see Figure 7.1-19	P*	0.224			d roof support columns	Nc	0.00	
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective colum	n diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic		WL		lb/gal					
	h factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2		(Eq.2-13: LF = FF P*MvKc)	LF	2,052.47	
Average Reid Va	por Pressure	RVP	12.50			g loss factor; see Eq. 2-14	FF D*		lb-mole/yr
Fauntian 4 05 Du	$A = \exp(A-(B/TLA))$	PvA	8.7173			function; see Figure 7.1-19 molecular weight; see Note 1 to Equation 1-21	Mv	0.22	Ib/lb-mole
Equation 1-25 PV	/A = exp(A-(B/TLA))	PVA	8./1/3			0.4 for crude oils or 1 for other organic liquids	Kc	0.40	
Ea from Fig 7 1-1	16: 12.82 - 0.9672 In (RVP)	Α	10.377		r roduct ractor,	0.4 for crude oils or 1 for other organic liquids	NC	0.40	INA
	16: 7261 - 1216 In (RVP)	B	4,189.7		Deck Seam Losses	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	801.59	lh/vr
Eq iloin rig 7.1-1	10. 7201 - 1210 III (1141)		4,100.7			s per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
TLA = 0.4*TAA +	0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R		gth factor; Length of Seam / Area of Deck	SD	0.20	
	nbient temperature (Equation 1-30)	TAA	508.2	*R	Tank diameter	g , g	D	80.00	
	erature (Equation 1-31)	TB	509.1	*R	Vapor pressure	function; see Figure 7.1-19	P*	0.22	NA
Tank paint solar a	absorptance, dimensionless, Table 7.1-6	α	0.3		Average vapor	molecular weight; see Note 1 to Equation 1-21	Mν	50.00	lb/lb-mole
Daily total solar in	nsolation on a horizontal surface, Btu/(ft2 day)	I	1180.0		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	0.40	NA
	Average Daily Liquid Surface Temperature:		50.5	*F					
TAA (/TAY, TA	10/0	T	500.00	*5	Total Losses (Eq.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	3,660.16	lb/yr
TAA = ((TAX+TA		TAA	508.20				1		l
	eximum ambient temperature, Table 7.1-2	TAX	517.10 499.30		1				
average daily mir	nimum ambient temperature, Table 7.1-2	IAN	499.30	-K	Ш				
Liquid Bulk Temp	perature; Eq 1-31: TB = TAA + 0.003 αs I	ТВ	509.09	*R	T				
	loss factor using Equation 2-14; see Eq. 2-6		505.05		Ш				
door maily	Joing Equation 2 1-1, 000 Eq. 2-0		Loss Factor		-				
Quanity of Each	Fitting:	Qty	Kf	Source	-				
Access Hatch (Bo		2		Table 7.1-12	-				
	e Hatch (Bolted/Gasketed)	0		Table 7.1-12	-				
	ilt-Up; Gasketed Sliding Cover)	0		Table 7.1-12	-				
	II (Slit Fabric Seal 10% Open)	1	12.0		_				
	abric Seal 10% Open)	51		Table 7.1-12					
	(Weighted Mech. Actu.; Gasketed)	1_		Eq.2-7 & Table 7.1-1					
	ele (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-1	12				
Legs		40		Table 7.1-12	_				
Ladder Ladder / Guide-P	tala Cambination	1	56.0	Table 7.1-12 Table 7.1-12	-				
Lauder / Guide-P	ole Combination	1	0.00	1 aui @ / . 1 - 1 Z	-				
	Total deck fitting loss factor:	 	450 04	Eq. 2-6	-				
	Total deck litting loss lactor.		450.04	Ly. 2-0	T				
			1	1	Ш				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Table No. 120 Charactery (1971-12) Ch	T1. N-	Tiene			Underson Florido E	-4	lin-t-		00/40/00	
Secretarion Comparison Co						OT				,
							Performed by		MICOIO BIOWO	
CACQUATIONS	Description	Aboveground Storage Tank		Otate						
Molecular Weight		INPUT DATA		Ji			CALCULATIONS			
Moscoular weight					Units			Symbol		Units
Moscoular weight										
Note Continued Note			Symbo	ļ .	<u>Units</u>					
Tank design dals Self length Be										
Speciments			Mv	50	Lb/lb-mole					
Daniele Daniele Daniele Vision Proceedings Processor	Tank design data			40.00						
Tank youther					4	Vener process	function: one Figure 7.1.1(n n*		
Turnovers			U		nallone		function; see Figure 7.1-1:	D.		
Throughput			N		galions		molecular weight: see Note 1 to Equation 1-	Mv		
Number of fixed roof support column			0		nal/vr	Product factor	0.4 for crude oils or 1 for other organic liquid			
Effective column diameler; 1.1, 07, or 11 Col. 4		roof support columns	Nc							
Deck seam loss per unit seam inegrification; 0 or 0.1 KP SP SP SP SP SP SP SP						Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/D)LW	232.99	lb/yr
Zero wind speed LPR Redor; see Table 7.1-18 KRB	Deck seam loss p	per unit seam length factor; 0.0 or 0.1	KD	0.14	lb-mole/ft-yr	Annual through	pul	Q	463,979	bbl/yr
Average antifert wind speed of stark site. (##R use Ze V 6.0 mph Tank diametes D 80.00 ft 100.0183 pt	Zero wind speed	LR factor; see Table 7.1-8	KRa	1.6	lb-mole/(mph)nft*yı			Cs	0.0060	bbl/1,000 ft2
Sear-Intellate wind speed exponent; see Table 7-1: 1	Wind speed depe	endent LR factor; see Table 7.1-8	KRb			Average organi			7.10	lb/gal
Apport pressure function: see Eq. 2 -			v					-		
Shed cingage factor: see Table 7-11										
Average organic legitud densite Wit										
Deck seam length factor. Length of Seam / Area of Dec SD 0.30 6/12 Deck Pfilting Losses (Eg.2-11: LF = FF Pf WMKC) LF 2,062.47 by Average Roll your Pressure function, see Figure 7 1-11 20.22 NA. Writing Note Note 1 National Product See Figure 7 1-11 Product Se	Shell clingage fac	ctor; see Table 7.1-10		0.0060	bbl/1,000 ft2	Effective colum	n diameter; 1.1, 0.7, or 1.I	Fc	1.10	ft
Average value RVP 12.50 Total door filting loss factor, see Eq. 2-1- FF 458.84 E-modely	Average organic	liquid densit				Deel Flater I	(F-040-15-FF PM-4/-)		0.050 :=	He A co
Equation 1-25 PvA = exp(A-(B/TLA)					tt/tt2			LF		
Equation 1-25 PVA - exp(A_CRTLA)	Average Reid Va	ipor Pressure	KVP	12.50					458.84	ID-mole/yr
Eq from Fig 7.1-16: 12 82 - 0.9872 In (RVP) A 10.377 Eq from Fig 7.1-16: 7261 - 1.216 in (RVP) B 4,189.7 Eq from Fig 7.1-1	Equation 1.25 Du	$A = \exp(A \cdot (B/T) A)$	DγA	9 7479						
Eq ton Fig 7.1-16 : 12.82 - 0.5672 in (RVP B A 1.0377 B 4.1857 Deck seam Losses (Eq.2-18: LD = KOSBD2P*MV6C LD 891.59 bby	cyuau0f1 1-25 PV	VO - UNP(M-(DITEM)	CVA	6./1/3						
Eg from Fig 7.1-16 / 2011 - 1216 in (RVP	Fa from Fig 7 1-1	16: 12.82 - 0.9672 In (RVP	Δ	10 377		i roddct ractor,	0.4 for crade ons or 1 for other organic liquid	INC	0.40	INC.
TA			В			Deck Seam Losses	(Eq.2-18: LD = KDSDD2P*MvKc	LD	801.59	lb/vr
TLA			Ī .	.,		Deck seam los	s per unit seam length factor: 0.0 or 0.1			
Average daily ambient temperature (Equation 1-3 TAA 508.2 TR Tark gainets of the properature (Equation 1-3 TB 509.1 TR Vapor pressure function; see Figure 7-1-11 P 0.22 NA Tark gaint solar absorptance, dimensioniess, Table 7-1 d 0.3 Average vapor molecular weight; see Note 1 to Equation 1-1 Miv 50.00 [bith-mole to 1 No. Na Navarage Daily Liquid Surface Temperature 50.5 F Tark gaint solar insolation on a horizontal surface, Etu/(Et da	TLA = 0.4*TAA +	+ 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R					
Tark paint solar absorptance, dimensionless, Table 7.1			TAA		*R	Tank diameter		D		
Daily total solar insolation on a horizontal surface, But/ITC da 1180.0 Product factor; 0.4 for crude oils or 1 for other organic liquid Kc 0.40 NA			TB	509.1	*R	Vapor pressure	function; see Figure 7.1-1!	P*	0.22	NA
Average Daily Liquid Surface Temperature	Tank paint solar a	absorptance, dimensionless, Table 7.1-	α	0.3		Average vapor	molecular weight; see Note 1 to Equation 1-:			
TAA = ((TAX+TAN)/2)	Daily total solar in	nsolation on a horizontal surface, Btu/(ft2 da	ı			Product factor;	0.4 for crude oils or 1 for other organic liquid	Kc	0.40	NA
TAA		Average Daily Liquid Surface Temperature		50.5	*F					
average daily maximum ambient temperature, Table 7.1 TAX 517.10 R average daily minimum ambient temperature, Table 7.1 TAN 499.30 R Liquid Bulk Temperature; Eq. 1-31: TB = TAA + 0.003 as TB 509.09 R Equation 1-25 PvA = exp(A-(B/TLA) PvA 5.8042 R Liquid bulk temperature; Equation 1-31 TAA 508.2 R Liquid bulk temperature (Equation 1-31 TAA 508.2 R Liquid bulk temperature (Equation 1-31 TAA 509.2 R Liquid bulk temperature (Equation 1-31 TAA 509.2 R Liquid bulk temperature (Equation 1-31 TAA 509.2 R Liquid bulk temperature, Table 7.1 TAX 509.1 R Tark paint solar absorptance, dimensionless, Table R1-1: TAX 517.10 R Average Daily Liquid Surface Temperature 50.5 F TAA = (TAX+TAN)/2) TAA 508.20 R average daily minimum ambient temperature, Table 7.1 TAX 508.20 R average daily minimum ambient temperature, Table 7.1 TAX 508.20 R Liquid Bulk Temperature; Eq. 1-31: TB = TAA + 0.003 as TB 509.09 R Total deck fitting loss factor using Equation 2-14; see Eq. 24 Liquid Bulk Temperature, Table 7.1 TAX 509.00 R Column Well (Bolted/Casketed 2 Loss Factor Source Access Hatch (Bolted/Casketed 0 2.8 Table 7.1-12 Sample Pipe/Well (Silf Fabric Seal 10% Open 1 12.0 Table 7.1-12 Sample Pipe/Well (Silf Fabric Seal 10% Open 5 1 12 Table 7.1-12 Liquid Bulk Temperature, Casketed 1 1 12 Table 7.1-12 Liquid Bulk Temperature, Casketed 1 1 12 Table 7.1-12 Sample Pipe/Well (Silf Fabric Seal 10% Open 5 1 12 Table 7.1-12 Liquid Bulk Temperature, Casketed 1 1 6 2 Eq. 27 R Table 7.1-12 Liquid Bulk Temperature, Casketed 1 1 12 Table 7.1-12 Liquid Bulk Temperature, Casketed 1 1 12 Table 7.1-12 Liquid Bulk Temperature, Casketed 1 1 12 Table 7.1-12 Liquid Bulk Temperature, Casketed 1 1 12 Table 7.1-12 Liquid Bulk Temperature, Casketed 1 1 12 Table 7.1-12 Liquid Bulk Temperature, Casketed Siding Cover w Sieve/Wipe 0 6 3 16.0 Table 7.1-12 Liquid Bulk Temperature, Table 7.1 Taxle 7.1-12 Liquid Bulk Temperature, Table 7.1 Taxle 7.1-12 Liquid Bulk Temperature, Table 7.1 Taxle 7.1-12 Liquid Bulk Temperature, Table 7.1 Taxle 7.1-12 Liqu	T11 (/T11/-T1	40.00				Total Losses (Eq.2-	1 & 2-2: LT = LR+LW+LF+LD]	LT	3,659.62	lb/yr
Liquid Bulk Temperature; Eq. 1-31: TB = TAA + 0.003 os TB 509.09 R										
Liquid Bulk Temperature, Eq. 1-31: TB = TAA + 0.003 as										
Equation 1-25 PvA = exp(A-(B/TLA)	average daily mir	nimum ambient temperature, Table 7.1	IAN	499.30	-R	1				
Equation 1-25 PvA = exp(A-(B/TLA)	Liquid Bulk Temp	perature: Eq.1.31: TR = TAA ± 0.003 ge	TD	500.00	*D	П				
TLA = 0.4*TRA + 0.6*TB + 0.005*c*1	Liquiu Buik Tellip	perature, Eq 1-31. TB = TAA + 0.003 ds	IB	309.09	K	Ш				
TLA = 0.4*TRA + 0.6*TB + 0.005*c*1	Equation 1-25 Pv	vA = exp(A-(B/TLA)	PvA	5 8042		-				
Average daily ambient temperature (Equation 1-3)						-				
Liquid bulk temperature (Equation 1-31 TB 509.1 R Tank paint solar absorptiance, dimensionless, Table 7.1-	TLA = 0.4*TAA +	+ 0.6*TB + 0.005*α*I	TLA	510.21	*R	1				
Liquid bulk temperature (Equation 1-31 TB 509.1 R Tank paint solar absorptiance, dimensionless, Table 7.1-	Average daily am	nbient temperature (Equation 1-3)	TAA	508.2	*R					
Daily total solar insolation on a horizontal surface, Btu/(ft dis 1180.0	Liquid bulk tempe	erature (Equation 1-31	TB		*R	1				
Average Daily Liquid Surface Temperature 50.5 F TAA = ((TAX+TAN)/2) TAA 508.20 R average daily maintum ambient temperature, Table 7.1 TAX 517.10 R average daily minimum ambient temperature, Table 7.1 TAX 499.30 R Liquid Bulk Temperature, Eq. 1-31: TB = TAA + 0.003 as TB 509.09 R Total deck fitting loss factor using Equation 2-14; see Eq. 2-4 Luanity of Each Fitting: Cy K Source Access Hatch (Bolted/Gaskete) Qy K Source Access Hatch (Bolted/Gaskete) Qy 16. Table 7.1-12 Automatic Gauge Hatch (Bolted/Gaskete) 0 2.8 Table 7.1-12 Automatic Gauge Hatch (Bolted/Gaskete) 0 2.8 Table 7.1-12 Sample Pipe/Well (Silf Fabric Seal 10% Open 1 12.0 Table 7.1-12 Sample Pipe/Well (Silf Fabric Seal 10% Open 5 1 1.2 Table 7.1-12 Vaouum Breaker (Weighted Mech. Actu. Casketed 1 6.2 Eq. 2-7.8 Table 7.1-12 Legs 40 7.9 Table 7.1-12 Ladder / Guide-Pole (Gasketed Silding Cover w Sieve/Wipe 0 6.3 Eq. 2-7.8 Table 7.1-12 Ladder / Guide-Pole (Gasketed Silding Cover w Sieve/Wipe 0 6.0 Table 7.1-12 Ladder / Guide-Pole Combinatio 1 60.0 Table 7.1-12	Tank paint solar a	absorptance, dimensionless, Table 7.1-	α		,					
TAA = ((TAX+TAN)/2)	Daily total solar in		1							
average daily maximum ambient temperature, Table 7.1 TAX 517.10 R		Average Daily Liquid Surface Temperature		50.5	*F					
average daily maximum ambient temperature, Table 7.1 TAX 517.10 R	TAA ((TAX:	A 11 (0)		#00 · ·		11				
average daily minimum ambient temperature, Table 7.1						1				
Liquid Bulk Temperature; Eq 1-31: TB = TAA + 0.003 as TB 509.09 R						1				
Country of Each Fitting: Country of Each Fitting: Country of Each Fitting: Country of Each Fitting: Country of Each Fitting: Country of Each Fitting: Country of Each Entiting: Countr	average daily mir	minum ambient temperature, Lable 7.1	IAN	499.30	r.	Ш				
Country of Each Fitting: Country of Each Fitting: Country of Each Fitting: Country of Each Fitting: Country of Each Fitting: Country of Each Fitting: Country of Each Entiting: Countr	Liquid Bulk Temp	nerature: Fo 1-31: TR = TAA + 0.003 os	TB	500.00	*R	1				
Cuanity of Each Fitting:	Equiu Duik Tellip	poranoio, eq 1-01. 1b - 1AA + 0.000 us		303.09	**	1				
Cuanity of Each Fitting:	Total deck fitting I	loss factor using Equation 2-14; see Fg. 2-4	t			1				
Quantity of Each Fitting:			†	Loss Factor		1				
Access Natch Bolled(Casketed 2 1.6 Table 7.1-12	Quanity of Each	Fitting:	Qty		Source	1				
Column Well (Bull-LU); Gasketed Sliding Cover 0 33.0 Table 7.1-12	Access Hatch (Bo	olted/Gasketed	2		Table 7.1-12	1				
Column Well (Built-Up; Gasketed Sliding Cover 0 33.0 Table 7.1-12	Automatic Gauge	e Hatch (Bolted/Gasketed		2.8	Table 7.1-12					
Stub Drain (Silir Fabric Seal 10% Open 51 1.2 Table 7.1-12				33.0	Table 7.1-12					
Vacuum Breaker (Weighted Mech. Actu.; Gasketed 1 6.2 Eq.2.7 & Table 7.1-12 Slotted Guide-Pole (Gasketed Sliding Cover w SieeveWipe 0 8.3 Eq.2.7 & Table 7.1-12 Legs 40 7.9 Table 7.1-12 Ladder 5.0 Table 7.1-12 Ladder / Guide-Pole Combinatio 1 60.0 Table 7.1-12						I				
Slotted Guide-Pole (Gasketed Sliding Cover w SieeveWipe 0 8.3 Eq. 2-7 & Table 7.1-12						Ī				
Legs 40 7.9 Table 7.1-12 Ladder 0 56.0 Table 7.1-12 Ladder / Guide-Pole Combinatio 1 60.0 Table 7.1-12	Vacuum Breaker	(Weighted Mech. Actu.; Gasketed		6.2	Eq.2-7 & Table 7.1-1	2				
Ladder 0 56.0 Table 7.1-12 Ladder / Guide-Pole Combinatio 1 60.0 Table 7.1-12		ne (Gasketed Silding Cover w Sleeve/Wipe				∠ 11				
Ladder / Guide-Pole Combinatio 1 60.0 Table 7.1-12						1				
	Ladder / Culd- D	Polo Combinatio	0			1				
Total deck fitting loss factor: 458.84 Eq. 2-6	Lauuei / Guide-P	OIG CONIDINATIO	+ 1	00.0	raule 1.1-12	1				
	-	Total deck fitting loss factors	<u> </u>	458 84	Eq. 2-6	1				
			†		1	1				
	<u> </u>					a .				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-1

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFR1

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-1

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissio

Tank No.	121		Tank type	Internal Floating Re	oof	Date		03/19/20	
Material stored	Crude (Average RVP 12.5)		Company	Global		Performed by		Nicole Browe	r
City	Albany		State	NY		·			
Description	Aboveground Storage Tank								
	INPUT DATA		•			CALCULATIONS			
				Units			Symbol		Units
		Symbo		<u>Units</u>		q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR		lb-mole/ft*yr
Molecular Weight						d LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft
Molecular weight		Mv	50	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb		NA
Tank design data		111-	40.00			nt wind speed at tank site; if IFR use Zerc	V		mph
Shell height Diameter		Hs D	48.00 150.00	4		nd speed exponent; see Table 7.1-8 function; see Figure 7.1-19	n D*	0.22	NA NA
Tank volume		D	5,105,286	gallons	Tank diameter	function; see Figure 7.1-19	D.	150.00	
Turnovers		N	13.62	galions		molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput		Q	69,529,832	gallyr		0.4 for crude oils or 1 for other organic liquids	Kc	0.40	
	oof support columns	Nc	0.00		r roduct ractor,	0.4 for crade oils of 1 for other organic liquids	ICC	0.40	INA
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFc	/ILW	443.36	lb/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		0	1,655,472	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		actor; see Table 7.1-10	Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb	0.3		Average organi		WL		lb/gal
	wind speed at tank site; if IFR use Zerc	v		mph	Tank diameter		D	150.00	ft
Seal-related wind	speed exponent; see Table 7.1-8	n	1.6	NA	Constant		0.943	0.94	1,000 ft3*gal/bbl2
Vapor pressure fu	unction; see Figure 7.1-19	P*	0.224		Number of fixed	d roof support columns	Nc	0.00	
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective colum	n diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic		WL		lb/gal					
	h factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2		(Eq.2-13: LF = FF P*MvKc)	LF	4,656.58	
Average Reid Va	por Pressure	RVP	12.50			g loss factor; see Eq. 2-14	FF		lb-mole/yr
F	A	D 4	0.7470			function; see Figure 7.1-19	P*	0.22	
Equation 1-25 PV	$A = \exp(A - (B/TLA))$	PvA	8.7173			molecular weight; see Note 1 to Equation 1-21 0.4 for crude oils or 1 for other organic liquids	Mv		lb/lb-mole
Ea from Eig 7 1 1	6: 12.82 - 0.9672 In (RVP)	۸	10.377		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	0.40	NA
	6: 7261 - 1216 ln (RVP)	A B	4,189.7		Dock Soam Locene	(Eq.2-18: LD = KDSDD2P*MvKc)	LD	2,818.10	lh/ur
Eq IIOIII Fig 7.1-1	0. 7201 - 1210 III (RVF)	ь	4,109.7			s per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
TI A = 0.4*TAA +	0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R		gth factor; Length of Seam / Area of Deck	SD	0.20	
	bient temperature (Equation 1-30)	TAA	508.2	*R	Tank diameter	gar lactor, congar or coam / raca or book	D	150.00	
	erature (Equation 1-31)	TB	509.1	*R		function; see Figure 7.1-19	P*	0.22	
Tank paint solar a	absorptance, dimensionless, Table 7.1-6	α	0.3		Average vapor	molecular weight; see Note 1 to Equation 1-21	Mν	50.00	lb/lb-mole
Daily total solar in	nsolation on a horizontal surface, Btu/(ft2 day)	I	1180.0		Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	0.40	NA
	Average Daily Liquid Surface Temperature:		50.5	*F					
					Total Losses (Eq.2-	1 & 2-2: LT = LR+LW+LF+LD)	LT	8,991.60	lb/yr
TAA = ((TAX+TA		TAA	508.20						
	ximum ambient temperature, Table 7.1-2	TAX	517.10						
average daily mir	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R	JJ				
Lieuid Dulle Zooo		TD	500.00	*D	n				
	erature; Eq 1-31: TB = TAA + 0.003 αs I oss factor using Equation 2-14; see Eq. 2-6	TB	509.09	К	JI .				
TOTAL GECK TITTING I	oss factor using Equation 2-14; see Eq. 2-6		Loss Factor		=				
Quanity of Each	Fitting:	Qty	Loss Factor Kf	Source	=				
Access Hatch (Bo		2		Table 7.1-12	-				
	Hatch (Bolted/Gasketed)	1		Table 7.1-12	=				
	ilt-Up; Gasketed Sliding Cover)	0		Table 7.1-12	=				
	I (Slit Fabric Seal 10% Open)	1		Table 7.1-12	-				
	abric Seal 10% Open)	60		Table 7.1-12	=				
Vacuum Breaker	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-1					
	le (Gasketed Sliding Cover w Sleeve/Wiper)	0		Eq.2-7 & Table 7.1-1	12				
Legs		112		Table 7.1-12	_				
Ladder		0		Table 7.1-12	 -				
Ladder / Guide-P	ole Combination	1	60.0	Table 7.1-12	_				
					_				
	Total deck fitting loss factor:		1,041.00	Eq. 2-6	™				
					1				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	114		Tank type	Internal Floating Re	001	Date		03/19/20	
Material stored	Crude (Average RVP 12.5)		Company	Global		Performed by		Nicole Browe	r
City	Albany		State	NY					
Description	Aboveground Storage Tank								
	INPUT DATA					CALCULATIONS			
				Units			Symbol		Units
		Symbo		<u>Units</u>		1.2-3: LR = (KRa + KRb v^n)DP* Mv Kc)	LR		lb-mole/ft*yr
Molecular Weigh						d LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft
Molecular weigh		Mν	50	Lb/lb-mole		pendent LR factor; see Table 7.1-8	KRb		NA
Tank design data			40.00			nt wind speed at tank site; if IFR use Zero	V		mph
Shell height		Hs	48.00			nd speed exponent; see Table 7.1-8	n D#		NA
Diameter Tank volume		D	120.00 3,787,905		Vapor pressure Tank diameter	function; see Figure 7.1-19	P*	0.22 120.00	
Turnovers		N	13.62			molecular weight; see Note 1 to Equation 1-21	Mv		lb/lb-mole
Throughput		Q	51,588,177			0.4 for crude oils or 1 for other organic liquids	Kc	0.40	
	roof support columns	Nc	0.00		Froduct factor,	0.4 for crude oils or 1 for other organic liquids	N.C	0.40	INA
	n diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcFd	/II W	411.19	lh/vr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual through		Q	1.228.290	
	d LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr		actor; see Table 7.1-10	Cs		bbl/1,000 ft2
	pendent LR factor; see Table 7.1-8	KRb		NA	Average organi		WL		lb/gal
	nt wind speed at tank site; if IFR use Zerc	v		mph	Tank diameter	4	D	120.00	
	nd speed exponent; see Table 7.1-8	n		NA	Constant		0.943		1,000 ft3*gal/bbl2
	function; see Figure 7.1-19	P*	0.224		Number of fixed	roof support columns	Nc	0.00	
	actor; see Table 7.1-10	Cs	0.0060	bbl/1,000 ft2		n diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic		WL		lb/gal		, , , , , , , , , , , , , , , , , , , ,			
Deck seam leng	th factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2	Deck Fitting Losses	(Eq.2-13: LF = FF P*MvKc)	LF	767.78	lb/yr
Average Reid V	apor Pressure	RVP	12.50		Total deck fitting	loss factor; see Eq. 2-14	FF		lb-mole/yr
						function; see Figure 7.1-19	P*	0.22	
Equation 1-25 P	PvA = exp(A-(B/TLA))	PvA	8.7173			molecular weight; see Note 1 to Equation 1-21	Mν		lb/lb-mole
					Product factor;	0.4 for crude oils or 1 for other organic liquids	Kc	0.40	NA
	-16: 12.82 - 0.9672 In (RVP)	Α	10.377						
Eq from Fig 7.1-	-16: 7261 - 1216 In (RVP)	В	4,189.7			Eq.2-18: LD = KDSDD2P*MvKc)	LD	1,803.59	
		-				per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
	+ 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R		th factor; Length of Seam / Area of Deck	SD		ft/ft2
	mbient temperature (Equation 1-30)	TAA TB	508.2		Tank diameter	functions and Figure 7.1.10	D D*	120.00	
	perature (Equation 1-31) absorptance, dimensionless, Table 7.1-6	IB ~	509.1 0.3	R		function; see Figure 7.1-19 molecular weight; see Note 1 to Equation 1-21	Mv	0.22	lb/lb-mole
	insolation on a horizontal surface, Btu/(ft2 day)	u	1180.0			0.4 for crude oils or 1 for other organic liquids	Kc	0.40	
Daily total Solal	Average Daily Liquid Surface Temperature:	-	50.5	*E	Froduct factor,	0.4 for crude oils or 1 for other organic liquids	N.C	0.40	INA
	Average Bally Elquid Gullace Temperature.		50.5		Total Losses (Fr. 2-1	& 2-2: LT = LR+LW+LF+LD)	LT	3,841.40	lh/vr
TAA = ((TAX+T)	AN)/2)	TAA	508.20	*R	Total Losses (Lq.L-)	W 2-2. E1 - EK-EW-EI - E5)		0,041.40	ib/yi
	aximum ambient temperature, Table 7.1-2	TAX	517.10	*R			-		L
	inimum ambient temperature, Table 7.1-2	TAN	499.30		1				
					۳				
	perature; Eq 1-31: TB = TAA + 0.003 αs I	TB	509.09	*R	1				
Total deck fitting	loss factor using Equation 2-14; see Eq. 2-6				_				
			Loss Factor		_				
Quanity of Eac		Qty	<u>Kf</u>	Source	=				
	Bolted/Gasketed)	2		Table 7.1-12	_				
	ge Hatch (Bolted/Gasketed)	0		Table 7.1-12	_				
	uilt-Up; Gasketed Sliding Cover)	0		Table 7.1-12	=				
	ell (Slit Fabric Seal 10% Open)	2		Table 7.1-12	=				
	Fabric Seal 10% Open)	115		Table 7.1-12	10				
	r (Weighted Mech. Actu.; Gasketed) ole (Gasketed Sliding Cover w Sleeve/Wiper)	1 0		Eq.2-7 & Table 7.1-1 Eq.2-7 & Table 7.1-1					
	ole (Gasketed Silding Cover w Sieeve/Wiper)	0		Eq.2-7 & Table 7.1-1 Table 7.1-12	12				
Legs Ladder		0		Table 7.1-12	=				
	Pole Combination	0		Table 7.1-12	=				
Laudei / Guide-	i die dombination	-	00.0	14010 1.1-12	_				
	Total deck fitting loss factor:	 	171 64	Eq. 2-6	=				
	rotar deck fitting loss factor:	L	171.04	L4. 4-0					

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	115		Tank type	Internal Floating R			03/19/20	
Material stored	Crude (Average RVP 12.5)		Company	Global	Performed by		Nicole Browe	er
ity	Albany		State	NY				
escription	Aboveground Storage Tank							
	INPUT DATA				CALCULATIONS			
				Units		Symbol		Units
		Symbo	l	Units	Rim Seal Losses (Eq.2-3: LR = (KRa + KRb v^n)DP* Mv Kc	LR	1,073.56	lb-mole/ft*yr
Molecular Weight					Zero wind speed LR factor; see Table 7.1-8	KRa	1.6	lb-mole/(mph
Molecular weigh		Mν	50	Lb/lb-mole	Wind speed dependent LR factor; see Table 7.1-8	KRb	0.3	NA
ank design data					Average ambient wind speed at tank site; if IFR use Zen	٧	0.0	mph
Shell height		Hs	48.00		Seal-related wind speed exponent; see Table 7.1-I	n	1.6	NA
Diameter		D	150.00	ft	Vapor pressure function; see Figure 7.1-1!	P*	0.22	NA
Tank volume			5,642,527	gallons	Tank diameter	D	150.00	ft
Turnovers		N	13.62		Average vapor molecular weight; see Note 1 to Equation 1-2	Mν	50.00	lb/lb-mole
Throughput		Q	76,846,616	gal/yr	Product factor; 0.4 for crude oils or 1 for other organic liquid	Kc	0.40	NA
Number of fixed	roof support columns	Nc	0.00	NA				
	diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft	Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(Nc	LW	490.01	lb/yr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual throughpu	Q	1,829,681	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr	Shell clingage factor; see Table 7.1-10	Cs		bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb	0.3		Average organic liquid densit	WL		lb/gal
	t wind speed at tank site; if IFR use Zen	v		mph	Tank diameter	D	150.00	
	d speed exponent; see Table 7.1-	n		NA	Constant	0.943		1,000 ft3*gal/
	unction; see Figure 7.1-1	P*	0.224		Number of fixed roof support columns	Nc	0.00	
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective column diameter; 1.1, 0.7, or 1.0	Fc	1.10	
Average organic		WL		lb/gal	Ellective column diameter, 1.1, 0.7, or 1.0	1 0	1.10	
	th factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2	Deck Fitting Losses (Eq.2-13: LF = FF P*MvKc	LF	1,115.61	lb/ur
Average Reid Va		RVP	12.50	IUILZ	Total deck fitting loss factor; see Eq. 2-14	FF		lb-mole/yr
Average Reiu Va	ipoi riessule	KVF	12.50		Vapor pressure function; see Figure 7.1-1!	D*	0.22	
E	vA = exp(A-(B/TLA))	D A	8.7173			r		Ib/lb-mole
Equation 1-25 P	/A = exp(A-(B/TLA)	PvA	8./1/3		Average vapor molecular weight; see Note 1 to Equation 1-2	Kc	0.40	
F (F 7.	10 10 00 0 0070 L (D)(D)		40.077		Product factor; 0.4 for crude oils or 1 for other organic liquid	NC.	0.40	NA
	16: 12.82 - 0.9672 In (RVP)	A	10.377		D 10 1 (5 0 10 1 D 1/D0DD0D44 1/)		0.040.40	
Eq from Fig 7.1-	16: 7261 - 1216 In (RVP)	В	4,189.7		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc)	LD	2,818.10	
				_	Deck seam loss per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
	- 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Deck seam length factor; Length of Seam / Area of Deck	SD		ft/ft2
	nbient temperature (Equation 1-30	TAA		*R	Tank diameter	D P*	150.00	
	erature (Equation 1-31	TB	509.1	*R	Vapor pressure function; see Figure 7.1-1!		0.22	
	absorptance, dimensionless, Table 7.1-	α	0.3		Average vapor molecular weight; see Note 1 to Equation 1-2			lb/lb-mole
Daily total solar i	nsolation on a horizontal surface, Btu/(ft2 day	l	1180.0		Product factor; 0.4 for crude oils or 1 for other organic liquid	Kc	0.40	NA
	Average Daily Liquid Surface Temperature		50.5	*F				
					Total Losses (Eq.2-1 & 2-2: LT = LR+LW+LF+LD)	LT	5,497.29	lb/yr
TAA = ((TAX+TA		TAA	508.20					
	aximum ambient temperature, Table 7.1-2	TAX	517.10					
average daily mi	nimum ambient temperature, Table 7.1-2	TAN	499.30	*R				
	perature; Eq 1-31: TB = TAA + 0.003 αs	ТВ	509.09	*R				
otal deck fitting	loss factor using Equation 2-14; see Eq. 2-				•			
			Loss Factor					
Quanity of Each		Qty	Kf	Source				
Access Hatch (B	olted/Gasketed)	2	1.6	Table 7.1-12				
Automatic Gauge	e Hatch (Bolted/Gasketed)	0	2.8	Table 7.1-12				
	ilt-Up; Gasketed Sliding Cover	0		Table 7.1-12				
	II (Slit Fabric Seal 10% Open)	2		Table 7.1-12				
	abric Seal 10% Open	180		Table 7.1-12				
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-	12			
	ole (Gasketed Sliding Cover w Sleeve/Wiper	0		Eq.2-7 & Table 7.1-				
Legs		0		Table 7.1-12				
Ladder		0		Table 7.1-12				
Ladder / Guide-F	Pole Combination	-		Table 7.1-12				
		Ť	30.0					
	Total deck fitting loss factor:	-	249.40	Eq. 2-6				
	Total deck litting loss lactor.		245.40	-4. 4-V				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	31		Tank type	Internal Floating R			03/19/20	
laterial stored	Crude (Average RVP 12.5)		Company	Global	Performed by		Nicole Browe	er
ity	Albany		State	NY				
escription	Aboveground Storage Tank							
	INPUT DATA				CALCULATIONS			
				Units		Symbo		Units
		Symbo	<u> </u>	<u>Units</u>	Rim Seal Losses (Eq.2-3: LR = (KRa + KRb v^n)DP* Mv Kc	LR		lb-mole/ft*yr
Molecular Weight					Zero wind speed LR factor; see Table 7.1-8	KRa		lb-mole/(mph
Molecular weight		Mν	50	Lb/lb-mole	Wind speed dependent LR factor; see Table 7.1-8	KRb	0.1	
ank design data					Average ambient wind speed at tank site; if IFR use Zen	٧		mph
Shell height		Hs	45.00		Seal-related wind speed exponent; see Table 7.1-l	n		NA
Diameter		D	125.00		Vapor pressure function; see Figure 7.1-1!	P*	0.22	
Tank volume			3,801,825	gallons	Tank diameter	D	125.00	
Turnovers		N	13.62		Average vapor molecular weight; see Note 1 to Equation 1-2			lb/lb-mole
Throughput		Q	51,777,756	gal/yr	Product factor; 0.4 for crude oils or 1 for other organic liquid	Kc	0.40	NA
Number of fixed	roof support columns	Nc	10.00	NA				
Effective column	diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft	Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(Nc	FLW	431.06	lb/yr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual throughpu	Q	1,232,804	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr	Shell clingage factor; see Table 7.1-10	Cs		bbl/1,000 ft2
Wind speed dep	endent LR factor; see Table 7.1-8	KRb	0.1		Average organic liquid density	WL		lb/gal
Average ambien	t wind speed at tank site; if IFR use Zen	٧	0.0	mph	Tank diameter	D	125.00	ft
Seal-related wind	d speed exponent; see Table 7.1-	n		NA	Constant	0.943	0.94	1,000 ft3*gal/
	unction; see Figure 7.1-19	P*	0.224	NA	Number of fixed roof support columns	Nc	10.00	
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective column diameter; 1.1, 0.7, or 1.0	Fc	1.10	
Average organic		WL	7.10	lb/gal				
	th factor; Length of Seam / Area of Deck	SD	0.20	ft/ft2	Deck Fitting Losses (Eq.2-13: LF = FF P*MvKc	LF	2,296.53	lb/vr
Average Reid Va		RVP	12.50		Total deck fitting loss factor; see Eq. 2-14	FF		lb-mole/yr
	p				Vapor pressure function; see Figure 7.1-1!	P*	0.22	
Equation 1-25 Pv	$A = \exp(A-(B/TLA))$	PvA	8.7173		Average vapor molecular weight; see Note 1 to Equation 1-2	Mv		lb/lb-mole
					Product factor; 0.4 for crude oils or 1 for other organic liquid		0.40	
Fa from Fig 7 1-	16: 12.82 - 0.9672 In (RVP)	Α	10.377					
	16: 7261 - 1216 In (RVP)	В	4,189.7		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc)	LD	1,957.02	lh/vr
Eq iloiii rig 7.1-	10. 7201 - 1210 III (1771)		4,100.7		Deck seam loss per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
ΤΙ Δ = 0.4*ΤΔΔ +	- 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Deck seam length factor; Length of Seam / Area of Deck	SD		ft/ft2
	nbient temperature (Equation 1-30	TAA		*R	Tank diameter	D	125.00	
	erature (Equation 1-31	TB	509.1		Vapor pressure function; see Figure 7.1-1!	D*	0.22	
	absorptance, dimensionless, Table 7.1-	α	0.3	10	Average vapor molecular weight; see Note 1 to Equation 1-2	My		lb/lb-mole
	nsolation on a horizontal surface, Btu/(ft2 day	u I	1180.0		Product factor; 0.4 for crude oils or 1 for other organic liquid		0.40	
Daily total Solal I	Average Daily Liquid Surface Temperature	_	50.5	*E	Product factor, 0.4 for crude oils of 1 for other organic liquid	NC	0.40	INA
	Average Daily Liquid Surface Temperature		30.3	1	Total Losses (Eq.2-1 & 2-2: LT = LR+LW+LF+LD)	LT	6,529.79	lb/ur
TAA = ((TAX+TA	N1\/2\	TAA	508.20	*D	Total Losses (Eq.2-1 & 2-2. LT - LR+LW+LF+LD)	LI	0,525.75	ib/yi
	aximum ambient temperature, Table 7.1-7	TAX	517.10			1		
	nimum ambient temperature, Table 7.1-2	TAN	499.30					
average daily mi	minum ambient temperature, Table 7.1-7	IAN	499.30	r.				
Lieuta Bulli T		TD	500.00	*D				
	perature; Eq 1-31: TB = TAA + 0.003 αs	TB	509.09	r.				
OLAI GECK TITTING	loss factor using Equation 2-14; see Eq. 2-			-				
O	Fishing.	<u> </u>	Loss Factor					
Quanity of Each		Qty	<u>Kf</u>	Source Table 7.4.40				
Access Hatch (B		2		Table 7.1-12				
	e Hatch (Bolted/Gasketed	0		Table 7.1-12				
	ilt-Up; Gasketed Sliding Cover	10		Table 7.1-12				
	II (Slit Fabric Seal 10% Open)	2		Table 7.1-12				
	abric Seal 10% Open	125		Table 7.1-12				
	(Weighted Mech. Actu.; Gasketed)	1		Eq.2-7 & Table 7.1-				
	ole (Gasketed Sliding Cover w Sleeve/Wiper	0		Eq.2-7 & Table 7.1-	12			
Legs		0		Table 7.1-12				
Ladder		0		Table 7.1-12				
Ladder / Guide-F	Pole Combination	0	60.0	Table 7.1-12				
	·							
				F- 0.0				
	Total deck fitting loss factor:		513.40	Eq. 2-6				
	Total deck fitting loss factor:		513.40	Eq. 2-6				
	Total deck fitting loss factor:		513.40	Eq. 2-6				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	32		Tank type	Internal Floating R			03/19/20	
Material stored	Crude (Average RVP 12.5)		Company	Global	Performed by		Nicole Browe	er
City	Albany		State	NY				
Description	Aboveground Storage Tank							
	INPUT DATA				CALCULATIONS			
				Units		Symbo		Units
		Symbo	!	<u>Units</u>	Rim Seal Losses (Eq.2-3: LR = (KRa + KRb v^n)DP* Mv Kc	LR		lb-mole/ft*yr
Molecular Weight					Zero wind speed LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nt
Molecular weight		Mv	50	Lb/lb-mole	Wind speed dependent LR factor; see Table 7.1-8	KRb	0.1	
Tank design data Shell height		Hs	45.00		Average ambient wind speed at tank site; if IFR use Zen Seal-related wind speed exponent; see Table 7.1-I	v	3.0	mph
Diameter		D	125.00	ft	Vapor pressure function; see Figure 7.1-1!	D*	0.22	
Tank volume		D	3,801,825		Tank diameter	D	125.00	
Turnovers		N	13.62	galloris	Average vapor molecular weight; see Note 1 to Equation 1-2			lb/lb-mole
Throughput		Q	51,777,756	gal/vr	Product factor; 0.4 for crude oils or 1 for other organic liquid		0.40	
	roof support columns	Nc	10.00					
	diameter; 1.1, 0.7, or 1.0	Fc	1.10		Withdrawal losses (Eq.2-19: LWD=[((0.943)QCsWL)/D]*[1+(NcF	LW	431.06	lb/yr
	per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr	Annual throughpu	Q	1,232,804	
	LR factor; see Table 7.1-8	KRa		lb-mole/(mph)nft*yr	Shell clingage factor; see Table 7.1-10	Cs	0.0060	bbl/1,000 ft2
	endent LR factor; see Table 7.1-8	KRb	0.1	NA	Average organic liquid density	WL		lb/gal
	t wind speed at tank site; if IFR use Zen	٧		mph	Tank diameter	D	125.00	
	d speed exponent; see Table 7.1-	n	3.0		Constant	0.943		1,000 ft3*gal/bl
	unction; see Figure 7.1-19	P*	0.224		Number of fixed roof support columns	Nc	10.00	
	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2	Effective column diameter; 1.1, 0.7, or 1.0	Fc	1.10	ft
Average organic		WL		lb/gal				
	th factor; Length of Seam / Area of Deck	SD		ft/ft2	Deck Fitting Losses (Eq.2-13: LF = FF P*MvKc	LF	2,296.53	
Average Reid Va	apor Pressure	RVP	12.50		Total deck fitting loss factor; see Eq. 2-14	FF D*		lb-mole/yr
E	A =(A (D/TLA))	D. A	0.7470		Vapor pressure function; see Figure 7.1-1!	r	0.22	
Equation 1-25 PV	vA = exp(A-(B/TLA))	PvA	8.7173		Average vapor molecular weight; see Note 1 to Equation 1-2	Mv	0.40	lb/lb-mole
F- f F:- 74 /	40: 40:00 0.0070 I= (DVD)	A	10.377		Product factor; 0.4 for crude oils or 1 for other organic liquid	Kc	0.40	NA
	16: 12.82 - 0.9672 In (RVP) 16: 7261 - 1216 In (RVP)	B	4,189.7		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc)	LD	1,957.02	lb/ur
Eq IIOIII Fig 7.1-	10. 7201 - 1210 III (RVP)	ь	4,109.7		Deck seam loss per unit seam length factor; 0.0 or 0.14	KD		lb-mole/ft-yr
ΤΙ Δ = Ο Δ*ΤΔΔ +	- 0.6*TB + 0.005*α*I (Eqn. 1-28)	TLA	510.21	*R	Deck seam length factor; Length of Seam / Area of Deck	SD	0.14	
	nbient temperature (Equation 1-30	TAA	508.2		Tank diameter	D	125.00	
	erature (Equation 1-31	TB	509.1		Vapor pressure function; see Figure 7.1-1!	P*	0.22	
	absorptance, dimensionless, Table 7.1-	α	0.3		Average vapor molecular weight; see Note 1 to Equation 1-2	Mv		lb/lb-mole
	nsolation on a horizontal surface, Btu/(ft2 da)	Ī	1180.0		Product factor; 0.4 for crude oils or 1 for other organic liquid	Kc	0.40	
	Average Daily Liquid Surface Temperature		50.5	*F	, , , , , , , , , , , , , , , , , , ,			
					Total Losses (Eq.2-1 & 2-2: LT = LR+LW+LF+LD)	LT	6,529.79	lb/yr
TAA = ((TAX+TA	N)/2)	TAA	508.20	*R				
	aximum ambient temperature, Table 7.1-2	TAX	517.10					
average daily mit	nimum ambient temperature, Table 7.1-	TAN	499.30	*R				
					•			
	perature; Eq 1-31: TB = TAA + 0.003 αs	TB	509.09	*R				
otal deck fitting	loss factor using Equation 2-14; see Eq. 2-		ļ. <u> </u>					
O	Fitting	-	Loss Factor	_				
Quanity of Each Access Hatch (B		Qty	<u>Kf</u>	Source Table 7.1-12				
	oited/Gasketed e Hatch (Bolted/Gasketed)	0		Table 7.1-12 Table 7.1-12				
	e Hatch (Bolted/Gasketed iilt-Up; Gasketed Sliding Cover	10		Table 7.1-12 Table 7.1-12				
	III (Slit Fabric Seal 10% Open)	2		Table 7.1-12				
	Fabric Seal 10% Open	125	12.0	Table 7.1-12				
	(Weighted Mech. Actu.; Gasketed)	123		Eq.2-7 & Table 7.1-	12			
	ble (Gasketed Sliding Cover w Sleeve/Wiper	0		Eq.2-7 & Table 7.1-				
Leas		0		Table 7.1-12				
Ladder		0		Table 7.1-12				
Ladder / Guide-F	Pole Combination	0		Table 7.1-12				
	Total deck fitting loss factor:		513.40	Eq. 2-6				
	Total deck litting loss factor.							
	rotal deck litting loss factor.							
	rotal deck litting loss factor.							

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Material stored Crude (Average RVP 12.5) Company Global Performed by Nicole Brower	Tank No.	39		Tank type	Internal Floating R	oot	Date		03/19/20	
State NY										
NPUT DATA						. c.romou zy		MICOIC BIOM		
Units				Otato						
Units Windows						CALCULATIONS				
Molecular Weight No. Self-Indicated N					Units			Symbo	ı	Units
Molecular Weight No. Self-Indicated N										
Molecular weight			Symbo	i	Units	Rim Seal Losses (E	q.2-3: LR = (KRa + KRb v^n)DP* Mv Kc	LR	1,845.19	lb-mole/ft*yr
Tank design data	Molecular Weight	1				Zero wind spee	ed LR factor; see Table 7.1-8		3.3	lb-mole/(mph)nft*
Shah Inegit			Μv	50	Lb/lb-mole			KRb		
Dame Dame								٧		
Tank volume										
Turnovers N 13.62			D		ft					
Throughput			Ļ. —		gallons					
Number of fixed roof support columns No. 0.00 NA										
Effective column diameter, 11, 07, or 1.6 1.0 1.						Product factor;	0.4 for crude oils or 1 for other organic liquid	KC	0.40	NA
Deck seam loss per unit seam length factor; 0.0 or 0.1					NA 4	MANAGE ALTERNATION OF THE SECOND	/F = 0.40. MID=E//0.040\00-MII\/D3+E4+/N-I	1 14/	220.20	He fe or
Eero wind speed LR factor; see Table 7.1-8 KRa 3.3 lb-mole/imphintry Shel clingage factor; see Table 7.1-10 Cs 0.0000 bbit1,0000 Early Mind speed dependent LR factor; see Table 7.1-10 Cs 0.0000 bbit1,0000 Early Mind speed dependent LR factor; see Table 7.1-10 Cs 0.0000 bbit1,0000 Early Mind speed dependent LR factor; see Table 7.1-10 Cs 0.0000 Mind Mind speed exponents see Table 7.1-10 Cs 0.0000 Mind Mind speed exponents see Table 7.1-10 Cs 0.0000 Mind Mind speed exponents see Table 7.1-10 Cs 0.0000 Mind Mind speed exponents see Table 7.1-10 Cs 0.0000 Mind Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind speed exponent see Table 7.1-10 Cs 0.0000 Mind speed exponent see Table 7.1-10 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed exponent see Note 1 to Equation 1-2 Mind speed expo					Il mole/ft ur			LVV		
Wind speed dependent Lif factor; see Table 7.1-8 KFb 0.1 NA								Cc		
Average ambient wind speed at lank site, if IFR use Zen v 0.0 mph Tank diameter D 125.00 ft										
Seal-related wind speede exponent, see Table 7.1-1 n			v							
Vapor pressure function; see Figure 7.1-15 P* 0.224 NA Number of fixed most support columns No. 0.00 NA No. No			n							
Shell clingage factor; see Table 7.1-10 Cs			P*				d roof support columns			
Average organic liquid density W.L. 7.10 logal Deck seam length factor, Length of Seam / Area of Deck SD 0.20 ft/IZ Deck Fitting Losses (Eq. 2-13: LF = FF PMvKc LF 820.38 loyy			Cs							
Deck seam length factor; Length of Seam / Area of Deck SD 0.20 ft/ft/2 Deck Fitting_Losses (Eq.2-15; E = FF PMWK LF 820.38 byy								-	-	
Average Reid Vapor Pressure RVP 12.50 Total deck fitting loss factor, see Eq. 2-14 FF 183.40 Ib-molety						Deck Fitting Losses	s (Ea.2-13: LF = FF P*MvKc	LF	820.38	lb/vr
Equation 1-25 PvA = exp(A-(B/TLA))			RVP	12.50				FF		
Product factor; 0.4 for crude oils or 1 for other organic liquid Kc 0.40 NA	Ů	•						P*	0.22	NA
Eq from Fig 7.1-16: 12.82 - 0.9672 ln (RVP)	Equation 1-25 P	VA = exp(A-(B/TLA))	PvA	8.7173		Average vapor molecular weight; see Note 1 to Equation 1-2		Μv	50.00	lb/lb-mole
Eq from Fig 7.1-16: 7261 - 1216 in (RVP) B 4,189.7 Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MKC) LD 1,957.02 liblyr						Product factor; 0.4 for crude oils or 1 for other organic liquid		Kc	0.40	NA
Deck seam loss per unit seam length factor; 0.0 or 0.1	Eq from Fig 7.1-	16: 12.82 - 0.9672 In (RVP)	Α	10.377						
TLA = 0.4*TAA + 0.6*TB + 0.005*c*1 (Eqn. 1-28) TLA 510.21 R Deck seam length factor; Length of Seam / Area of Deck SD 0.20 (tr/f2 Average daily ambient temperature (Equation 1-30) TAA 508.2 R Tank diameter D 125.00 (tr Tank diameter	Eq from Fig 7.1-	16: 7261 - 1216 In (RVP)	В	4,189.7		Deck Seam Losses (Eq.2-18: LD = KDSDD2P*MvKc)		LD	1,957.02	lb/yr
Average daily ambient temperature (Equation 1-30 TAA 508.2 'R Tank diameter Vapor pressure function; see Figure 7.1-1! P						Deck seam loss per unit seam length factor; 0.0 or 0.14				
Liquid bulk temperature (Equation 1-31 TB 509.1 'R Vapor pressure function; see Figure 7.1-1! P* 0.22 NA							igth factor; Length of Seam / Area of Deck	SD		
Tank paint solar absorptance, dimensionless, Table 7.1-								D		
Daily total solar insolation on a horizontal surface, Btu/(ft2 day 1180.0 1180.0 Product factor; 0.4 for crude oils or 1 for other organic liquid Kc 0.40 NA			TB		*R			P*		
Average Daily Liquid Surface Temperature 50.5 °F Total Losses (Eq.2-1 & 2-2: LT = LR+LW+LF+LD) LT 4,942.86 bly/r TAA = ((TAX+TAN)/2) TAA 508.20 °R TAA			α							
TAA = ((TAX+TAN)/2) TAA = ((TAX+TAN)/2) Average daily maximum ambient temperature, Table 7.1-; TAX	Daily total solar		!		_	Product factor;	0.4 for crude oils or 1 for other organic liquid	Kc	0.40	NA
TAA		Average Daily Liquid Surface Temperature		50.5	*F	T	100017 15:19:15:15:			. ,
average daily maximum ambient temperature, Table 7.1-7. TAX 517.10 PR average daily minimum ambient temperature, Table 7.1-7. TAN 499.30 PR Liquid Bulk Temperature; Eq.1-31: TB = TAA + 0.003 cs TB 509.09 PR Total deck fitting loss factor using Equation 2-14; see Eq. 2-4 Quanity of Each Fitting:	TAA - //TAY.T/	ANIVO	T A A	500.00	*D	Total Losses (Eq.2-	-1 & 2-2: L1 = LR+LW+LF+LD)	LI	4,942.86	ib/yr
average daily minimum ambient temperature, Table 7.1-7.								<u> </u>	<u> </u>	
Liquid Bulk Temperature; Eq 1-31: TB = TAA + 0.003 as TB 509.09 'R Total deck fitting loss factor using Equation 2-14; see Eq. 2-1 Quanity of Each Fitting: Qty Kf Source Access Hatch (Boilted/Gasketed) 2 1.6 Table 7.1-12 Automatic Gauge Hatch (Boilted/Gasketed) 0 2.8 Table 7.1-12 Column Well (Built-Up; Gasketed Sliding Cover 0 33.0 Table 7.1-12 Sample Pipe/Well (Built-Dg: Gasketed Sliding Cover) 1 2 12.0 Table 7.1-12 Stub Drain (Slif Fabric Seal 10% Open) 2 12.0 Table 7.1-12 Vacuum Breaker (Welghted Mech. Actu; Gasketed) 1 6.2 Eq. 2-7 & Table 7.1-12 Slotted Guide-Pole (Gasketed Sliding Cover w Sleever/Wiper 0 8.3 Eq. 2-7 & Table 7.1-12 Legs 0 7.9 Table 7.1-12 Ladder 0 56.0 Table 7.1-12 Ladder 0 56.0 Table 7.1-12										
Total deck fitting loss factor using Equation 2-14; see Eq. 2-4	average daily III	minum ambient temperature, rable 7.1	IAIN	400.00	13					
Total deck fitting loss factor using Equation 2-14; see Eq. 2-1 Caunity of Each Fitting:	Liquid Bulk Tem	nerature: Eq.1-31: TB = TAA + 0.003 gs	TB	509.00	*R					
Loss Factor Quanity of Each Fitting: Qtv Xf Source				555.00	··					
Quanty of Each Fitting: Qty Kf Source				Loss Factor		•				
Access Hatch (Bolted/Gasketed) 2 1.6 Table 7.1-12	Quanity of Eacl	h Fitting:	Qtv		Source	•				
Column Well (Built-Up; Gasketed Sliding Cover 0 33.0 Table 7.1-12						•				
Column Well (Built-Up; Gasketed Sliding Cover 0 33.0 Table 7.1-12	Automatic Gaug	e Hatch (Bolted/Gasketed)	0	2.8	Table 7.1-12					
Stub Drain (Slit Fabric Seal 10% Open 125 1.2 Table 7.1-12 Vacuum Breaker (Weighted Mech. Actu.; Gasketed) 1 6.2 Eq.2-7 & Table 7.1-12 Slotted Guide-Pole (Gasketed Sliding Cover w Sleeve/Wiper 0 8.3 Eq.2-7 & Table 7.1-12 Legs 0 7.9 Table 7.1-12 Ladder 0 55.0 Table 7.1-12 Ladder / Guide-Pole Combinatior 0 60.0 Table 7.1-12	Column Well (Bu	uilt-Up; Gasketed Sliding Cover		33.0		•				
Vacuum Breaker (Weighted Mech. Actu.; Gasketed) 1 6.2 Eq.2-7 & Table 7.1-12 Slotted Guide-Pole (Gasketed Sliding Cover w SleeverWiper) 0 8.3 Eq.2-7 & Table 7.1-12 Legs 0 7.9 Table 7.1-12 Ladder 0 56.0 Table 7.1-12 Ladder / Guide-Pole Combinatior 0 60.0 Table 7.1-12						•				
Slotted Guide-Pole (Gasketed Sliding Cover w Sleeve/Wiper 0 8.3 Eq.2-7 & Table 7.1-12			125							
Legs 0 7.9 Table 7.1-12 Ladder 0 56.0 Table 7.1-12 Ladder / Guide-Pole Combinatior 0 60.0 Table 7.1-12										
Ladder 0 56.0 Table 7.1-12 Ladder / Guide-Pole Combinatior 0 60.0 Table 7.1-12		ole (Gasketed Sliding Cover w Sleeve/Wiper				12				
Ladder / Guide-Pole Combinatior 0 60.0 Table 7.1-12						<u> </u>				
						<u> </u>				
Total deck fitting loss factor: 183.40 Eq. 2-6	Ladder / Guide-F	Pole Combinatior	ionatior 0 60.0 Table 7.1-12							
I total deck ritting loss factor: 183.40 Eq. 2-6		7.11.150		400 :-	F 0.0					
		Total deck fitting loss factor:	1	183.40	Eq. 2-6					
			 							
	<u> </u>		-	 						
	I		<u> </u>		I	•				

- Notes:

 1. Vapor Pressure Function can be calculated using Equation 2-4 (not shown) or read directly form Figure 7.1-19.

 2. Equations 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, and 2-12 are used to calculate Average Daily Liquid Surface Temperature from IFRTs, DEFRTs, and EFRTs.

 3. Equation 2-15 is simplified to Equation 2-16 for IFRTs and DEFRTs.

 4. Equation 2-17 not used. This equation is for configurations not shown in Table 7.1-12.

 5. Equation 2-20 is not shown. This equation is for tanks that are pumped into and out of at the same time to avoid overestimation of emissions.

Tank No.	Tank 28		Tank type	Fixed Roof Tank	Date		03/19/20	
	Distillate		Company	Global	Performed by	Nicole	Brower	
City	Albany		State	New York				
Description	Aboveground Storage Tank							
	INPUT DATA				CALCULATIONS			
				Units		Symbol		Units
		0		Units	Standing Losses (Eq.1-2: Ls = 365 (Vv * Wv * KE * Ks)	Ls	854.11	lla fore
Product Informati	on	Symbo	1	Units		Vv	292095.5	
Vapor Molecular		Mv	130	Lb/lb-mole	Stock Vapor Density	Wv	0.0001	
		-				KE	0.061382	
Tank design data					Vented Vapor Saturation Facto	Ks	0.99	NA
Shell height		Hs	45.00		Constant; Number of Daily Events in a Yea	365	365	days/year
Diameter		D	125.00					
Tank volume Turnovers			3,829,140 101.63	gallons	Working Losses (Eq.1-35: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/D)] Annual throughpul	Lw	796.88 9,266,013	lb/yr
Throughput		O.	389,172,536	aallur		Cs.		bbl/1,000 ft2
Roof Type:	Cone or Dome	ų.	Cone	ganyi	Average organic liquid densit	WL		lb/gal
If Cone:						D	125.00	
Tank cone roof s	slope (If unknown, use 0.0625	SR	0.0625	ft/ft	Constant	0.943	0.94	1,000 ft3*gal/bbl2
If Dome						Nc		NA
Tank dome roof r	radius (If unknown, use tank diameter (D) or (2Rs	RR	125.00		Effective column diameter; 1.1, 0.7, or 1.	Fc	1.10	ft
Number of fixed i	roof support column:	Nc	8.00		Marrie Constanting (Ford A. Marrie (Fold A. DAOM)	Vv	292,095.51	60
Tank Color (see	Paint Tab etting Range (Default Assumption: +/- 0.03	PBP	Blue 0.03			D	292,095.51 125.00	
Didduler velit Se	otting realige (Delduit Assumption: */- 0.00	PBV	-0.03	nsi		Hvo	23.80	
Shell clingage fac	ctor; see Table 7.1-10	Cs		bbl/1,000 ft2			20.00	ř .
Average organic		WL		lb/gal	Vapor Space Outage (Eq. 1-16: Hvo=Hs-HL+HRC	Hvo	23.80	
					Tank shell height	Hs	45.00	ft
Average Daily Liq	uid Surface Temperature					HL	22.50	
	T; see Equation 1-27 simplified to Equation 1-28	-			Roof Outage (for a Cone Roof vs Dome Roo	HRO	1.30	ft
	+ 0.6*TB + 0.005*α*I nbient temperature (Equation 1-3I	TLA	515.42 508.2	*R	Roof Outage - Cone Roof (Eq. 1-17 & 1-18: HRO=(1/3)SR*Rs	HRO	1.30	4
Liquid bulk tempe	erature (Equation 1-31	TB	511.4		Tank cone roof slope (If unknown, use 0.0625	SR	0.0625	
Tank paint solar	absorptance, dimensionless, Table 7.1-	a	0.9	IX.		Rs	62.50	
Daily total solar in	insolation on a horizontal surface, Btu/(ft2 da	î	1180.0					
	Average Daily Liquid Surface Temperature		55.7	*F	Roof Outage - Dome Roof (Eq. 1-19 & 1-20: HRO=(RR-(RR^2-Rs^2)^0.5)*(0.5+0.16667((RR-(RR^2-Rs^2)^0.5)/Rs	HRO	8.57	ft
					Tank dome roof radius (If unknown, use tank diameter (D) or (2Rs	RR	125.00	
	ted FRT; see Equation 1-29				Tank shell radius	Rs	62.50	ft
	+ 0.7*TB + 0.005*αR*I	TLA		*R			0.99	
Average daily an	nbient temperature (Equation 1-3/ erature (Equation 1-31	TAA TB	508.2 511.4	*R		Ks PvA	0.0056	
	e solar absorptance, dimensionless, Table 7.1-	αR	0.90	K		Hvo	23.80	
	insolation on a horizontal surface, Btu/(ft2 da	I	1,180.00		Tupor opuce odage, see Equation 1.1		20.00	
	Average Daily Liquid Surface Temperature		56.0	*F	Vapor Space Expansion Factor (Eq. 1-5: (ΔTv/TLA)+[(ΔPv-ΔPB)/(PA-PvA)]	KE	0.06	per day
					Average Daily Vapor Temperature Rang	ΔΤν	33.70	*R
					Average Daily Vapor Pressure Rang	ΔΡν	0.00	
A TAA = ((TAX+TA		TAA	508.20			ΔPB	0.06	
average daily ma	aximum ambient temperature, Table 7.1 nimum ambient temperature. Table 7.1	TAX	517.10 499.30	*R		PvA TLA	0.0056	
average daily mil	minum amoient temperature, rable 7.1	IAN	499.30	r.		P _A	515.42 14.59	
		+			· · · · · · · · · · · · · · · · · · ·	^	14.59	
S Wv = (Mv*PVA)/((R*Tv)	Wv	0.0001			ΔΤν	33.70	
Vapor Molecular	weigh	Mv	130		Average daily ambient temperature rang	ΔΤΑ	17.8	
Constant		R	10.7310		Average tank surface solar absorptance, dimensionless, Table 7.1	α	0.90	
	vA = exp(A-(B/TLA)	PvA	0.0056		daily total solar insolation on a horizontal surface, Btu/(ft2 da		1180.00	
Average Daily Lic	quid Surrace Temperatur	Tv	518.7138		Bestlette bestleted Ferretion 4.0 / ATV = 0.0 ATA + 0.00 aD II	e.Tu	***	*D
		+				ΔΤν ΔΤΑ	326.16	
A Uninsulated ED	T; see Equation 1-32 simplified to Equation 1-33	+	 			αR	508.20 0.90	1S
	0.3*TB + 0.009*q*I	Tv	518.71	*R	Average daily total solar insolation factor, Btu/(ft2 day): Table 7.1	ur.	1180.00	
Average daily am	nbient temperature (Equation 1-3)	TAA	508.2					
Liquid bulk tempe	erature (Equation 1-31	TB	511.4	*R	Fully Insulated	ΔΤν	0.00	*R
Tank paint solar	absorptance, dimensionless, Table 7.1-	α	0.9					
Daily total solar in	nsolation on a horizontal surface, Btu/(ft2 da		1180.0		Average Daily Vapor Pressure Range for Uninsulated Tanks (Equation 1-9: ΔPV = PVX - PVN	ΔΡν	0.00164	
Doublell: Inc.	ted FRT; see Equation 1-34	-			Vapor pressure at the average daily max liquid surface temp, (Eq. 1-25 or 1-26 using TLX; Pvx = e		0.00586	
Ty = 0.6*TAA + 0	ted FRT; see Equation 1-34 0.4*TB + 0.01*αR*I	Tv	520.09	*R	Vapor pressure at the average daily min liquid surface temp, (Eq. 1-25 or 1-26 using TLX; PvN = e Average daily maximum liquid surface temperature, deg R (TLX = TLA + 0.25ΔTV from Figure 7.1-	TIV	0.00422 516.63	
	nbient temperature (Equation 1-3)	TAA	520.09		Average daily minimum liquid surface temperature, deg R (TLX = TLA + 0.25ΔTV from Figure 7.1-1 Average daily minimum liquid surface temperature, deg R (TLN = TLA - 0.25ΔTV from Figure 7.1-1		516.63	
	erature (Equation 1-31	TB	511.4		g. 2,		307.00	1
Tank roof surface	e solar absorptance, dimensionless, Table 7.1-	αR	0.90		Fully Insulated	ΔΡν	0.00	psia
	insolation on a horizontal surface, Btu/(ft2 da	1	1,180.00		 '			
•						ΔPB	0.06	
Fully Insulated						PBP	0.03	
Tv = TB		Tv	511.39	*R		PBV	-0.03	psi
	perature; Eq 1-31: TB = TAA + 0.003 αs	ТВ	511.39	*D	Total Losses (Eq.1-1: LT = Ls+Lw)	LT	1,650.98	lb/ur
Liquid Bulk Tome	perature, Eq. 1-31. TD = TMM ± 0.003 us			18	rotal Losses (Lq.1-1. L1 = L5TLW)		1,000.98	ioryi
	nhient temperature (Equation 1-3)	TAA	508 20					
Average daily am	nbient temperature (Equation 1-3)	TAA	508.20		A 12.101			-
Average daily am tank shell solar a	nbient temperature (Equation 1-3i absorptance, dimensionless, Table 7.1- nsolation on a horizontal surface, Btu/(ft2 da	TAA αs			A 12.101 B 9907			

- NOTE:

 1. Equation 1-4 not used, as it's stricktly a combination of Equation 1-2 and 1
 2. Equation 1-14 and 1-15 are for Horizontal Tank

 3. Equation 1-23 is not shown. Equation 1-23 is for calculating the molecular weight of mixture

 4. Equations 1-24, 1-25, and 1-26 not shown. These equations are used for determining vapor pressu

ank No. Tank 29 faterial stored Distillate		Tank type Company	Fixed Roof Tank Global	Date Performed by	Nicol	03/19/20 e Brower	
ity Albany		State	New York	. C. Offiled by	HICOI	, Diowei	
Aboveground Storage Tank							
INPUT DATA				CALCULATIONS			
			Units		Symbol		Units
	Symbol		Units	Standing Losses (Eq.1-2: Ls = 365 (Vv * Wv * KE * Ks)	Ls	854.11	lb/yr
roduct Information				Vapor Space Volume; see Equation 1-	Vv	292095.5	ft3
Vapor Molecular weigh	Μv	130	Lb/lb-mole	Stock Vapor Density	Wv	0.0001	
					KE	0.061382	per day
ank design data					Ks	0.99	
Shell height	Hs	45.00		Constant; Number of Daily Events in a Yea	365	365	days/year
Diameter	D	125.00					
Tank volume		3,829,140	gallons	Working Losses (Eq.1-35: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/D)]	Lw	796.88	
Turnovers	N	101.63		Annual throughpul	Q	9,266,013	bbl/yr
Throughput	Q	389,172,536	gal/yr	Shell clingage factor; see Table 7.1-10	Cs		bbl/1,000 ft2
Roof Type: Cone or Dome		Cone		Average organic liquid densit	WL	7.10	lb/gal
If Cone:				Tank diameter	D	125.00	
Tank cone roof slope (If unknown, use 0.0625	SR	0.0625	ft/ft	Constant	0.943		1,000 ft3*gal/bi
If Dome				Number of fixed roof support column:	Nc	8.00	
Tank dome roof radius (If unknown, use tank diameter (D) or (2Rs	RR	125.00		Effective column diameter; 1.1, 0.7, or 1.	Fc	1.10	nt
Number of fixed roof support column:	Nc	8.00					
Tank Color (see Paint Tab	200	Blue		Vapor Space Volume (Eq.1-3: Vv = ((Pi / 4) D^2)Hvc	Vv	292,095.51	
Breather Vent Setting Range (Default Assumption: +/- 0.00	PBP	0.03	psi	Tank diameter	D	125.00	
Obell ellerer fester en Table 7.4.40	PBV	-0.03		Vapor Space Outage; see Equation 1-1	Hvo	23.80	п
Shell clingage factor; see Table 7.1-10	Cs		bbl/1,000 ft2				-
Average organic liquid densit	WL	7.10	lb/gal	Vapor Space Outage (Eq. 1-16: Hvo=Hs-HL+HRC	Hvo	23.80	
Delle Hendel Confess Townson				Tank shell height	Hs	45.00	
verage Daily Liquid Surface Temperature	,			Liquid Height (typically assumed to be at half-full leve	HL	22.50	
Uninsulated FRT; see Equation 1-27 simplified to Equation 1-2 TLA = 0.4*TAA + 0.6*TB + 0.005*q*I	TLA		*R	Roof Outage (for a Cone Roof vs Dome Roo	HRO	1.30	п
		515.42					
Average daily ambient temperature (Equation 1-3)	TAA	508.2 511.4		Roof Outage - Cone Roof (Eq. 1-17 & 1-18: HRO=(1/3)SR*Rs	HRO SR	1.30	
Liquid bulk temperature (Equation 1-31 Tank paint solar absorptance, dimensionless, Table 7.1-	TB	511.4	'K	Tank cone roof slope (If unknown, use 0.0625 Tank shell radius		0.0625 62.50	
	a			rank shell radius	Rs	02.50	п
Daily total solar insolation on a horizontal surface, Btu/(ft2 da		1180.0	AF			8.57	
Average Daily Liquid Surface Tempe	erature	55.7	^F	Roof Outage - Dome Roof (Eq. 1-19 & 1-20: HRO=(RR-(RR^2-Rs^2)^0.5)*(0.5+0.16667((RR-(RR^2-Rs^2)^0.5)/Rs^2)^0.5)*(0.5+0.16667((RR-(RR^2-Rs^2)^0.5))*(0.5+0.16667((RR-(RR^2-Rs^2)^0.5))*(0.5+0.16667((RR^2-Rs^2)^0.5)*(0.5+0.16667((RR^2-Rs^2)^0.5)*(0.5+0.16667((RR^2-Rs^2)^0.5)*(0.5+0.1667((RR^2-Rs^2)^0.5)*(0.5+0.1667((RR^2-Rs^2)^0.5)*(0.5+0		125.00	
Partially Insulated FRT; see Equation 1-29				Tank dome roof radius (If unknown, use tank diameter (D) or (2Rs Tank shell radius	RR		
	***		*R	Tank shell radius	Rs	62.50	π
TLA = 0.3*TAA + 0.7*TB + 0.005*aR*I	TLA	515.74		Vented Venes Octored on France (Fr. 4 04: Kr 4 (4) 0 050*D. Attless)	Ks	0.99	1
Average daily ambient temperature (Equation 1-3I Liquid bulk temperature (Equation 1-31	TB	508.2 511.4		Vented Vapor Saturation Factor (Eq. 1-21: Ks = 1/(1+0.053*PvA*Hvo) Vapor Pressure at Avg Daily Liq Surface Tem	PvA	0.0056	
			'K				
Tank roof surface solar absorptance, dimensionless, Table 7.1- Daily total solar insolation on a horizontal surface, Btu/(ft2 da	αR	0.90 1.180.00		Vapor Space Outage; see Equation 1-1	Hvo	23.80	п
Average Daily Liquid Surface Tempe		1,180.00	AF		KE		-
Average Daily Liquid Surface Tempo	erature	56.0	`F	Vapor Space Expansion Factor (Eq. 1-5: (ΔΤν/TLA)+[(ΔΡν-ΔΡΒ)/(ΡΑ-ΡνΑ)] Average Daily Vapor Temperature Rang	ΔTv	33.70	per day
				Average Daily Vapor Pressure Rang Average Daily Vapor Pressure Rang	ΔΡν	0.00	
TAA = ((TAX+TAN)/2)	TAA	508.20	*R	Breather Vent Pressure Setting Range	ΔPB	0.00	
average daily maximum ambient temperature, Table 7.1	TAX	517.10		Vapor Pressure at Avg Daily Liq Surface Tem	PvA	0.0056	psi
average daily minimum ambient temperature, Table 7.1	TAN	499.30	*R	Average Daily Liquid Surface Temperature	TLA	515.42	
average daily minimum ambient temperature, Table 7.1	IAN	499.30	-K	Average Daily Elquid Surface Temperature Atmospheric Pressure	ILA D		
				Atmospheric riessure	' A	14.59	hoia
$Wv = (Mv^*PVA)/(R^*Tv)$	Wv	0.0001		Equation 1-6, simplified to Equation 1-7 for Uninsulated Tanks (ΔTV = 0.7 ΔTA + 0.02 α I	ΔΤν	33.70	
Vapor Molecular weigh	Mv	130		Average daily ambient temperature rang	ΔΤΑ		
Vapor Molecular Weign Constant	D	10.7310	 	Average daily ambient temperature rang Average tank surface solar absorptance, dimensionless, Table 7.1-		17.8 0.90	
Constant Equation 1-25 PvA = exp(A-(B/TLA)	PvA	0.0056		Average tank surface solar absorptance, dimensionless, Table 7.1- daily total solar insolation on a horizontal surface, Btu/(ft2 da	α	1180.00	
Average Daily Liquid Surrace Temperatur	Tv	518.7138		dany total solal mediation on a nonzontal suriace, blu/(tiz da		1180.00	1
Average Daily Elquid Surface Temperatur	1 V	310./138		Partially Insulated - Equation 1-8 (ΔTV = 0.6 ΔTA + 0.02 αR I)	ΔΤν	326.16	*D
				Average daily ambient temperature rang	ΔΤΑ	508.20	
Uninsulated FRT; see Equation 1-32 simplified to Equation 1-3	,			Tank roof surface solar absorptance, dimensionless, Table 7.1-	αR	0.90	
Uninsulated FR1; see Equation 1-32 simplified to Equation 1-3. Tv = 0.7*TAA + 0.3*TB + 0.009*α*I	Tv	518.71	*R	Average daily total solar insolation factor, Btu/(ft2 day); Table 7.1	ur\	1180.00	
Average daily ambient temperature (Equation 1-3)	TAA	518.71		Average vally total Stildt Ill Stildtitut (actur, blur(112 udy), 1 abie 7.1	-	1100.00	+
Liquid bulk temperature (Equation 1-31	TB	511.4	*R	Fully insulated	ΔΤν	0.00	*R
Tank paint solar absorptance, dimensionless, Table 7.1-	0	0.9	1	,		5.00	+
Daily total solar insolation on a horizontal surface, Btu/(ft2 da	- l	1180.0	-	Average Daily Vapor Pressure Range for Uninsulated Tanks (Equation 1-9: ΔPV = PVX - PVN	ΔΡν	0.00164	nsia
. ,		50.0		Vapor pressure at the average daily max liquid surface temp, (Eq. 1-25 or 1-26 using TLX; Pvx = e		0.00586	
Partially Insulated FRT: see Equation 1-34				Vapor pressure at the average daily max liquid surface temp, (Eq. 1-25 or 1-26 using TEX, TVX = 6 Vapor pressure at the average daily min liquid surface temp, (Eq. 1-25 or 1-26 using TEX; PvN = 6	PVN	0.00386	
Tv = 0.6*TAA + 0.4*TB + 0.01*αR*I	Tv	520.09	*R	Average daily maximum liquid surface temperature, deg R (TLX = TLA + 0.25ΔTV from Figure 7.1-		516.63	
Average daily ambient temperature (Equation 1-3)	TAA	508.2		Average daily minimum liquid surface temperature, deg R (TLN = TLA - 0.25ΔTV from Figure 7.1-1	TLN	507.00	
Liquid bulk temperature (Equation 1-31	TB	511.4				557.00	1
Tank roof surface solar absorptance, dimensionless, Table 7.1-	αR	0.90		Fully Insulated	ΔΡν	0.00	psia
Daily total solar insolation on a horizontal surface, Btu/(ft2 da	fi	1,180.00		 			e ·
, Diameter and the state of the state o	f	.,		(Equation 1-10: ΔPB = PBP - PBV	ΔPB	0.06	
Fully Insulated				Breather Vent Setting Range (Default Assumption: +/- 0.03	PBP	0.03	psi
Tv = TB	Tv	511.39	*R		PBV	-0.03	
		00				2.00	1
Liquid Bulk Temperature: Eq 1-31: TB = TAA + 0.003 qs	ТВ	511.39	*R	Total Losses (Eq.1-1: LT = Ls+Lw)	LT	1,650,98	lb/vr
Average daily ambient temperature (Equation 1-3)	TAA	508.20	1			1,000.00	
tank shell solar absorptance, dimensionless, Table 7.1-	as	0.90		A 12.101	<u> </u>		-
daily total solar insolation on a horizontal surface, Btu/(ft2 da	uo	1,180.00		B 8907			
		1,100.00	1	JI			

- NOTE:

 1. Equation 1-4 not used, as it's stricktly a combination of Equation 1-2 and 1
 2. Equation 1-14 and 1-15 are for Horizontal Tank

 3. Equation 1-23 is not shown. Equation 1-23 is for calculating the molecular weight of mixture

 4. Equations 1-24, 1-25, and 1-26 not shown. These equations are used for determining vapor pressu

		Tank type	Fixed Roof Tank	Date		03/19/20	
Tank No. Tank 64 Material stored Distillate		Company	Global	Performed by		Nicole Brower	
Albany Albany		State	New York				
escription Aboveground Storage Tank							
INPUT DATA				CALCULATIONS			
			Units		Symbol		Units
				Standing Losses (Eq.1-2: Ls = 365 (Vv * Wv * KE * Ks)	Ls	854	the feat
Product Information	Symbo		<u>Units</u>	Vapor Space Volume; see Equation 1-	Vv	292095.5	
Vapor Molecular weigh	Mv	130	Lb/lb-mole	Stock Vapor Density	Wv	0.0001	lh/ft3
vapor molecular weight	IVIV	130	LUND-INDIG	Vapor Space Expansion Factor (0 < KE <= 1); see Equation 1-	KE	0.061382	
ank design data				Vented Vapor Saturation Facto	Ks	0.001302	
Shell height	Hs	45.00		Constant; Number of Daily Events in a Yea	365		days/year
Diameter	D	125.00	ft				,-,
Tank volume	- [3,690,540		Working Losses (Eq.1-35: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/D)]	Lw	768.03	lb/vr
Turnovers	N	101.63	V	Annual throughpul	Q	8,930,619	bbl/yr
Throughput	Q	375,086,001	gal/yr	Shell clingage factor; see Table 7.1-10	Cs	0.0015	bbl/1,000 ft2
Roof Type: Cone or Dome		Cone		Average organic liquid densit	WL	7.10	
If Cone:				Tank diameter	D	125.00	
Tank cone roof slope (If unknown, use 0.0625	SR	0.0625	ft/ft	Constant	0.943		1,000 ft3*gal/bbl2
If Dome				Number of fixed roof support column:	Nc	8.00	
Tank dome roof radius (If unknown, use tank diameter (D) or (2Rs	RR	125.00		Effective column diameter; 1.1, 0.7, or 1.	Fc	1.10	ft
Number of fixed roof support column:	Nc	8.00					
Tank Color (see Paint Tab	200	Blue		Vapor Space Volume (Eq.1-3: Vv = ((Pi / 4) D^2)Hvc	Vv	292,095.51	
Breather Vent Setting Range (Default Assumption: +/- 0.00	PBP	0.03		Tank diameter	D	125.00	
Chell olingage feeter one Toble 7.1.10	PBV	-0.03	psi bbl/1,000 ft2	Vapor Space Outage; see Equation 1-1	Hvo	23.80	It
Shell clingage factor; see Table 7.1-10	Cs WL			Version Control (Fo. 4.45) Novelle III (III)	Hvo	23.80	
Average organic liquid densit	WL	7.10	lb/gal	Vapor Space Outage (Eq. 1-16: Hvo=Hs-HL+HRC Tank shell height	Hs	23.80 45.00	
Average Daily Liquid Surface Temperature	_	-		Liquid Height (typically assumed to be at half-full leve	HS	45.00 22.50	
Uninsulated FRT; see Equation 1-27 simplified to Equation 1-28	-	 		Roof Outage (for a Cone Roof vs Dome Roo	HRO	1.30	
TLA = 0.4*TAA + 0.6*TB + 0.005*a*I	TLA	515.42	*R	1001 Guago (101 a Gollie 1001 to Dollie 100		1.30	
Average daily ambient temperature (Equation 1-3)	TAA	515.42		Roof Outage - Cone Roof (Eq. 1-17 & 1-18: HRO=(1/3)SR*Rs	HRO	1.30	ft
Liquid bulk temperature (Equation 1-31	TB	511.4	*R	Tank cone roof slope (If unknown, use 0.0625	SR	0.0625	
Tank paint solar absorptance, dimensionless, Table 7.1-	α	0.9		Tank shell radius	Rs	62.50	
Daily total solar insolation on a horizontal surface, Btu/(ft2 da	- î	1180.0			1.00		
Average Daily Liquid Surface Temperatu	ıre	55.7	*F	Roof Outage - Dome Roof (Eq. 1-19 & 1-20: HRO=(RR-(RR^2-Rs^2)^0.5)*(0.5+0.16667((RR-(RR^2-Rs^2)^0.5)/F	Rs HRO	8.57	ft
				Tank dome roof radius (If unknown, use tank diameter (D) or (2Rs	RR	125.00	
Partially Insulated FRT; see Equation 1-29				Tank shell radius	Rs	62.50	
TLA = 0.3*TAA + 0.7*TB + 0.005*aR*I	TLA		*R				
Average daily ambient temperature (Equation 1-3)	TAA	508.2		Vented Vapor Saturation Factor (Eq. 1-21: Ks = 1/(1+0.053*PvA*Hvo)	Ks	0.99	
Liquid bulk temperature (Equation 1-31	TB	511.4	*R	Vapor Pressure at Avg Daily Liq Surface Tem	PvA	0.0056	
Tank roof surface solar absorptance, dimensionless, Table 7.1-	αR	0.90		Vapor Space Outage; see Equation 1-1	Hvo	23.80	ft
Daily total solar insolation on a horizontal surface, Btu/(ft2 da	1	1,180.00					
Average Daily Liquid Surface Temperatu	ire .	56.0	*F	Vapor Space Expansion Factor (Eq. 1-5: (ΔTv/TLA)+[(ΔPv-ΔPB)/(PA-PvA)]	KE		per day
				Average Daily Vapor Temperature Rang	ΔΤν	33.70	
Average Daily Ambient Temperature; see Equation 1-30				Average Daily Vapor Pressure Rang	ΔΡν	0.00	
TAA = ((TAX+TAN)/2)	TAA	508.20		Breather Vent Pressure Setting Range	ΔPB	0.06	
average daily maximum ambient temperature, Table 7.1 average daily minimum ambient temperature, Table 7.1	TAX	517.10		Vapor Pressure at Avg Daily Liq Surface Tem	PvA	0.0056	
average daily minimum ambient temperature, Table 7.1	TAN	499.30	'K	Average Daily Liquid Surface Temperature Atmospheric Pressure	TLA	515.42	
Stock Vapor Density; see Equation 1-2:	_	-		Autrospheric i resoult	PA	14.59	Pola
Wv = (Mv*PVA)/(R*Tv)	Wv	0.0001	-	Equation 1-6, simplified to Equation 1-7 for Uninsulated Tanks (ΔTV = 0.7 ΔTA + 0.02 α I	ΛTV	33.70	
Vapor Molecular weigh	Mv	130		Average daily ambient temperature rang	ΔΤΑ	33.70 17.8	*R
Constant	R	10.7310		Average daily ambient temperature rang Average tank surface solar absorptance, dimensionless, Table 7.1	α	0.90	**
Equation 1-25 PvA = exp(A-(B/TLA)	PvA	0.0056	 	daily total solar insolation on a horizontal surface, Btu/(ft2 da	1	1180.00	1
Average Daily Liquid Surrace Temperatur	Tv	518.7138		dany total solal modalion on a nonzonial surface, Dia/(12 da	-	1100.00	
g- 2, 2.quid duridoc remperatur	-1'-	010.1100		Partially Insulated - Equation 1-8 (ΔTV = 0.6 ΔTA + 0.02 αR I)	ΔΤν	326.16	*R
Average Vapor Temperature		1		Average daily ambient temperature rang	ΔΤΑ	508.20	*R
Uninsulated FRT; see Equation 1-32 simplified to Equation 1-33		1		Tank roof surface solar absorptance, dimensionless, Table 7.1-	αR	0.90	
Tv = 0.7*TAA + 0.3*TB + 0.009*a*I	Tv	518.71	*R	Average daily total solar insolation factor, Btu/(ft2 day); Table 7.1	i l	1180.00	
Average daily ambient temperature (Equation 1-3)	TAA	508.2	*R				
Liquid bulk temperature (Equation 1-31	TB	511.4		Fully insulated	ΔΤν	0.00	*R
Tank paint solar absorptance, dimensionless, Table 7.1-	α	0.9				-	
Daily total solar insolation on a horizontal surface, Btu/(ft2 da		1180.0		Average Daily Vapor Pressure Range for Uninsulated Tanks (Equation 1-9: ΔPV = PVX - PVN	ΔΡν	0.00164	
				Vapor pressure at the average daily max liquid surface temp, (Eq. 1-25 or 1-26 using TLX; Pvx =	e PVX	0.00586	
Partially Insulated FRT; see Equation 1-34				Vapor pressure at the average daily min liquid surface temp, (Eq. 1-25 or 1-26 using TLX; PvN =	e:PVN	0.00422	psia
$Tv = 0.6*TAA + 0.4*TB + 0.01*\alpha R*I$	Tv		*R	Average daily maximum liquid surface temperature, deg R (TLX = TLA + 0.25ΔTV from Figure 7.		516.63	
Average daily ambient temperature (Equation 1-3)	TAA	508.2		Average daily minimum liquid surface temperature, deg R (TLN = TLA - 0.25ΔTV from Figure 7.1	-1 TLN	507.00	*R
Liquid bulk temperature (Equation 1-31	TB	511.4	*R	 			
Tank roof surface solar absorptance, dimensionless, Table 7.1-	αR	0.90		Fully Insulated	ΔΡν	0.00	psia
Daily total solar insolation on a horizontal surface, Btu/(ft2 da	1	1,180.00		(F	1.00		,
Fully Insulated	_			[Equation 1-10: ΔPB = PBP - PBV]	ΔPB	0.06	1
	T		*D	Breather Vent Setting Range (Default Assumption: +/- 0.03	PBP	0.03	psi
	Tv	511.39	*R		PBV	-0.03	psi
Tv = TB							
Tv = TB		E44 00	*D	Total Legaco (Fr. 4.4.1 T = Legal pr)	1.	1 620 11	lb/ur
Tv = TB Liquid Bulk Temperature; Eq 1-31: TB = TAA + 0.003 as	ТВ	511.39	*R	Total Losses (Eq.1-1: LT = Ls+Lw)	LT	1,622.14	lb/yr
Tv = TB		511.39 508.20 0.90	*R	Total Losses (Eq.1-1: LT = Ls+Lw) A 13.591	LT	1,622.14	lb/yr

- NOTE:

 1. Equation 1-4 not used, as it's stricktly a combination of Equation 1-2 and 1
 2. Equation 1-14 and 1-15 are for Horizontal Tank

 3. Equation 1-23 is not shown. Equation 1-23 is for calculating the molecular weight of mixture

 4. Equations 1-24, 1-25, and 1-26 not shown. These equations are used for determining vapor pressu

Tank No. Tank 33		Tank type	Fixed Roof Tank	Date		03/19/20	
Material stored Distillate		Company	Global	Performed by	Nico	le Brower	
City Albany		State	New York	. Critimisa by	14.00	o Brono.	
Description Aboveground Storage Tank							
INPUT DATA				CALCULATIONS	•		
			Units		Symbol		Units
							lb/yr
Product Information	Symbo		Units	Standing Losses (Eq.1-2: Ls = 365 (Vv * Wv * KE * Ks) Vapor Space Volume; see Equation 1-	Ls Vv	292095.5	
Vapor Molecular weigh	Mv	130	Lb/lb-mole	Stock Vapor Density	Wv	0.0001	
vapor morcodar voign			LOND MOIC	Vapor Space Expansion Factor (0 < KE <= 1); see Equation 1-	KE	0.061382	
Tank design data				Vented Vapor Saturation Facto	Ks	0.99	
Shell height	Hs	45.00		Constant; Number of Daily Events in a Yea	365	365	days/year
Diameter	D	125.00					
Tank volume		3,801,825	gallons	Working Losses (Eq.1-35: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/D)]	Lw	791.19	
Turnovers	N	101.63	.,	Annual throughpul	Q	9,199,914	bbl/yr bbl/1,000 ft2
Throughput Roof Type: Cone or Dome	Q	386,396,391 Cone	galiyi	Shell clingage factor; see Table 7.1-10 Average organic liquid densit	Cs WL		lb/gal
If Cone:	-	Cone		Tank diameter	D	125.00	
Tank cone roof slope (If unknown, use 0.0625	SR	0.0625	ft/ft	Constant	0.943		1,000 ft3*gal/bbl2
If Dome				Number of fixed roof support column:	Nc	8.00	
Tank dome roof radius (If unknown, use tank diameter (D) or (2Rs	RR	125.00	ft	Effective column diameter; 1.1, 0.7, or 1.	Fc	1.10	ft
Number of fixed roof support column:	Nc	8.00					
Tank Color (see Paint Tab		Blue		Vapor Space Volume (Eq.1-3: Vv = ((Pi / 4) D^2)Hvc	Vv	292,095.51	
Breather Vent Setting Range (Default Assumption: +/- 0.00	PBP PBV	0.03		Tank diameter	D	125.00	
Shell clingage factor; see Table 7.1-10	Cs	-0.03 0.0015	psi bbl/1,000 ft2	Vapor Space Outage; see Equation 1-1	Hvo	23.80	π
Average organic liquid densit	WL		bbl/1,000 π2 lb/gal	Vapor Space Outage (Eq. 1-16: Hvo=Hs-HL+HRC	Hvo	23.80	e
Average organic liquid delisit	VVL	7.10	iurydi	Tank shell height	Hs	45.00	
Average Daily Liquid Surface Temperature				Liquid Height (typically assumed to be at half-full leve	HI	22.50	
Uninsulated FRT; see Equation 1-27 simplified to Equation 1-28				Roof Outage (for a Cone Roof vs Dome Roo	HRO	1.30	
TLA = 0.4*TAA + 0.6*TB + 0.005*a*I	TLA		*R	• .			
Average daily ambient temperature (Equation 1-3)	TAA	508.2		Roof Outage - Cone Roof (Eq. 1-17 & 1-18: HRO=(1/3)SR*Rs	HRO	1.30	
Liquid bulk temperature (Equation 1-31	TB	511.4	*R	Tank cone roof slope (If unknown, use 0.0625	SR	0.0625	
Tank paint solar absorptance, dimensionless, Table 7.1-	α	0.9		Tank shell radius	Rs	62.50	ft
Daily total solar insolation on a horizontal surface, Btu/(ft2 da Average Daily Liquid Surface Tempera	tron.	1180.0 55.7	+=	Roof Outage - Dome Roof (Eq. 1-19 & 1-20: HRO=(RR-(RR^2-Rs^2)^0.5)*(0.5+0.16667((RR-(RR^2-Rs^2)^0.5)/Rs	LIDO	8.57	4
Average Daily Liquid Sunace Tempera	iture	55.7	T.	Tank dome roof radius (If unknown, use tank diameter (D) or (2Rs	RR	125.00	
Partially Insulated FRT: see Equation 1-29				Tank shell radius	Rs	62.50	
TLA = 0.3*TAA + 0.7*TB + 0.005*αR*I	TLA	515.74	*R				
Average daily ambient temperature (Equation 1-3)	TAA	508.2	*R	Vented Vapor Saturation Factor (Eq. 1-21: Ks = 1/(1+0.053*PvA*Hvo)	Ks	0.99	
Liquid bulk temperature (Equation 1-31	TB	511.4	*R	Vapor Pressure at Avg Daily Liq Surface Tem	PvA	0.0056	
Tank roof surface solar absorptance, dimensionless, Table 7.1-	αR	0.90		Vapor Space Outage; see Equation 1-1	Hvo	23.80	ft
Daily total solar insolation on a horizontal surface, Btu/(ft2 da		1,180.00					
Average Daily Liquid Surface Tempera	iture	56.0	*F	Vapor Space Expansion Factor (Eq. 1-5: (ΔΤν/TLA)+[(ΔΡν-ΔΡΒ)/(ΡΑ-ΡνΑ)] Average Daily Vapor Temperature Rang	KE ΔTv	33.70	per day
Average Daily Ambient Temperature; see Equation 1-30				Average Daily Vapor Pressure Rang Average Daily Vapor Pressure Rang	ΔΡν	0.00	
TAA = ((TAX+TAN)/2)	TAA	508.20	*R	Breather Vent Pressure Setting Range	ΔΡΒ	0.06	
average daily maximum ambient temperature, Table 7.1	TAX	517.10		Vapor Pressure at Avg Daily Liq Surface Tem	PvA	0.0056	
average daily minimum ambient temperature, Table 7.1	TAN	499.30		Average Daily Liquid Surface Temperature	TLA	515.42	
				Atmospheric Pressure	PA	14.59	
Stock Vapor Density; see Equation 1-2:							
Wv = (Mv*PVA)/(R*Tv)	Wv	0.0001		Equation 1-6, simplified to Equation 1-7 for Uninsulated Tanks (ΔTV = 0.7 ΔTA + 0.02 α I	ΔTV	33.70	
Vapor Molecular weigh	Mv	130		Average daily ambient temperature rang	ΔΤΑ	17.8	-K
Constant Equation 1-25 PvA = exp(A-(B/TLA)	PvA	10.7310 0.0056	 	Average tank surface solar absorptance, dimensionless, Table 7.1- daily total solar insolation on a horizontal surface, Btu/(ft2 da	a	0.90	-
Average Daily Liquid Surrace Temperatur	Tv	518.7138		uany total solal mediation on a nonzontal Sundoe, Dtu/(ttz ua		1180.00	1
		0.0100		Partially Insulated - Equation 1-8 (ΔTV = 0.6 ΔTA + 0.02 αR I)	ΔΤν	326.16	*R
Average Vapor Temperature				Average daily ambient temperature rang	ΔΤΑ	508.20	
Uninsulated FRT; see Equation 1-32 simplified to Equation 1-33				Tank roof surface solar absorptance, dimensionless, Table 7.1-	αR	0.90	
$Tv = 0.7^*TAA + 0.3^*TB + 0.009^*\alpha^*I$	Tv	518.71	*R	Average daily total solar insolation factor, Btu/(ft2 day); Table 7.1		1180.00	
Average daily ambient temperature (Equation 1-3)	TAA	508.2	*R		4.T.		-0
Liquid bulk temperature (Equation 1-31	TB	511.4	*R	Fully Insulated	ΔΤν	0.00	*R
Tank paint solar absorptance, dimensionless, Table 7.1- Daily total solar insolation on a horizontal surface, Btu/(ft2 da	α	0.9 1180.0		Average Daily Vapor Pressure Range for Uninsulated Tanks (Equation 1-9; APV = PVX - PVN	ΛPv	0.00164	neia
Daily total solal Ilisulation on a nonzontal surface, BUI/(12 08	- "	1100.0		Vapor pressure at the average daily max liquid surface temp, (Eq. 1-25 or 1-26 using TLX; Pvx = e		0.00164	
Partially Insulated FRT; see Equation 1-34	_			Vapor pressure at the average daily max liquid surface temp, (Eq. 1-25 or 1-26 using TLX; PvX = e Vapor pressure at the average daily min liquid surface temp, (Eq. 1-25 or 1-26 using TLX; PvX = e	PVN	0.00586	
Tv = 0.6*TAA + 0.4*TB + 0.01*aR*I	Tv	520.09	*R	Average daily maximum liquid surface temperature, deg R (TLX = TLA + 0.25\Delta\text{TV}) from Figure 7.1-	TLX	516.63	*R
Average daily ambient temperature (Equation 1-3)	TAA	508.2	*R	Average daily minimum liquid surface temperature, deg R (TLN = TLA - 0.25ΔTV from Figure 7.1-1		507.00	*R
Liquid bulk temperature (Equation 1-31	TB	511.4			,		u.
Tank roof surface solar absorptance, dimensionless, Table 7.1-	αR	0.90		Fully Insulated	ΔΡν	0.00	psia
Daily total solar insolation on a horizontal surface, Btu/(ft2 da		1,180.00			.00		
				(Equation 1-10: APB = PBP - PBV	ΔPB	0.06	
Fully Insulated Tv = TB	Tv	544.00	*D	Breather Vent Setting Range (Default Assumption: +/- 0.03	PBP PBV	0.03 -0.03	
IV - ID	IV	511.39	*R		rbV	-0.03	hai
Liquid Bulk Temperature; Eq 1-31: TB = TAA + 0.003 as	TB	511 39	*R	Total Losses (Eq.1-1: LT = Ls+Lw)	LT	1,645.30	lb/vr
Average daily ambient temperature (Equation 1-3)	TAA	508.20				1,0-10.00	· y·
							<u> </u>
tank shell solar absorptance, dimensionless, Table 7.1- daily total solar insolation on a horizontal surface. Btu/fft2 da	as	0.90 1.180.00		A 12.101			

- NOTE:

 1. Equation 1-4 not used, as it's stricktly a combination of Equation 1-2 and 1
 2. Equation 1-14 and 1-15 are for Horizontal Tank

 3. Equation 1-23 is not shown. Equation 1-23 is for calculating the molecular weight of mixture

 4. Equations 1-24, 1-25, and 1-26 not shown. These equations are used for determining vapor pressu

Table 1 TANK EMISSION CALCULATION

(Note - Cells in nink are input cells. All other cells are calculated cells Tank type Fixed Roof Tank Material stored Distillat Company Performed by Description INPUT DATA CALCULATIONS Units Units Symbo Standing Losses (Eq.1-2: Ls = 365 (Vv * Wv * KE * Ks) 854 lb/yr Units Symbol Vapor Space Volume; see Equation 1-Stock Vapor Density Product Information 292095 5 ft3 Vapor Molecular weigh Vapor Space Expansion Factor (0 < KE <= 1); see Equation 1-Vented Vapor Saturation Facto 0.061382 per day Tank design data 45.00 Constant; Number of Daily Events in a Yea 365 Shell height 365 days/year 125.00 ft 3,829,140 gallons Diamet Vorking Losses (Eq.1-35: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/D)] 796.88 lb/yr Tank volume Turnovers 101.63 Annual throughpul Shell clingage factor; see Table 7.1-10 9,266,013 bbl/yr 0.0015 bbl/1,000 ft2 389,172,536 gal/yr Throughput Cone or Dom∈ Roof Type: Cone Average organic liquid densit 7.10 lb/gal 125.00 ft If Cone Tank d 0.0625 ft/ft Tank cone roof slope (If unknown, use 0.0625) Constant 0.943 0.94 1.000 ft3*gal/bbl2 Number of fixed roof support columns

Effective column diameter; 1.1, 0.7, or 1 If Dome Tank dome roof radius (If unknown, use tank diameter (D) or (2Rs 125.00 Number of fixed roof support column: Tank Color (see Paint Tab 8 00 NA Blue apor Space Volume (Eq.1-3: Vv = ((Pi / 4) D^2)Hvc 292 095 51 fts Breather Vent Setting Range (Default Assumption: +/- 0.03 Vapor Space Outage; see Equation 1-1 -0.03 23.80 Shell clingage factor; see Table 7.1-10 0.0015 bbl/1,000 ft2 Average organic liquid densit 7.10 lb/gal apor Space Outage (Eq. 1-16: Hvo=Hs-HL+HRC Hvo 23.80 f Tank shell height Liquid Height (typically assumed to be at half-full leve Roof Outage (for a Cone Roof vs Dome Roo Average Daily Liquid Surface Temperature Uninsulated FRT; see Equation 1-27 simplified to Equation 1-28

TLA = 0.4*TAA + 0.6*TB + 0.005*a*I HRO 515.42 Roof Outage - Cone Roof (Eq. 1-17 & 1-18: HRO=(1/3)SR*Rs Tank cone roof slope (If unknown, use 0.0625 Tank shell radius HRO 1 30 f 508 2 *F Average daily ambient temperature (Equation 1-3) TAA 511.4 0.0625 ft/ft 62.50 ft Tank paint solar absorptance, dimensionless, Table 7.1-Daily total solar insolation on a horizontal surface, Btu/(ft2 da 1180.0 Average Daily Liquid Surface Temperature of Outage - Dome Roof (Eq. 1-19 & 1-20: HRO=(RR-(RR^2-Rs^2)^0.5)*(0.5+0.16667((RR-(RR^2-Rs^2)^0.5)/Rs HRO 8.57 f 55.7 Partially Insulated FRT; see Equation 1-29 Tank shell radius 62.50 f 515.74 *R 508.2 *R 511.4 *R TLA = 0.3*TAA + 0.7*TB + 0.005*aR*I ted Vapor Saturation Factor (Eq. 1-21: Ks = 1/(1+0.053*PvA*Hvo) 0.00 PvA 0.0056 psia Liquid bulk temperature (Equation 1-31 Vapor Pressure at Avg Daily Lig Surface Tem Tank roof surface solar absorptance, dimensionless, Table 7.1-0.90 Vapor Space Outage; see Equation 1-1 23.80 ft Daily total solar insolation on a horizontal surface, Btu/(ft2 da 1,180.00 Japor Space Expansion Factor (Eq. 1-5: (ΔΤν/ΤLA)+((ΔΡν-ΔΡΒ)/(PA-ΡνΑ) Average Daily Vapor Temperature Rang Average Daily Vapor Pressure Rang Breather Vent Pressure Setting Range Average Daily Liquid Surface Temperature 56.0 0.06 per day Average Daily Ambient Temperature; see Equation 1-30
TAA = ((TAX+TAN)/2) ΤΔΔ 508 20 *8 ΔPR 0.06 ns average daily maximum ambient temperature, Table 7.1 517.10 * Vapor Pressure at Avg Daily Liq Surface Tem average daily minimum ambient temperature, Table 7.1 499 30 Average Daily Liquid Surface Temperature Atmospheric Pressure 515.42 *F 14.59 psi Stock Vapor Density; see Equation 1-2: Wv = (Mv*PVA)/(R*Tv) Equation 1-6, simplified to Equation 1-7 for Uninsulated Tanks ($\Delta TV = 0.7 \Delta TA + 0.02 \alpha I$ 0.0001 33.70 Vapor Molecular weigh Average daily ambient temperature rang

Average tank surface solar absorptance, dimensionless, Table 7.1-10 7310 0.90 Equation 1-25 PvA = exp(A-(B/TLA) daily total solar insolation on a horizontal surface, Btu/(ft2 da 1180.00 Average Daily Liquid Surrace Temperatur 518.7138 Partially Insulated - Equation 1-8 (ΔTV = 0.6 ΔTA + 0.02 αR I) 326.16 Average daily ambient temperature rang
Tank roof surface solar absorptance, dimensionless, Table 7.1-508.20 * Uninsulated FRT; see Equation 1-32 simplified to Equation 1-33 0.90 518.71 Tv = 0.7*TAA + 0.3*TB + 0.009*a*IAverage daily total solar insolation factor, Btu/(ft2 day); Table 7.1 Average daily ambient temperature (Equation 1-3)
Liquid bulk temperature (Equation 1-31 508.2 *F 511.4 *F TAA TB 0.00 *R Tank paint solar absorptance, dimensionless, Table 7.1-Daily total solar insolation on a horizontal surface, Btu/(ft2 da verage Daily Vapor Pressure Range for Uninsulated Tanks (Equation 1-9: ΔPV = PVX - PVN 1180 (0.00164 psia Vapor pressure at the average daily max liquid surface temp, (Eq. 1-25 or 1-26 using TLX; Pvx = e PVX 0.00586 psia Partially Insulated FRT; see Equation 1-34 Tv = 0.6*TAA + 0.4*TB + 0.01*αR*I 0.00422 psia Vapor pressure at the average daily min liquid surface temp, (Eq. 1-25 or 1-26 using TLX; PvN = e PVN 520.09 *F 508.2 *F Average daily maximum liquid surface temperature, deg R (TLX = TLA + 0.25\(\text{LTV} \) from Figure 7.1-\(\text{TLX} \)

Average daily minimum liquid surface temperature, deg R (TLN = TLA + 0.25\(\text{LTV} \) from Figure 7.1-\(\text{TLN} \) TAA Average daily ambient temperature (Equation 1-3) Liquid bulk temperature (Equation 1-31 Tank roof surface solar absorptance, dime 0.00 psia Daily total solar insolation on a horizontal surface, Btu/(ft2 da 1,180.00 Equation 1-10: ΔPB = PBP - PBV Fully Insulated Tv = TB Breather Vent Setting Range (Default Assumption: +/- 0.03 0.03 psi 511.39

Total Losses (Eq.1-1: LT = Ls+Lw)

LT

1,650.98 lb/yr

NOTE

- Equation 1-4 not used, as it's stricktly a combination of Equation 1-2 and 1-
- Equation 1-4 not dadd, as it's strickly a combinate
 Equation 1-14 and 1-15 are for Horizontal Tank

Liquid Bulk Temperature; Eq 1-31: TB = TAA + 0.003 αs Average daily ambient temperature (Equation 1-3)

tank shell solar absorptance, dimensionless, Table 7.1daily total solar insolation on a horizontal surface, Btu/(ft2 da

- Equation 1-14 and 1-15 are for nonzonial rank
 Equation 1-23 is not shown. Equation 1-23 is for calculating the molecular weight of mixture.
- Equation 1-23 is not shown. Equation 1-23 is for calculating the molecular weight of mixture
 Equations 1-24, 1-25, and 1-26 not shown. These equations are used for determining vapor pressu

511 39 *F

508.20

0.90

	ık 33 diesel		Tank type Company	Fixed Roof Tank Global	Date Performed by		03/19/20 Nicole Brower		
tv Albany		State New York		1 channed by			- Indoor Brown		
scription Abo	oveground Storage Tank								
	INPUT DATA				CALCULATIONS				
				Units		Symbol		Units	
		<u> </u>							
roduct Information		Symbo	-	<u>Units</u>	Standing Losses (Eq.1-2: Ls = 365 (Vv * Wv * KE * Ks) (Un-Heated Vapor Space Volume; see Equation 1-	Ls	7,392 292095.5	ID/yr	
Vapor Molecular weig	ah	Mv	120	Lb/lb-mole	Stock Vapor Density	Wv	0.0009		
vapor iviolecular weig	gii	191.9	120	LUND-IIIOIC	Vapor Space Expansion Factor (0 < KE <= 1); see Equation 1-	KE	0.082157	ner day	
ank design data					Vented Vapor Saturation Factor	Ks	0.062137	Del day NΔ	
Shell height		Hs	45.00		Constant; Number of Daily Events in a Yea	365		days/year	
Diameter		D	125.00	ft				,-,	
Tank volume			3,801,825	gallons	Standing Losses (Eq.1-4: Ls = 365 KE (Pi/4 * D^2) * Hvo * Ks * Wv (HEATED	Ls	0.2009	lb/vr	
Turnovers		N	101.63	V	Tank diameter	D	125.00	ft	
Throughput		Q	386,396,391	gal/yr	Stock Vapor Density	Wv	0.0009	lb/ft3	
	ne or Dome		Cone		Vapor Space Expansion Factor (0 < KE <= 1); see Equation 1-	KE	0.082157		
If Cone:					Vented Vapor Saturation Facto	Ks	0.06		
	(If unknown, use 0.0625	SR	0.0625	ft/ft	Constant; Number of Daily Events in a Yea	365		days/year	
If Dome					Vapor Space Outage; see Equation 1-1	Hvo	24		
	us (If unknown, use tank diameter (D) or (2Rs	RR	125.00	ft					
Number of fixed roof		Nc	8.00		Working Losses (Eq.1-35: LWD=[((0.943)QCsWL)/D]*[1+(NcFc/D)]	Lw	791.19	lb/yr	
Tank Color (see Pain	nt Iab	PBP	Blue		Annual throughpul	Q Cs	9,199,914	bbl/yr bbl/1.000 ft2	
sreatner vent Setting	g Range (Default Assumption: +/- 0.00	PBP	0.03		Shell clingage factor; see Table 7.1-10				
Shell clingage factor;	cae Table 7 1 10	Cs	-0.03 0.0015	psi bbl/1,000 ft2	Average organic liquid densit Tank diametei	WL	125.00	lb/gal	
Average organic liqui		WL		lb/gal	Constant	0.943		1,000 ft3*gal/bl	
everage organic ilqui	iu union	AAF	7.10	ıv/yaı	Number of fixed roof support column:	0.943 Nc	0.94 8.00	II,UUU II3 gal/b	
verage Daily Liquid	Surface Temperature	-			Effective column diameter; 1.1, 0.7, or 1.	Fc	1.10		
Uninsulated FRT: 64	ee Equation 1-27 simplified to Equation 1-28	-	 		Encoure solulini diameter, 1.1, 0.7, 01-12	1.0	1.10	l"	
TLA = 0.4*TAA + 0.6	*TB + 0.005*a*l	TLA	587.01	*R	Vapor Space Volume (Eq.1-3: Vv = ((Pi / 4) D^2)Hvc	Vv	292,095.51	ft3	
	nt temperature (Equation 1-3)	TAA	584.7		Tank diameter	D	125.00		
Liquid bulk temperatu	ure (Equation 1-31	TB	579.7		Vapor Space Outage; see Equation 1-1	Hvo	23.80		
	orptance, dimensionless, Table 7.1-	α	0.9	İ					
	ation on a horizontal surface, Btu/(ft2 da	ı	1180.0		Vapor Space Outage (Eq. 1-16: Hvo=Hs-HL+HRC	Hvo	23.80	ft	
	Average Daily Liquid Surface Temperature		127.3	*F	Tank shell height	Hs	45.00	ft	
					Liquid Height (typically assumed to be at half-full leve	HL	22.50	ft	
	RT; see Equation 1-29				Roof Outage (for a Cone Roof vs Dome Roo	HRO	1.30	ft	
TLA = 0.3*TAA + 0.7	*TB + 0.005*aR*I	TLA	586.51	*R					
	nt temperature (Equation 1-3I	TAA	584.7		Roof Outage - Cone Roof (Eq. 1-17 & 1-18: HRO=(1/3)SR*Rs	HRO	1.30		
Liquid bulk temperatu	ure (Equation 1-31	TB	579.7	*R	Tank cone roof slope (If unknown, use 0.0625	SR	0.0625	ft/ft	
	lar absorptance, dimensionless, Table 7.1-	αR	0.90		Tank shell radius	Rs	62.50	tt	
Daily total solar insola	ation on a horizontal surface, Btu/(ft2 da	l .	1,180.00	_					
	Average Daily Liquid Surface Temperature		126.8	*F	Roof Outage - Dome Roof (Eq. 1-19 & 1-20: HRO=(RR-(RR-2-Rs-2)^0.5)*(0.5+0.16667((RR-(RR^2-Rs-2)^0.5)^0.5)*(0.5+0.16667)(RR-(RR-2-Rs-2)^0.5)*(0.5+0.16667)(RR-2-Rs-2)^0.5		8.57	tt	
Delle Amble	nt Temperature; see Equation 1-30				Tank dome roof radius (If unknown, use tank diameter (D) or (2Rs Tank shell radius	RR	125.00	π	
		TAA	584.70	*D	I ank shell radius	Rs	62.50	π	
TAA = ((TAX+TAN)/2	um ambient temperature, min tank temperatu	TAX	609.70		Vented Vapor Saturation Factor (Eq. 1-21: Ks = 1/(1+0.053*PvA*Hvo)	Ks	0.94		
average daily minimu	um ambient temperature, max tank temperature	TAN	559.70	*D	Vapor Pressure at Avg Daily Lig Surface Tem	PvA	0.0463	neia	
average daily minimo	am ambient temperature, max tank temperati	IAN	333.10	IX.	Vapor Space Outage; see Equation 1-1	Hvo	23.80		
ock Vapor Density; se	ee Equation 1-2:				Vapor opuso ostago, see Equation 1	1110	20.00		
Wv = (Mv*PVA)/(R*T		Wv	0.0009		Vapor Space Expansion Factor (Eq. 1-5: (ΔTv/TLA)+[(ΔPv-ΔPB)/(PA-PvA)]	KF	0.08	per day	
Vapor Molecular weig	gh	Mv	120		Average Daily Vapor Temperature Rang	ΔΤν	50.00	*R	
Constant	•	R	10.7310	İ	Average Daily Vapor Pressure Rang	ΔΡν	0.00	psi	
Equation 1-25 PvA =		PvA	0.0463	İ	Breather Vent Pressure Setting Range	ΔΡΒ	0.06		
Average Daily Liquid		Tv	579.7000		Vapor Pressure at Avg Daily Liq Surface Tem	PvA	0.0463	psia	
					Average Daily Liquid Surface Temperature	TLA	579.70		
erage Vapor Tempe					Atmospheric Pressure	PA	14.70	psia	
Uninsulated FRT; se	ee Equation 1-32 simplified to Equation 1-33			_					
Tv = 0.7*TAA + 0.3*T	TB + 0.009*a*l	Tv	592.76	*R	Equation 1-6, simplified to Equation 1-7 for Uninsulated Tanks (ΔTV = 0.7 ΔTA + 0.02 α I	ΔTV	56.24		
	nt temperature (Equation 1-3)	TAA	584.7		Average daily ambient temperature rang	ΔΤΑ	50.0	'K	
Liquid bulk temperatu		TB	579.7	*R	Average tank surface solar absorptance, dimensionless, Table 7.1-	α	0.90		
rank paint solar abso	orptance, dimensionless, Table 7.1-	α	0.9		daily total solar insolation on a horizontal surface, Btu/(ft2 da	-	1180.00		
Dairy total Solar insola	ation on a horizontal surface, Btu/(ft2 da	ľ	1180.0		Partially Insulated - Equation 1-8 (ΔTV = 0.6 ΔTA + 0.02 αR I)	ΔΤν	070.00	*D	
Dartially Inculated E	RT; see Equation 1-34	-			Average daily ambient temperature rang	ΔΤΑ	372.06 584.70		
Tv = 0.6*TAA + 0.4*T	FR + 0.01*aR*I	Tv	593.32	*R	Tank roof surface solar absorptance, dimensionless, Table 7.1-	αR	584.70 0.90	ix .	
	nt temperature (Equation 1-3)	TAA	593.32		Average daily total solar insolation factor, Btu/(ft2 day); Table 7.1	l I	1180.00	l	
Liquid bulk temperatu	ure (Equation 1-31	TB	579.7	*R	ga aany tata botti indolution idolor, blanka days, rabio 1.1	- [1100.00		
Tank roof surface sol	lar absorptance, dimensionless, Table 7.1-	αR	0.90	1.	Fully Insulated	ΔΤν	50.00	*R	
Daily total solar insola	ation on a horizontal surface, Btu/(ft2 da	ı	1,180.00		•				
,		1	.,		Average Daily Vapor Pressure Range for Uninsulated Tanks (Equation 1-9: ΔPV = PVX - PVN	ΔΡν	0.03046	psia	
Fully Insulated				İ	Vapor pressure at the average daily max liquid surface temp, (Eq. 1-25 or 1-26 using TLX; Pvx	e PVX	0.06237	psia	
Tv = TB		Tv	579.70	*R	Vapor pressure at the average daily min liquid surface temp, (Eq. 1-25 or 1-26 using TLX; PvN	e PVN	0.03191	psia	
					Average daily maximum liquid surface temperature, deg R (TLX = TLA + 0.25ΔTV from Figure 1	.1-TLX	598.76		
	ture; Temperature of Heated Product	TB	579.70	*R	Average daily minimum liquid surface temperature, deg R (TLN = TLA - 0.25ΔTV from Figure 7	1-1TLN	572.95		
	nt temperature (Equation 1-3I	TAA	584.70						
tank shell solar abso	orptance, dimensionless, Table 7.1-	αs	0.90		Fully Insulated	ΔΡν	0.00	psia	
Jaily total solar insola	ation on a horizontal surface, Btu/(ft2 da	<u> </u>	1,180.00						
					(Equation 1-10: ΔPB = PBP - PBV	ΔPB	0.06		
					Breather Vent Setting Range (Default Assumption: +/- 0.03	PBP	0.03		
						PBV	-0.03	psi	
NOTE:	ised, as it's stricktly a combination of Equation 1-2 and				Total Losses (Eq.1-1: LT = Ls+Lw)	LT	791.39		

- Equation 1-14 and 1-15 are for Horizontal Tank
 Equation 1-23 is not shown. Equation 1-23 is for calculating the molecular weight of mixture
 Equation 1-24, 1-25, and 1-25 not shown. These equations are used for determining vapor pressu

Table 1 TANK EMISSION CALCULATION (Note - Cells in pink are input cells, All other cells are

Secretarian Secretarian	Symbol	Γank No.	Tank 30		Tank type	Fixed Roof Tank		Date		03/19/20	
Secretary Secr	Ks (Un-Heated Ls 7.392 bby V 202095.5 ft3 W V 202095.5 ft3 W C 2	aterial stored	Biodiesel		Company	Global		Performed by		Nicole Brower	
Control Cont	Ks (Un-Heated Ls 7.392 b)vy VV 292095.5 R3 WV 0.0009 birt3 birt4 WV 0.0009 birt3 birt4 WV 0.0009 birt3 birt4		Albany		State	New York					
Dambie	Ks (Un-Heated Ls 7.392 lb/yr 292095.5 ftg WV 2920	escription	Aboveground Storage Tank		l		ı	CALCULATIONS			
March Marc	Ks (Un-Heated Ls 7,392 lb/yr VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 15 VV 292095,5 ft 20 VV 20 VV 20 20 VV 20 VV 20 20		INFOI DATA	l .	1	Units	-	CALCULATIONS	Symbo		Units
Vogo Space Vulner, see Equation 1. Vy 20006 5	Vv 292095.5 B3 WW 0.0009 IbiR3 See Equation 1. KE 0.082167 per day NA AS 0.94 NA AS 0.94 NA AS 0.95 Divyr Div 1.000 Divyr Div 1.000 Divyr Div 1.000 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div 0.0009 Divyr Div								1		
Sept. Vagor Demonsh	WW 0.0009 bm3 bm3 bm3 bm3 bm4 b			Symbo	ı	Units			Ls		
In taking ratio Varyor Space Department force () EE See Equation 1 EE See Equation 2	RE 0.082167 per day										
Vender Varior Distriction Vender Varior Distriction	KS 0.94 NA Soft daysylegal Soft daysy	/apor Molecular	r weigh	Mν	120	Lb/lb-mole	Stock Vapor D	ensity		0.0009	lb/ft3
Sink Ingris 15	2) **Hvo **Ks **Wv (HEATED Ls										
Discretation Disc	2) * Hvo * Ks * Wv (HEATED Ls 0.2009 bbyr	ink design data	1	Но	45.00						
Table Schoolses Content	D 125.00 R W 0.0009 bm3 RE 0.082167 per day KE 0.06 NA S65 365 365 365 365 Hv0 24 Hv0 24 Hv0 24 Hv0 24 Hv0 25 24 Hv0 25 24 Hv0 25 24 Hv0 27 27 GS 0.0015 0041.00 R2 W 796.88 bbyr GS 0.0015 0041.00 R2 W 796.88 0047 GS 0.0015 0041.00 R2 W 70 725.00 GS 0.0015 0041.00 R2 W 70 725.00 Hv0 725.00 Hv0 125.00 Hv	Diameter				fr	Constant; Nun	iber of Daily Events in a rea	300	300	days/year
Temporary Content	D 125.00 R W 0.0009 bm3 RE 0.082167 per day KE 0.06 NA S65 365 365 365 365 Hv0 24 Hv0 24 Hv0 24 Hv0 24 Hv0 25 24 Hv0 25 24 Hv0 25 24 Hv0 27 27 GS 0.0015 0041.00 R2 W 796.88 bbyr GS 0.0015 0041.00 R2 W 796.88 0047 GS 0.0015 0041.00 R2 W 70 725.00 GS 0.0015 0041.00 R2 W 70 725.00 Hv0 725.00 Hv0 125.00 Hv						Standing Losses	(Eq.1-4: Ls = 365 KE (Pi/4 * D^2) * Hvo * Ks * Wv (HEATED	Ls	0.2009	lb/vr
Note Paper Core or Dome Core Vapor Space Egapation 1: Pale Core Vapor Space Egapation 1: Pale Core Vapor Space Egapation 1: Pale Vapor Space Egapation	RE 0.082167 por day			N	101.63		Tank diameter		D		
Note Property Construct	Kg	Throughput		Q	389,172,536	gal/yr	Stock Vapor D	ensity	Wv	0.0009	lb/ft3
Tank come or descript (surknown, use 0.0625 MR	365 365 days/year hho 24 hho 24 hho 24 786.88 b/yr Q 9,266.013 bb/yr C S 0,0015 bb/yr C S 0,0015 bb/yr C S 0,0015 bb/yr C S 0,0015 bb/yr C S 0,0015 bb/yr D 125.00 ft D 125.00 ft Nc 8.00 NA Fc 1.10 ft VV 292,985 ft D 125.00 ft Ho 23.80 ft Hvo 23.80 ft Hvo 23.80 ft Hvo 23.80 ft Hvo 23.80 ft Hk 45.00 ft Hk 45.00 ft Hk 22.50 ft Hk 22.50 ft Hk 56.25 ft Hk 25.50 ft Hk 56.25 ft		Cone or Dome		Cone						
Flores	Phi Phi										
Final Actions of calcular of if entonous, use bank deameter (Di or (2R) Ne.	D T 1+(NcFc/D)		slope (If unknown, use 0.0625	SR	0.0625	ft/ft					days/yeai
Number of fixed roof support column	Q 9,266,013 bellyr		and a fift and a second and a first and a	00	405.00		Vapor Space (Outage; see Equation 1-1	Hvo	24	
Part Color ope Paint 1ab Part Color ope Paint 1ab Paint Pain	Q 9,266,013 bellyr					II.	Working Losege (F	a 1.35: I WD=[//0.943\OCeWL\/D]*[1±/NcEc/D\]	l w	706 88	lh/ur
Breather Vertile Selling Range (Debtaul Assumption: V-DOX PRPV 0.00 DRPV 0.0	Cs			. 40			Annual through	houl	0	9 266 013	bbl/vr
PRIV 0.03 part Average Organic Equal densit W. 7.10 Except Company Equal of Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 7.0 Equal Communication V. 2.0 Effective of load of expert 1.0.7 or 1.1 F. 1.0.0 Effective of load of expert 1.0.7 or 1.1 F. 1.0.0 Effective of load of expert 1.0.0 V. 2.0.0 Effective of load of expert 1.0.0 V. V. V. V. V. V. V.	WIL 7.10 lb/gal D 12500 ft O 943 0.94 1.000 ft3*galf Nc 8.00 NA Fc 1.10 ft V 29,965.11 13 V 29,965.11 13 Hv 23.50 ft Hv 23.50 ft Hv 23.50 ft Hv 23.50 ft Hv 23.50 ft Hv 23.50 ft Hv 23.50 ft Hv 23.50 ft Hv 23.50 ft Hv 23.50 ft Hv 25.50 ft	Breather Vent S	etting Range (Default Assumption: +/- 0.00	PBP			Shell clingage	factor; see Table 7.1-10	Cs	0.0015	bbl/1,000 ft2
Tank damende December Tank damende December D	0.943 0.945 0.94 1.000 R3*galf				-0.03	psi	Average organ	nic liquid densit		7.10	lb/gal
Number of fixed of outpuport column No.	Nc						Tank diameter			125.00	ft
Effective column diameter; 1, 0, 7, or 1; Fc	Fc	Average organic	cliquid densit	WL	7.10	lb/gal					
Junis Line Affrication	VV 292,995.51 ft3 D 125.00 ft T T T T T T T T T										
Lik - 0 4/7 A + 0 6/78 - 1 0 0 0 0 7/7 A + 0 6/78 - 1 0 0 0 0 7/7 A + 0 6/78 - 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D 125.00 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hs 45.00 ft Hs 45.00 ft Hs 45.00 ft HRO 1.30 ft 1.30 ft						Effective colur	nn diameter; 1.1, 0.7, or 1.	Fc	1.10	nt
Years Section TAA Sea 7 R Tark daments Tark Tark daments Tark Tark daments Tark Tark daments Tark Tark daments Tark Tark daments Tark Tark daments Tark Tark daments Tark	D 125.00 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hy0 23.80 ft Hs 45.00 ft Hs 45.00 ft Hs 45.00 ft HRO 1.30 ft 1.30 ft	Uninsulated FR	ti; see Equation 1-27 simplified to Equation 1-28	TLA	E07.04	*D	Vanor Space V-1	no (Eq.1.3: Viv = (/Di / 4) DA2)Hvc	V	202 005 54	ft3
Liquid Dulis Remperature (Equation 1-3)	Hvo 23.80 ft Hvo 23.80 ft Hvo 23.80 ft Hs 45.00 ft Hs 45.00 ft HRO 1.30 ft HRO 1.30 ft 1/3)SR*RS HRO 1.30 ft 1/3)SR*RS HRO 1.30 ft 1/3)SR*RS HRO 1.30 ft 1/3)SR*RS HRO 1.30 ft 1/3)SR*RS HRO 1.30 ft RS 0.0625 ft RS 0.625 ft RS 0.625 ft RR 125.00 ft RR 125.00 ft RR 125.00 ft RR 125.00 ft RR 125.00 ft RR 125.00 ft RR 125.00 ft RR 125.00 ft RR 125.00 ft RS 0.245 ft RR 125.00 ft								D		
Tank paint solar absorptione, gimensoniess, Table 7:1	Hyo 23.80 ft	iquid bulk temp	perature (Equation 1-31						Hvo		ft
Daily Usable South Institution on a notrocraft surface, Blut/ITE day 1273 F Tank shell height (typically assumed to be at half-full leve H, 22.50 R 22.50 R	His			α			Tapar apasas				
Average Daily Liquid Surface Temperatur 127.3 F	Illeve	Daily total solar i	insolation on a horizontal surface, Btu/(ft2 da	ı	1180.0		Vapor Space Outag	ge (Eq. 1-16: Hvo=Hs-HL+HRC	Hvo	23.80	ft
Partially insulated FRT; see Equation 1-32 La S98.51 TR Roof Outage (for a Cone Roof vs Dome Roo IRO 1.30 IRO 1.30 IRO 3.47 TR Roof Outage (Fig. 1-17 & 1.16; HRO=\(173)\text{RRC}=\(173	HRO				127.3	*F	Tank shell hei	aht	Hs		
TLA	1/3)SR*Rs						Liquid Height (typically assumed to be at half-full leve			ft
Neverage daily ambient temperature (Equation 1-3) FAA 594.7 °R Roof Outage - Cone Roof (Eq. 1-17 & 1-18): IRGO-(17)]SR*Rs HRO 1.30 Fank roof surface solar absorptance, dimensionless, Table 7.1 OR 0.90 Tank shell radius Rs 0.925 Rs 0.92	SR	Partially Insulat	ted FRT; see Equation 1-29			_	Roof Outage (for a Cone Roof vs Dome Roo	HRO	1.30	ft
Liquid Dulk Immerature (Equation 1-31 TB 579.7 TR Tank cone root slope (if unknown, use 0.0625 SR 0.0625 if nak roof surface solar absorptance, dimensionless, Table 7.1 R 0.00 Tank shall radius SR 0.0625 if nak roof surface solar absorptance, dimensionless, Table 7.1 Tank shall radius SR 0.0625 if nak roof surface solar absorptance, dimensionless, Table 7.1 R 0.00 Tank shall radius SR 0.0625 if nak roof surface solar absorptance, dimensionless, Table 7.1 SR 0.00 Tank shall radius Tank shall radius T	SR						D(O O	- D4/F- 4 47 8 4 48. UDO-/4/00000-	LIDO	4.00	4
Tank shell radius Tank	RS 62.50 ft						Tank cone roo	f clone //f unknown use 0.0625			
Daily Usable Sodar insolation on a horizontal surface, Bluff(12 da 1,180.00 1,180	**2**-R***2***0.5**(0.5**0.15657(RR-(RR*2*-R**2)**0.5)R*** HRO					N.					ft
Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Tank shell radius Average Daily Liquid Surface Temperature Tank shell radius Average Daily Liquid Surface Temperature Tank shell radius Average Daily Liquid Surface Temperature Tank shell radius Tank she	Ameter (P) or (2Rs	Daily total solar i	insolation on a horizontal surface. Btu/(ft2 da	I			Turk orientae		1.0	02.00	
Tank dome roof radius (if unknown, use tank diameter (D) or (2Rs RR 125.00 It TAA = (TAX+TAN)/2)	A A A A B A B A					*F	Roof Outage - Dome	Roof (Eq. 1-19 & 1-20: HRO=(RR-(RR^2-Rs^2)^0.5)*(0.5+0.16667((RR-(RR^2-Rs^2)^0.5)^0.5)*(0.5+0.16667))/Rs HRO	8.57	ft
TAA = (TAX+TAN)/2 TAA 594.70 TAX 594.70 TAX 594.70 TAX 597.70	140.053*PVA*THVO Ks						Tank dome ro	of radius (If unknown, use tank diameter (D) or (2Rs	RR		ft
average daily maximum ambient temperature, min tank temperatix	PvA 0.0463 psis					_	Tank shell rad	ius	Rs	62.50	ft
Vapor Pressure at Avg Daily Lig Surface Tem	PvA 0.0463 psis								.,		
Vapor Space Dulage, see Equation 1-1 No 23.80 ft	HvO 23.80 ft HvO 23.80 ft HvO 23.80 ft AFV 0.08 per day ΔIV 50.00 FR ΔPV 0.00 psi ΔPP 0.00 psi ΔPP 0.00 psi ΔPP 0.0483 psis TLA 579,70 FR TLA 579,70 FR TLA 579,70 FR TLA 579,70 FR TLA 579,70 FR TLA 579,70 FR TLA 580,0 FR TLA 580,0 FR ΔIV 56.24 TLA 580,0 FR ΔIV 56.24 TLA 580,0 FR ΔIV 372.66	average daily m	aximum ambient temperature, min tank temperatu		609.70	*R	Vented Vapor Satu	ration Factor (Eq. 1-21: KS = 1/(1+0.053*PVA*HVO)		0.94	noio
Vapor Obensity, see Equation 1-2: Vapor Space Expansion Factor (Eq. 1-5: (ATV/TLA)+((APV-APB)/(PA-PVA) KE 0.08 New [AM/PVA]/(PA-PVA) New [H(ΔΡν-ΔΡΒ)/(PA-PvA) KE	iverage daily iiii	illillium ambient temperature, max tank temperatu	IAN	339.70	N.	Vapor Space (Outage: see Equation 1-1			
Wyer Mye Mye Myer My	ΔIV 50.00 R ΔPP 0.00 ps ΔPP 0.00 ps ΔPB 0.06 ps PvA 0.0463 psia PvA 0.0463 psia PvA 14.70 psia PvA 14.70 psia PvA 14.70 psia PvA 14.70 psia Valued Tanks (ΔTV = 0.7 ΔTA + 0.02 α I ΔIV 56.24 ΔIV 56.24 ΔIV 56.24 ΔIV 50.00 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 50.00 R	ock Vapor Dens	sity: see Equation 1-2:				vapor opace v	Sulage, see Equation 1-1	TIVO	23.00	it.
Vapor Molecular weigh	ΔIV 50.00 R ΔPP 0.00 ps ΔPP 0.00 ps ΔPB 0.06 ps PvA 0.0463 psia PvA 0.0463 psia PvA 14.70 psia PvA 14.70 psia PvA 14.70 psia PvA 14.70 psia Valued Tanks (ΔTV = 0.7 ΔTA + 0.02 α I ΔIV 56.24 ΔIV 56.24 ΔIV 56.24 ΔIV 50.00 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 372.06 R ΔIV 50.00 R			Wv	0.0009		Vapor Space Expa	nsion Factor (Eq. 1-5; (ΔΤν/TLA)+f(ΔΡν-ΔΡΒ)/(PA-PvA)	KE	0.08	per day
Average Daily Liquid Surrace Temperature Average Daily Liquid Surrace Temperature Average Daily Liquid Surrace Temperature Average Daily Liquid Surrace Temperature Average Daily Liquid Surrace Temperature Average Daily Liquid Surrace Temperature Average Daily Liquid Surrace Temperature Average Daily Liquid Surface Temperature Average Daily Vapor Pressure Average Daily Vapor Pressure Average Daily Vapor Pressure Provided Surface Temperature Average Daily Vapor Pressure Average Daily Vapor Pressure Average Daily Vapor Pressure Provided Surface Temperature Average Daily Vapor Pressure Provided Surface Temperature Average Daily Vapor Pressure Daily Liquid Surface Temperature Average Daily Vapor Pressure Average Daily Vapor P	APB	Vapor Molecular			120		Average Daily	Vapor Temperature Rang	ΔΤν	50.00	*R
Variage Vari	PVA 0.0463 pois			R			Average Daily	Vapor Pressure Rang			
Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Liquid Surface Temperature Average Daily Dail	TLA 579.70 TR										
Atmosphence Pressure Atmosphence Pressure Atmosphence Pressure Atmosphence Pressure Atmosphence Atmosphence Atmosphence	P_A	Average Daily Li	iquid Surrace Temperatur	Γv	579.7000						
Uninsulated FRT; see Equation 1-32 simplified to Equation 1-3. TV 592.76 R Equation 1-4, simplified to Equation 1-7 for Uninsulated Tanks (ATV = 0.7 ATA + 0.02 or 1 ATA 50.0 ° Average daily ambient temperature (Equation 1-3 TAA 50.0 ° Average daily ambient temperature rang ATA 50.0 ° Average daily ambient temperature rang ATA 50.0 ° Average daily ambient temperature rang ATA 50.0 ° Average daily ambient temperature rang ATA 50.0 ° Average daily ambient contains surface, Blut/ft2 da I I180.0	ulated Tanks (ΔTV = 0.7 ΔTA + 0.02 α I ΔTV 56.24 ΔTA 50.0 °FR ΔTA 50.0 °FR ΔTA 50.0 °FR ΔTA 50.0 °FR 1 1180.00 1180.00 A + 0.02 αR I, ΔTV 372.06 °FR ΔTA 584.70 °FR 0.90 °FR less, Table 7.1- αR 0.90 °FR 22 day); Table 7.1- I 1180.00 °FR atry 50.00 °FR 50.00 °FR sted Tanks (Equation 1-9: ΔPV = PVX - PVN ΔPV 0.06237 peia surface temp. (Eq. 1-25 or 1-26 using TLX; PN = ePVN 0.0191 peia ure, deg R (TLX = TLA + 0.25ΔTV from Figure 7.1- TLX 598.76 °FR αPV 0.00 peia ΔPB 0.06	orago Vanos T	amparatura		1		Atmospheric F	Liquid Surrace Temperature			
Five 0.7*TAA + 0.3*TB + 0.009*c1	Δ1A 50.0 °R			-	-	1	Autiospiletic F	IGOOUIG	' A	14.70	poid
Average daily ambient temperature (Equation 1-3:1 TAA 59.4.7 °R Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient demperature rang Average daily maximum liquid surface temperature, deg R (TLN = TLA + 0.25dTV from Figure 7.1- TLN Average daily maximum liquid surface temperature, deg R (TLN = TLA + 0.25dTV from Figure 7.1- TLN Average daily maximum liquid surface temperature, deg R (TLN = TLA + 0.25dTV from Figure 7.1- TLN Average daily maximum liquid surface temperature, deg R (TLN = TLA - 0.25dTV from Figure 7.1- TLN Average daily maximum liquid surface temperature, deg R (TLN = TLA - 0.25dTV from Figure 7.1- TLN Average daily maximum liquid surface temperature, deg R (TLN = TLA - 0.25dTV from Figure 7.1- TLN Average daily maximum liquid surface temperature, deg R (TLN = TLA - 0.25dTV from Figure 7.1- TLN Ave	Δ1A 50.0 °R	v = 0.7*TAA +	0.3*TB + 0.009*a*l	Tv	592 76	*R	Equation 1-6. simn	lified to Equation 1-7 for Uninsulated Tanks (ATV = 0.7 ATA + 0.02 at	ΔΤν	56 24	
	Sionless, Table 7-1: 0 0.90										*R
Calify total solar insolation on a horizontal surface, dimensionless, Table 7.1.	e, Btu/(tt2 da 1 1180.00 A + 0.02 dk								α		
Partially Insulated FRT; see Equation 1-34	A	Tank paint solar	absorptance, dimensionless, Table 7.1	α	0.9						
Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature rang Average daily ambient temperature (Equation 1-34 TA S84.7 or R Average daily ambient temperature (Equation 1-33 TA S84.7 or R Average daily into a last insolation factor, Btu/(ft2 day); Table 7.1 I 1180.00	ATA 584.70 R Iess, Table 7.1- OR 0.90 Iz day); Table 7.1- I 1180.00 ATV 50.00 R Isted Tanks (Equation 1.9: APV = PVX - PVN Isted Tanks (Equation 1.9: APV = PVX - PVN Isted Tanks (Equation 1.9: APV = PVX - PVN Isted Tanks (Equation 1.9: APV = PVX - PVN Isted Tanks (Equation 1.9: APV = PVX Isted Tanks (Equation 1.9: APV = PVX Isted Tanks (Equation 1.9: APV = PVX Isted Tanks (Equation 1.9: APV Isted Tanks	Daily total solar i	insolation on a horizontal surface, Btu/(ft2 da		1180.0						
Ye	OR 0.90 2 day); Table 7.1 OR 0.90 2 day); Table 7.1 I 180.00										
Average daily ambient temperature (Equation 1-3! TAA 58.4.7 R Average daily total solar insolation factor, Btu/(ft2 day); Table 7.1 1180.00	1180.00			Tv	500.00	*D					.K
	ΔTV 50.00 °R			ΤΔΔ		*R	I ank roof suff	total solar insolation factor. Rtu/(ft2 day): Table 7.1	ar I		-
Fully Insulated	ted Tanks (Equation 1-9: ΔPV = PVX - PVN ΔPV 0.03046 psis surface temp. (Eq. 1-25 or 1-26 using TLX: Pvx = ePVX 0.06237 psis p						Average dally	total solar modulum lactor, blur(itz day), Table 7.1	-	1100.00	
Average Daily Vapor Pressure Range for Uninsulated Tanks (Equation 1-8: APV = PVX - PVX	sited Yanks (Equation 1.9: ΔPV = PVX - PVN ΔPV 0.03046 pola surface temp. (Eq. 1.25 or 1.26 using TLX: PN = ePVX 0.06237 pola surface temp. (Eq. 1.25 or 1.26 using TLX: PN = ePVX 0.06237 pola surface temp. (Eq. 1.25 or 1.26 using TLX: PN = ePVX 0.03191 pola sure, deg R (TLX = TLA + 0.25ΔTV from Figure 7.1-1 TLX 598.76 IR rer, deg R (TLN = TLA - 0.25ΔTV from Figure 7.1-1 TLX 572.95 IR ΔPY 0.00 pola ΔPB 0.06 0.06	ank roof surfac	ce solar absorptance, dimensionless, Table 7.1-				Fully Insulated		ΔΤν	50.00	*R
Averago Daliy Vapor Pressure Range for Uninsulated Tanks (Equation 1-9: APV = PVX - PVN 0.03946 [p V = TB V = PVX - PVN 0.03946 [p V = TB V = PVX V = PVX 0.03946 [p V = TB V = TB V = V = V = V V = V = V V = V = V	surface temp, (Eq. 1-25 or 1-26 using TLX; PN = ePVX 0.06237 [pois urface temp, (Eq. 1-25 or 1-26 using TLX; PN = ePVN 0.03191 [pois ure, deg R (TLX = TLA + 0.25ΔTV from Figure 7.1-[TLX 598,76 'R rare, deg R (TLN = TLA - 0.25ΔTV from Figure 7.1-[TLX 572.95 'R]			ı	1,180.00		·				1
Tv = TB Tv = TB Tv = TS TV =	urface temp, (Eq. 1-25 or 1-26 using TLX; PM = $\mathbb{R}^{ VVN }$ = $\mathbb{R}^{ $, , , , , ,						
Liguid Bulk Temperature, Temperature of Heated Product TB 579.70 °R Average daily minimum liquid surface temperature, deg R (TLX = TLA + 0.25&TV from Figure 7.1- TLX 588.76 New reage daily ambient temperature (Equation 1-3) TAA 584.70 TAA 584.70 Fully insulated Product	ure, deg R (TLX = TLA + 0.25ΔTV from Figure 7.1- TLX						Vapor pressur	e at the average daily max liquid surface temp, (Eq. 1-25 or 1-26 using TLX; Pv	= e PVX		
Liquid Bulk Temperature; Temperature of Heated Product TB 579,70 'R Average daily minimum liquid surface temperature, deg R (TLN = TLA - 0.25ΔTV from Figure 7.1- (TLN 572,95 'P) verage daily ambient temperature (Equation 1-3) TAA 584.70 as 0.99 Fully Insulated	Apr. Apr.	Γv = TB		Tv	579.70	*R	Vapor pressur	e at the average daily min liquid surface temp, (Eq. 1-25 or 1-26 using TLX; PvI	= e PVN	0.03191	psia
Average daily ambient temperature (Equation 1-3) TAA 584.70 tanks shell solar absorptance, dimensionless, Table 7.1- os 0.90 Fully Insulated ΔPV 0.00 [p	ΔPV 0.00 psia ΔPB 0.06			-		+0				598.76	*R
tank shell solar absorptance, dimensionless, Table 7.1- αs 0.90 Fully Insulated ΔPv 0.00 p	ΔPB 0.06					^K	Average daily	minimum iiquid surrace temperature, deg R (TLN = TLA - 0.25ΔTV from Figure	.1-1TLN	572.95	.ĸ
	ΔPB 0.06	average daily ar	mpient temperature (Equation 1-3i				Fully Inculated		IΛPv	0.00	neia
any man soar inspanon on a nonzona sufface MIV/IIZ da II I 1 3 30 00 I		fails total solar	insolation on a horizontal surface, Btu/(ft2 da	u5 I	1,180.00		i uny msurated		μ. τ	0.00	Ihoiq
		, total soldi i		I.	1,100.00	1	(Equation 1-10: ΔP	B = PBP - PBV	ΔΡΒ	0.06	

- NOTE:

 1. Equation 1-4 not used, as it's stricktly a combination of Equation 1-2 and 1-2. Equation 1-14 and 1-15 are for Horizontal Tank

 2. Equation 1-23 is not shown. Equation 1-23 is for calculating the molecular weight of mixture

 4. Equations 1-24, 1-25, and 1-26 not shown. These equations are used for determining vapor pressu
- **797.08** lb/yr Total Losses (Eq.1-1: LT = Ls+Lw)

Table 4 API Document Table 7 Meteorological Data fo

			Annual Average					
Nun	nber Location	T_{ax} (°F)	T_{an} (°F)	I (Btu/ft² day)				
1	Providence, RI	59.3	41.2	1112				
2	Providence, RI	59.3	41.2	1112				
3	Savannah, GA	76.7	55.1	1365				
4	Indianapolis, IN	62	42.2	1165				
5	Chicago, IL	58.7	39.7	1215				
6	Chicago, IL	58.7	39.7	1215				
7	Indianapolis, IN	62	42.2	1165				
8	Providence, RI	59.3	41.2	1112				
9	Providence, RI	59.3	41.2	1112				
10	Detroit, MI	58.2	38.9	1120				
11	Detroit, MI	58.2	38.9	1120				
12	Detroit, MI	58.2	38.9	1120				
13	Detroit, MI	58.2	38.9	1120				
14	Albany, NY	57.4	39.6	1180				
15	Newark, NJ	63.38	46.1	1235.58				
16	Newark, NJ	62.5	45.9	1165				
17	Buffalo, NY	55.8	39.3	1034				
18	Buffalo, NY	55.8	39.3	1034				
19 20	New York, NY	61 61	47.5 47.5	1171				
20	New York, NY New York, NY	61	47.5 47.5	1171 1171				
22	-	55.8	39.3	1034				
23	Buffalo, NY Buffalo, NY	55.8	39.3 39.3	1034				
24	Buffalo, NY	55.8	39.3	1034				
25	Buffalo, NY	55.8	39.3	1034				
26	Buffalo, NY	55.8	39.3	1034				
27	Buffalo, NY	55.8	39.3	1034				
28	Buffalo, NY	55.8	39.3	1034				
29	Philadelphia, PA	63.4	45.1	1169				
30	Philadelphia, PA	63.4	45.1	1169				
31	Pittsburgh, PA	59.9	40.7	1069				
32	Philadelphia, PA	63.4	45.1	1169				
33	Philadelphia, PA	63.4	45.1	1169				
34	Pittsburgh, PA	59.9	40.7	1069				
35	Philadelphia, PA	63.4	45.1	1169				
36	Allentown, PA	60.8	41.2	1138				
37	Pittsburgh, PA	59.9	40.7	1069				
38	Allentown, PA	60.8	41.2	1138				
39	Cleveland, OH	58.5	40.7	1091				
40	Columbus, OH	61.5	41.8	1123				
41	Cleveland, OH	58.5	40.7	1091				
42	Toledo, OH	58.8	38.3	1133				
43	Roanoke, VA	66.5	45	1342				
44	Louisville, KY	66.025	46.033	1305.037				
45	Detroit, MI	58.2	38.9	1120				

Table 3 Solar Absorptance (α) for Selected Paints Determining Product Evaporation Losses from Tank Turnovers API Document Table 7.1-6

			Pai	nt Factors	(a)
Paint No.	Paint Color	Paint Shade	Good/New	Average	Poor/Aged
0	White	N/A	0.17	0.25	0.34
1	Aluminum	Specular	0.39	0.44	0.49
2	Aluminum	Diffuse	0.60	0.64	0.68
3	Beige / Crean	N/A	0.35	0.42	0.49
4	Black	N/A	0.97	0.97	0.97
5	Brown	N/A	0.58	0.62	0.67
6	Gray	Light	0.54	0.58	0.63
7	Gray	Medium	0.68	0.71	0.74
8	Green	Dark	0.89	0.90	0.91
9	Red	Primer	0.89	0.90	0.91
10	Rust	Red Iron Oxide	0.38	0.44	0.50
11	Tan	N/A	0.43	0.49	0.55
12	Aluminum	Mill Finish	0.10	0.12	0.15

PART 212 REVIEW AIR DISPERSION MODEL PROTOCOL ALBANY, NY

March 2020

Prepared for:

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Prepared by:



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Envirospec Engineering Project E19-2196

1.0 Introduction:

Air dispersion modeling will be conducted for the Global Companies LLC (Global) Albany Terminal (Terminal) located in Albany, NY. This facility is classified as a gasoline and distillate loading terminal. It consists of ten (10) permitted gasoline storage tanks and five (5) distillate tanks. The facility has one (1) truck loading rack, one (1) rail loading rack, and a marine loading dock. The truck loading rack is controlled by a Vapor Recovery Unit (VRUTK), rail loading is controlled by a Vapor Combustion Unit (VCURR), and marine loading is controlled by two VCUs (VCUM1 and VCUM2).

This protocol is being submitted as part of a Title V air permit modification application for the facility. Air dispersion modeling is required to determine compliance with 6 NYCRR Part 212. 6 NYCRR Part 212 regulates air pollution from process operations, as defined in the regulation. Each contaminant is assigned an Environmental Rating, which is used to determine the degree of air pollution control required. Facilities with process operations subject to New Source Performance Standards (NSPS) (40 CFR Part 60) and National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR 63) are considered in compliance with Part 212 with the exception of compounds on the high toxicity air contaminant (HTAC) list. Facility Potential to Emit (PTE) calculations are completed to determine maximum potential emissions of Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs). Pollutants that are considered HTACs are then compared to the mass emission limits specified on 212-2.2 Table 2 – High Toxicity Air Contaminant List. HTACs that exceed the mass emission limit are modeled to demonstrate that fence-line concentrations are below Annual Guideline Concentrations (AGC) for annual emission rates and Short-Term Guideline Concentrations (SGC) for hourly emission rates for the applicable contaminant. HTACs that are below SGC/AGC limits are in compliance with Part 212. The only HTAC emitted from process operations at this facility with emissions exceeding the specified mass emission limit is benzene. Other HAPs are emitted from facility operations, but they are not considered HTACs per 212-2.2 Table 2. Air dispersion modeling will be conducted to assess whether or not facility benzene emissions exceed the SGC and AGC levels.

The air dispersion model will be completed using BREEZE AERMOD Software (version 8.1). Emissions information can be found below which provides information on variables and modeling assumptions which will be used when developing the model. This information is also presented in the attached modeling summary.

2.0 Facility Overview and Process Description:

Global's Albany Terminal is located at 50 Church Street in Albany, NY. The facility is permitted for petroleum product loading operations. The facility has an overall refined product (gasoline, ethanol, blendstock, distillate, and biodiesel) throughput limit of 1,929,000,000 gallons with subcaps at each rack. There is an additional 450,000,000 gallon throughput for crude oil at the marine dock.

3.0 Modeling Methodology:

The projection to be used for the model will be UTM WGS84, zone 18. An aerial image of the site as well as a facility site plan will be imported as base maps and will be used to determine source locations. The modeling methodology used for this analysis is described below. The following subsections describe the details of the modeling analysis.

3.1 Selection of Dispersion Model:

The latest version of the American Meteorological Society/Environmental Protection Agency Regulatory Model AERMOD will be used. All standard regulatory default options of AERMOD will be invoked.

To facilitate the implementation of AERMOD, the BREEZE AERMOD software will be used.

3.2 Site Characterization:

The Albany Terminal is located at 50 Church Street in Albany, NY on the western bank of the Hudson River. The base elevation for the terminal is approximately 18 ft. Based on a land use analysis of the area surrounding the terminal, the surrounding area will be considered urban in the air dispersion model with a population of 107,000 based on the total population of the cities of Albany and Rensselaer (2010 census).

3.3 Source Emissions:

Total benzene emissions from the facility's PTE calculations will be used for modeling. The PTE calculations will be performed using the latest AP-42 methodology (November 2019). Tank emissions (standing and working) were calculated using the 2019 AP-42 formulas (AP-42 [7.1 Organic Liquid Storage Tanks]). Tank landing and cleaning emissions were also calculated using the 2019 AP-42 calculation methods (AP-42 [7.1.3.3 Floating Roof Landing Losses]). Two (2) tanks will be heated for biodiesel storage. Emissions were calculated as heated tanks per AP-42 (7.1 Organic Liquid Storage Tanks).

Transfer emissions are calculated using the standard AP-42 method for calculating rack transfers using maximum facility throughput values and design efficiency of the control device. Transfer fugitives utilize a standard 99.2% capture efficiency factor when loading (AP-42 [5.2 Transportation and Marketing of Petroleum Liquids]).

Liquid weight concentrations for benzene were based on product data from Global and used to calculate the benzene vapor weight concentration for gasoline and distillate. Based on these calculations, gasoline has a benzene vapor weight concentration of 0.41% and distillate has a benzene vapor weight concentration of 0.22%. Gasoline has been used as a worst-case product for gas, ethanol and crude oil as it has the highest or equal benzene concentration. The distillate benzene vapor weight concentration of 0.22% is used for the emission calculations for the fixed roof tanks. The blendstock benzene vapor weight concentration of 0.46% are used for blendstocks.



3.3.1 Gasoline Storage Tanks:

The facility currently has ten (10) gasoline storage tanks. The tanks are equipped with internal floating roofs and have varying capacities. Each tank will be modeled as an area source with actual tank height as the release height and actual tank dimensions will be used to determine surface area.

To determine the landing scenario that causes the worst-case short-term (1-hour) impact, landing emissions will be evaluated for each tank separately in the short-term model. The tank with the worst-case estimate of emissions during landing will then be used to determine the maximum hourly emission rate of benzene. Runs will also be completed assuming that the worst two tank landings are occurring simultaneously. Cleanings will also be modeled with vapor purge loss having the highest hourly emissions

3.3.2 Distillate Storage Tanks:

The facility currently has five (5) vertical fixed roof (VFR) distillate storage tanks with two (2) of those being heated. Each tank will be modeled as an area source with actual tank height as the release height and actual tank dimensions will be used to determine surface area.

3.3.3 Truck Loading Rack:

The facility has one (1) truck loading rack where gasoline, ethanol, and distillate are loaded. The truck rack has a refined product throughput subcap of 880,000,000 gallons per year. Loading operations are controlled with a VRU. The permitted emissions limit will be 2 mg/L. The PTE calculation for the loading rack assumed maximum annual throughput of 880,000,000 gallons, controlled by the VRU. Loading rack fugitive emissions will be controlled using a vac assist. Under an alternate operating scenario (AOS), loading can occur up to a lower throughput with fugitive emissions. Loading rack fugitive emissions will be modeled as a volume source and controlled rack loading emissions will be modeled as a point source. Manufacturer information will be used to develop source parameters such as stack height, stack diameter, stack temperature, and stack velocity. For the short term dispersion model, the truck loading rack will be assumed to load gasoline at the maximum loading rate as this is the worst case scenario product. Modeling will be conducted for the primary and alternate operating scenarios.

3.3.4 Rail Loading:

The facility has one (1) rail loading area where gasoline, ethanol, distillate, and biodiesel are loaded. The rail rack has a refined product throughput subcap of 300,000,000 gallons. Loading operations are controlled with a VCU. The permitted emissions limit will be 2 mg/L. The PTE calculation for the loading rack assumed maximum annual throughput for each product loaded, controlled by the VCU. The controlled loading emissions will be modeled as a point source. Rail loading fugitive emissions will be controlled using a vac assist. Under an AOS, loading can occur up to a lower throughput with fugitive emissions. Manufacturer information will be used to develop source parameters such as stack height, stack diameter, stack temperature, and stack velocity. For the short term dispersion model, the rail loading will be assumed to load gasoline at the maximum loading rate as this is the worst case scenario product. Modeling will be conducted for the primary and alternate operating scenarios.



3.3.5 Marine Loading:

The facility has one (1) marine loading rack where refined products (gasoline, ethanol, blendstock, distillate, and biodiesel) and crude oil are loaded. The marine dock has a refined product subcap throughput of 900,000,000 gallons and a crude throughput cap of 450,000,000 gallons. Loading operations are controlled by two VCUs. The PTE calculation for the loading rack assumed maximum annual throughput for each product loaded, controlled by two VCUs (VCUM1 at 10 mg/L and VCUM2 at 2 mg/L). Marine loading fugitive emissions will be controlled under an AOS only for inerted vessels. Loading can occur up to a lower throughput with fugitive emissions. Fugitive emissions will be modeled as an elevated area source and controlled rack landing emissions will be modeled as a point source. Manufacturer information will be used to develop source parameters such as stack height, stack diameter, stack temperature, and stack velocity. For the short term dispersion model, the marine loading will be assumed to load gasoline at the maximum loading rack as this is the worst case scenario product. Modeling will be conducted for the primary and alternate operating scenarios.

3.4 Building Downwash Analysis:

All of the storage tanks at the facility, as well as office buildings, will be utilized in the building downwash analysis. Direction-specific building dimensions will be generated using BPIP-PRIME.

3.5 Meteorological Data:

Meteorological data which has been pre-processed for AERMOD for the years 2014-2018 will be obtained from the New York State Department of Environmental Conservation. Surface Met Data and Upper Air Met Data is from the Station located at the Albany International Airport in Colonie, NY located approximately 8 miles northwest of the terminal. This station was chosen because of its close proximity to the terminal.

3.6 Modeled Receptors

Boundary receptors will be modeled at the property lines from the facility site plan. Receptors will be located every 25 meters along the facility boundaries. A Cartesian receptor grid will be used to monitor the area surrounding the facility, using the following spacing:

- 70 meter spacing from the facility boundary out to 1 km
- 100 meter spacing from 1 to 2 km
- 250 meter spacing from 2 to 5 km

Given the low emission release heights and the near ambient release temperatures it is not anticipated that significant emissions will be carried beyond these receptor points.

3.7 Terrain Considerations

The effects of terrain were considered in the modeling analysis. Elevations (above mean sea level) corresponding to the base elevation of the facility will be assigned to all sources and buildings at the facility, as well as the modeled receptors.



The terrain processor for AERMOD, AERMAP Version 19191 will be used to generate terrain maxima (also referred to as hill heights) for the sources, buildings, and receptors. To generate these terrain maxima, object locations and Digital Elevation Model (DEM) data in 1 degree format will be input to AERMAP.

4.0 Model Results

The results of this analysis will be clearly summarized in tables that will consist of the following information:

- Predicted concentrations, and
- Comparison to the appropriate standards.

In addition to the tabulated results, maps of concentration isopleths will be presented to further illustrate the results.

Hard copies of the model output files for the controlling year for 1-hour and annual benzene concentrations will be submitted. In addition, a .zip folder will be provided which will contain all pertinent input and output files, as well as the meteorological data files.



Global Albany Annual Model Assumptions

General Parameters								
Parameter		Value						
Projection		UTM						
Datum		WGS84						
UTM Zone		18						
Hemisphere		Northern						
AERMET		2014-2018 MET Data						
AERMAP		1-deg DEM Data from webgis.com						
Sources	Assumptions/ Notes	Value						
Truck Rack VRU (VRUTK) (Point Sou		Traine						
Emission Rate (lb/hr)	From PTE Calculations	6.87E-03						
Emission Rate (lb/hr) Alternate		5.5.2						
Operating Scenario	From PTE Calculations	1.37E-03						
Stack Height (ft)	Actual Stack Height	22.4						
Stack Temperature	Release Temperature	Ambient						
Stack Velocity (m/s)	Assumed	0.003						
Stack Diameter (ft)	Actual Stack Diameter	1						
Emissions Limit (mg/L)	Actual Stack Diameter	2						
Rail VCU (VCURR) (Point Source)								
Emission Rate (lb/hr)	From PTE Calculations	2.34E-03						
Emission Rate (lb/hr) Alternate	FIGHT FTE Calculations	2.34L-03						
Operating Scenario	From PTE Calculations	4.69E-04						
Stack Height (ft)		35						
	Actual Stack Height							
Stack Temperature	Release Temperature Assumed	1350						
Stack Velocity (ft/s)		50						
Stack Diameter (ft)	Actual Stack Diameter	8						
Emissions Limit (mg/L)		2						
Marine VCU (VCUM1) (Point Source Emission Rate (lb/hr) (if all								
* * * * *	From DTF Coloulations	0.053						
throughput to VCUM1) Emission Rate (lb/hr) (if all	From PTE Calculations	0.053						
throughput to VCUM1) Alternate								
	From DTF Coloulations	0.055						
Operating Scenario	From PTE Calculations	0.055						
Stack Height (ft)	Actual Stack Height	35						
Stack Temperature	Release Temperature	1500						
Stack Velocity (ft/s)	Assumed	50						
Stack Diameter (ft)	Actual Stack Diameter	6						
Emissions Limit (mg/L)		10						
Marine VCU (VCUM2) (Point Source Emission Rate (lb/hr) (if all		T						
	From DTF Coloulations	0.0105						
throughput to VCUM2) Emission Rate (lb/hr) (if all	From PTE Calculations	0.0105						
throughput to VCUM2) Alternate	5 075 0 1 1 11	0.0400						
Operating Scenario	From PTE Calculations	0.0109						
Stack Height (ft)	Actual Stack Height	60						
Stack Temperature	Release Temperature	1500						
Stack Velocity (ft/s)	Assumed	50						
Stack Diameter (ft)	Actual Stack Diameter	10						
Emissions Limit (mg/L)		2						
Truck Fugitives (Volume Source) (Al								
Emission Rate (lb/hr)	From PTE Calculations	5.50E-03						
Release Height (ft)	Center of Plume	10						
Initial Horizontal Dimension (ft)	Length of Side divided by 4.3	31.4						

Barge Fugitives (Area Source) (Alternate Operating Scenario Only)	Initial Vertical Dimension (ft)	Center of Plume height divided by 2.15	4.65
From PTE Calculations 1.88E-07			
Release Height (ft) Barge Height divided by 2.15 20 Initial Vertical Dimension (ft) Barge height divided by 2.15 9.3 Area (ft²) Barge Area 9178.8 Rall Fugitives (Volume Source) (Alternate Operating Scenario Only) 1.87E-03 Relission Rate (Ib/hr) From PTE Calculations 1.87E-03 Release Height (ft) 17 17 Initial Horizonal Dimension (ft) Length of Side divided by 4.3 54.88 Initial Vertical Dimension (ft) Center of Plume height divided by 2.15 7.91 Tank 28 (Distillate) (Area Source) From PTE Calculations 1.67E-08 Release Height (ft) Tank height Adprox. height of roof vents 45 Release Height (ft) Tank Area 12271.85 Tank (ft²) Tank Height divided by 2.15 20.93 Area (ft²) Tank Area 1.67E-08 Release Height (ft²) Tank Radius 62.5 Initial Vertical Dimension (ft²		T T	1 99F_07
Initial Vertical Dimension (ft)			
Barge Area 9178.8 Rail Fugitives (Volume Source) (Alternate Operating Scenario Only)			
Rail Fugitives (Volume Source) (Alternate Operating Scenario Only)	` ,		
Emission Rate (Ib/hr) From PTE Calculations 1.87E-03 Release Height (ft) Release Height 17 Initial Horizontal Dimension (ft) Length of Side divided by 4.3 54.88 Initial Vertical Dimensions (ft) Length of Side divided by 2.15 7.91 Tank 28 (Distillate) (Area Source) Emission Rate (Ib/hr/ft²) From PTE Calculations 1.67E-08 Release Height (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank Radius 62.5		-	3178.8
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Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93			
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Initial Vertical Dimension (ft)			
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Radius (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 3 (Distillate) (Area Source) Emission Rate (lb/hr/ft²) From PTE Calculations 1.67E-08 Release Height (ft) Tank height. Approx. height of roof vents 45 Radius (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 4 (Distillate) (Area Source) Emission Rate (lb/hr/ft²) From PTE Calculations 1.67E-08 Release Height (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 3 (Gasoline) (Area Source) Emission Rate (lb/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) <td>1 1 1</td> <td>Tank height. Approx. height of roof vents</td> <td>45</td>	1 1 1	Tank height. Approx. height of roof vents	45
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Radius (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 64 (Distillate) (Area Source) Emission Rate (lb/hr/ft²) From PTE Calculations 1.67E-08 Release Height (ft) Tank height. Approx. height of roof vents 45 Radius (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 31 (Gasoline) (Area Source) Emission Rate (lb/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 32 (Gasoline) (Area Source) Emission Rate (lb/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank height. Approx. height of roof vents 45 Release Height (ft) Tank height. Approx. height of roof vents 45			
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Tank 64 (Distillate) (Area Source) Emission Rate (Ib/hr/ft²) From PTE Calculations 1.67E-08 Release Height (ft) Tank height. Approx. height of roof vents 45 Radius (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 31 (Gasoline) (Area Source) Emission Rate (Ib/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank height. Approx. height of roof vents 45 Radius (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 32 (Gasoline) (Area Source) Emission Rate (Ib/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 32 (Gasoline) (Area Source) Emission Rate (Ib/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank height. Approx. height of roof vents 45 Radius (ft) Tank Radius 62.5	Area (ft ²)	Tank Area	12271.85
Release Height (ft) Radius (ft) Tank Radius Tank Radius Tank Reight divided by 2.15 Tank Area Tank Radius Tank Radius Tank Radius Tank Radius Tank Area	Tank 64 (Distillate) (Area Source)		
Release Height (ft) Radius (ft) Tank Radius Tank Radius Tank Reight divided by 2.15 Tank Area Tank Radius Tank Radius Tank Radius Tank Radius Tank Area	Emission Rate (lb/hr/ft²)	From PTE Calculations	1.67E-08
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Emission Rate (lb/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank height. Approx. height of roof vents 45 Radius (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 32 (Gasoline) (Area Source) Emission Rate (lb/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank height. Approx. height of roof vents 45 Radius (ft) Tank Radius 62.5	` ,	1.5	
Release Height (ft)Tank height. Approx. height of roof vents45Radius (ft)Tank Radius62.5Initial Vertical Dimension (ft)Tank height divided by 2.1520.93Area (ft²)Tank Area12271.85Tank 32 (Gasoline) (Area Source)Emission Rate (lb/hr/ft²)From PTE Calculations4.28E-07Release Height (ft)Tank height. Approx. height of roof vents45Radius (ft)Tank Radius62.5		From PTE Calculations	4.28E-07
Radius (ft) Tank Radius 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 20.93 Area (ft²) Tank Area 12271.85 Tank 32 (Gasoline) (Area Source) Emission Rate (lb/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank height. Approx. height of roof vents 45 Radius (ft) Tank Radius 62.5			
Initial Vertical Dimension (ft) Area (ft²) Tank Area Tank Area 12271.85 Tank 32 (Gasoline) (Area Source) Emission Rate (lb/hr/ft²) From PTE Calculations Release Height (ft) Tank height. Approx. height of roof vents Radius (ft) Tank Radius 62.5			
Area (ft²) Tank Area 12271.85 Tank 32 (Gasoline) (Area Source) Emission Rate (Ib/hr/ft²) From PTE Calculations 4.28E-07 Release Height (ft) Tank height. Approx. height of roof vents 45 Radius (ft) Tank Radius 62.5	Initial Vertical Dimension (ft)		
Tank 32 (Gasoline) (Area Source)Emission Rate (lb/hr/ft²)From PTE Calculations4.28E-07Release Height (ft)Tank height. Approx. height of roof vents45Radius (ft)Tank Radius62.5		·	
Emission Rate (lb/hr/ft²)From PTE Calculations4.28E-07Release Height (ft)Tank height. Approx. height of roof vents45Radius (ft)Tank Radius62.5	Tank 32 (Gasoline) (Area Source)		
Release Height (ft)Tank height. Approx. height of roof vents45Radius (ft)Tank Radius62.5		From PTE Calculations	4.28E-07
Radius (ft) Tank Radius 62.5			
	Radius (ft)		
	Initial Vertical Dimension (ft)	Tank height divided by 2.15	20.93

Area (ft ²)	Tank Area	12271.85
Tank 39 (Gasoline) (Area Source)		
Emission Rate (lb/hr/ft ²)	From PTE Calculations	3.26E-07
Release Height (ft)	Tank height. Approx. height of roof vents	45
Radius (ft)	Tank Radius	62.5
Initial Vertical Dimension (ft)	Tank height divided by 2.15	20.93
Area (ft ²)	Tank Area	12271.85
Tank 120 (Gasoline) (Area Source)		
Emission Rate (lb/hr/ft ²)	From PTE Calculations	5.90E-07
Release Height (ft)	Tank height. Approx. height of roof vents	48
Radius (ft)	Tank Radius	40
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft ²)	Tank Area	5026.55
Tank 114 (Blendstock) (Area Source	ce)	
Emission Rate (lb/hr/ft ²)	From PTE Calculations	3.73E-07
Release Height (ft)	Tank height. Approx. height of roof vents	48
Radius (ft)	Tank Radius	60
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft ²)	Tank Area	11309.73
Tank 115 (Blendstock) (Area Source	ce)	
Emission Rate (lb/hr/ft ²)	From PTE Calculations	3.42E-07
Release Height (ft)	Tank height. Approx. height of roof vents	48
Radius (ft)	Tank Radius	75
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft²)	Tank Area	17671.46
Tank 117 (Blendstock) (Area Source	ce)	
Emission Rate (lb/hr/ft ²)	From PTE Calculations	3.24E-07
Release Height (ft)	Tank height. Approx. height of roof vents	48
Radius (ft)	Tank Radius	55
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft ²)	Tank Area	9503.32
Tank 118 (Blendstock) (Area Source	ce)	
Emission Rate (lb/hr/ft ²)	From PTE Calculations	6.83E-07
Release Height (ft)	Tank height. Approx. height of roof vents	48
Radius (ft)	Tank Radius	50
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft ²)	Tank Area	7853.98
Tank 119 (Blendstock) (Area Source		
Emission Rate (lb/hr/ft ²)	From PTE Calculations	1.07E-06
Release Height (ft)	Tank height. Approx. height of roof vents	48
Radius (ft)	Tank Radius	40
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft²)	Tank Area	5026.55
Tank 121 (Blendstock) (Area Source		
Emission Rate (lb/hr/ft²)	From PTE Calculations	5.62E-07
Release Height (ft)	Tank height. Approx. height of roof vents	48
Radius (ft)	Tank Radius	75
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft²)	Tank Area	17671.46
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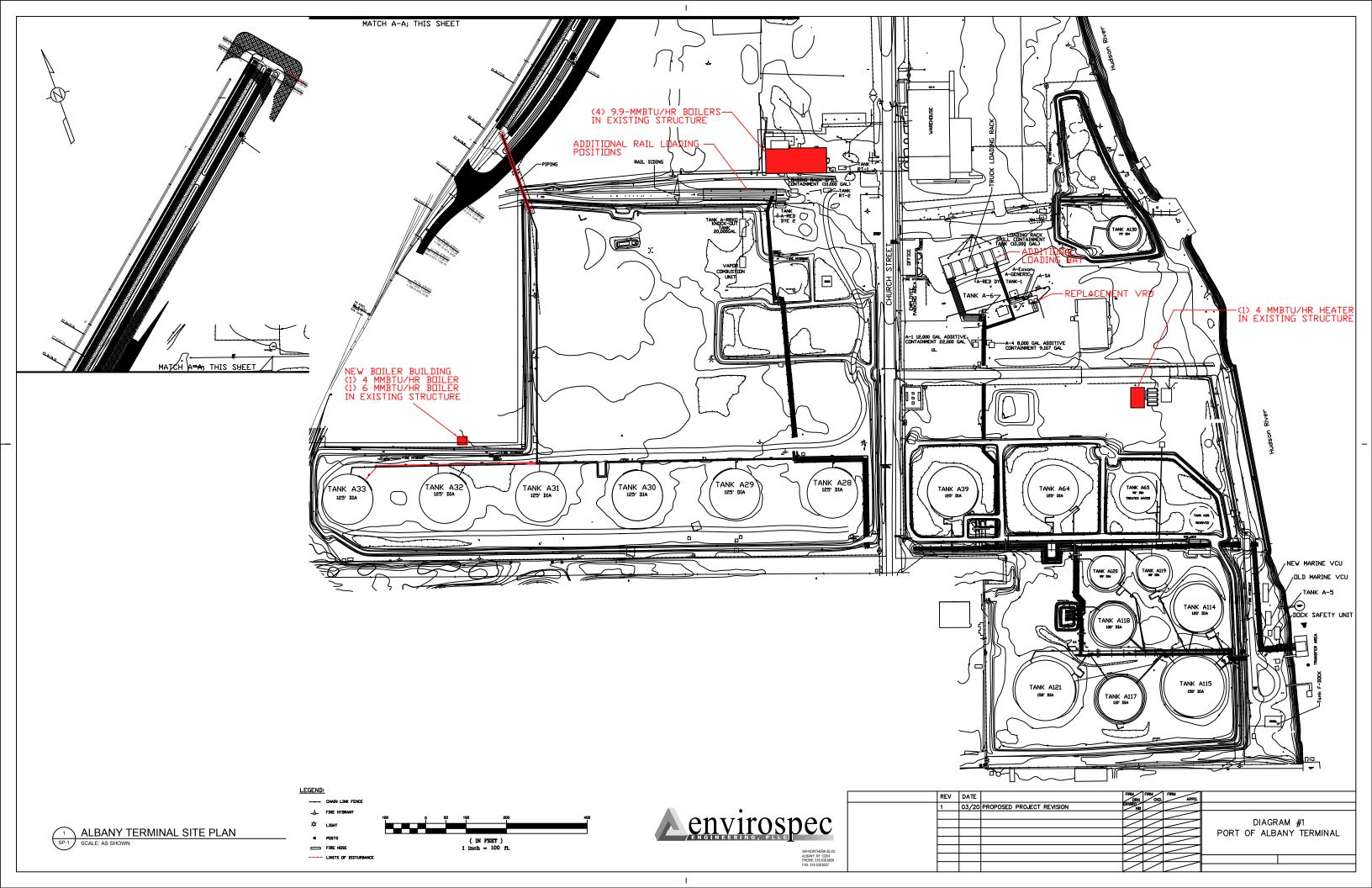
Global Albany Hourly Model Assumptions

General Parameters				
Parameter		Value		
Projection		UTM		
Datum		WGS84		
UTM Zone		18		
Hemisphere		Northern		
AERMET		2014-2018 MET Data		
AERMAP		1-deg DEM Data from webgis.com		
Sources	Assumptions/ Notes	Value		
Truck Rack VRU (VRUTK) (Point Sou	•	1444		
Emission Rate (lb/hr)	From PTE Calculations	1.64E-02		
Stack Height (ft)	Actual Stack Height	22.4		
Stack Temperature	Release Temperature	Ambient		
Stack Velocity (m/s)	Assumed	0.003		
Stack Diameter (ft)	Actual Stack Diameter	1		
Emissions Limit (mg/L)	Actual Stack Diameter	2		
Rail VCU (VCURR) (Point Source)		Z		
Emission Rate (lb/hr)	From PTE Calculations	1.85E-02		
\ ' '	Actual Stack Height			
Stack Height (ft)		35		
Stack Temperature	Release Temperature Assumed	1350		
Stack Velocity (ft/s)		50		
Stack Diameter (ft)	Actual Stack Diameter	8		
Emissions Limit (mg/L)	1	2		
Marine VCU (VCUM1) (Point Source	e)			
Emission Rate (lb/hr) (if all				
throughput to VCUM1)	From PTE Calculations	0.057		
Emission Rate (lb/hr) (if all				
throughput to VCUM1) Alternate				
Operating Scenario	From PTE Calculations	0.060		
Stack Height (ft)	Actual Stack Height	35		
Stack Temperature	Release Temperature	1500		
Stack Velocity (ft/s)	Assumed	50		
Stack Diameter (ft)	Actual Stack Diameter	6		
Emissions Limit (mg/L)		10		
Marine VCU (VCUM2) (Point Source	e)			
Emission Rate (lb/hr) (if all				
throughput to VCUM2)	From PTE Calculations	0.07		
Emission Rate (lb/hr) (if all				
throughput to VCUM2) Alternate				
Operating Scenario	From PTE Calculations	0.08		
Stack Height (ft)	Actual Stack Height	60		
Stack Temperature	Release Temperature	1500		
Stack Velocity (ft/s)	Assumed	50		
Stack Diameter (ft)	Actual Stack Diameter	10		
Emissions Limit (mg/L)		2		
Truck Fugitives (Volume Source) (A	Iternate Operating Scenario Only)			
Emission Rate (lb/hr)	From PTE Calculations	6.57E-02		
Release Height (ft)	Center of Plume	10		
Initial Horizontal Dimension (ft)	Length of Side divided by 4.3	31.4		
Initial Vertical Dimension (ft)	Center of Plume height divided by 2.15	4.65		
Barge Fugitives (Area Source) (Alternate Operating Scenario Only)				
Emission Rate (lb/hr/ft²)	From PTE Calculations	1.96E-06		
Release Height (ft)	Barge Height	20		
nelease Height (It)	ושמו צב דוכוצווג			

Area (ft') Rail Euglitives (Volume Source) (Alternate Operating Scenario Only) From PTE Calculations 7.39E-02 Release Height (ft) Initial Portroatal Dimension (ft) Initial	Initial Vertical Dimension (ft)	Barge height divided by 2.15	9.3
Rail Euglithes (Volume Source) (Alternate Operating Scenario Only)	, ,	·	
Emission Rate (lb/hr)	, ,		91/8.8
Release Height (ft) Release Height 17			7 30F-02
Initial Horizontal Dimension (ft)			
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Release Height (ft) Radius (ft) Tank height. Approx. height of roof vents 62.5 Initial Vertical Dimension (ft) Tank height divided by 2.15 Tank Area Tank Area 12271.85 Tank 32 (Gasoline) (Area Source) Emission Rate (Ib/hr/ft²) Not During Landing From PTE Calculations 4.28E-07 Emission Rate (Ib/hr/ft²) During Landing From PTE Calculations 6.62E-04	, , , , , ,		
Radius (ft)Tank Radius62.5Initial Vertical Dimension (ft)Tank height divided by 2.1520.93Area (ft²)Tank Area12271.85Tank 32 (Gasoline) (Area Source)Emission Rate (lb/hr/ft²) Not During LandingFrom PTE Calculations4.28E-07Emission Rate (lb/hr/ft²) During LandingFrom PTE Calculations6.62E-04			
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Tank 32 (Gasoline) (Area Source) Emission Rate (lb/hr/ft²) Not During Landing From PTE Calculations 4.28E-07 Emission Rate (lb/hr/ft²) During Landing From PTE Calculations 6.62E-04			
Emission Rate (lb/hr/ft²) Not During Landing From PTE Calculations 4.28E-07 Emission Rate (lb/hr/ft²) During Landing From PTE Calculations 6.62E-04		Tank Area	12271.85
Landing From PTE Calculations 4.28E-07 Emission Rate (lb/hr/ft²) During From PTE Calculations 6.62E-04			
Emission Rate (lb/hr/ft²) During Landing From PTE Calculations 6.62E-04			
Landing From PTE Calculations 6.62E-04	Landing	From PTE Calculations	4.28E-07
	Emission Rate (lb/hr/ft ²) During		
Release Height (ft) Tank height. Approx. height of roof vents 45			6.62E-04
	Release Height (ft)	Tank height. Approx. height of roof vents	45

Radius (ft)	Tank Radius	62.5
Initial Vertical Dimension (ft)	Tank height divided by 2.15	20.93
Area (ft ²)	Tank Area	12271.85
Tank 39 (Gasoline) (Area Source)	Tank / ir ca	1227 1.03
Emission Rate (lb/hr/ft²) Not During		
Landing	From PTE Calculations	3.26E-07
Emission Rate (lb/hr/ft ²) During	Trom TE carearations	3.202 07
Landing	From PTE Calculations	2.16E-03
Release Height (ft)	Tank height. Approx. height of roof vents	45
Radius (ft)	Tank Radius	62.5
Initial Vertical Dimension (ft)	Tank height divided by 2.15	20.93
Area (ft²)	Tank Area	12271.85
Tank 120 (Gasoline) (Area Source)	Turk Arcu	12271.03
Emission Rate (lb/hr/ft²) Not During		
Landing	From PTE Calculations	5.90E-07
Emission Rate (lb/hr/ft ²) During	Trom TE calculations	3.302-07
Landing	From PTE Calculations	1.44E-03
Release Height (ft)	Tank height. Approx. height of roof vents	48
Radius (ft)	Tank Radius	40
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft ²)	Tank Area	5026.55
Tank 114 (Blendstock) (Area Source		3020.33
Emission Rate (lb/hr/ft ²) Not During		
	From DTF Coloulations	2 725 07
Landing	From PTE Calculations	3.73E-07
Emission Rate (lb/hr/ft ²) During	E PTECLL	0.005.04
Landing	From PTE Calculations	8.09E-04
Release Height (ft) Radius (ft)	Tank height. Approx. height of roof vents Tank Radius	48 60
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft ²) Tank 115 (Blendstock) (Area Source	Tank Area	11309.73
Emission Rate (lb/hr/ft ²) Not During	France DTE Calculations	2 425 07
Landing	From PTE Calculations	3.42E-07
Emission Rate (lb/hr/ft ²) During		4 505 00
Landing	From PTE Calculations	1.62E-03
Release Height (ft) Radius (ft)	Tank height. Approx. height of roof vents Tank Radius	48 75
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
	<u> </u>	
Area (ft²)	Tank Area	17671.46
Tank 117 (Blendstock) (Area Source		
Emission Rate (lb/hr/ft ²) Not During	From DTE Colombit	2 245 27
Landing	From PTE Calculations	3.24E-07
Emission Rate (lb/hr/ft ²) During		
Landing	From PTE Calculations	1.62E-03
Release Height (ft)	Tank height. Approx. height of roof vents	48
Radius (ft)	Tank Radius	55
Initial Vertical Dimension (ft)	Tank height divided by 2.15	22.33
Area (ft²)	Tank Area	9503.32
Tank 118 (Blendstock) (Area Source		
Emission Rate (lb/hr/ft ²) Not During		
Landing	From PTE Calculations	6.83E-07

From PTE Calculations	1.33E-03
Tank height. Approx. height of roof vents	48
Tank Radius	50
Tank height divided by 2.15	22.33
Tank Area	7853.98
From PTE Calculations	1.07E-06
From PTE Calculations	1.62E-03
Tank height. Approx. height of roof vents	48
Tank Radius	40
Tank height divided by 2.15	22.33
Tank Area	5026.55
From PTE Calculations	5.62E-07
From PTE Calculations	1.62E-03
Tank height. Approx. height of roof vents	48
Tank Radius	75
Tank height divided by 2.15	22.33
Tank Area	17671.46
	Tank height. Approx. height of roof vents Tank Radius Tank height divided by 2.15 Tank Area From PTE Calculations From PTE Calculations Tank height. Approx. height of roof vents Tank Radius Tank height divided by 2.15 Tank Area From PTE Calculations From PTE Calculations Tank height divided by 2.15 Tank Area



Full Environmental Assessment Form Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project:		
Project Location (describe, and attach a general location map):		
Brief Description of Proposed Action (include purpose or need):		
Name of Applicant/Sponsor:	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Project Contact (if not same as sponsor; give name and title/role):	Telephone:	
	E-Mail:	
Address:		
City/PO:	State:	Zip Code:
		-
Property Owner (if not same as sponsor):	Telephone:	
A 11	E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sport assistance.)	sorship. ("Funding" includes grants, loans, tax	relief, and any other	forms of financial
Government Entity	If Yes: Identify Agency and Approval(s) Required	Applicati (Actual or p	
a. City Counsel, Town Board, ☐ Yes ☐ No or Village Board of Trustees			
b. City, Town or Village ☐ Yes ☐ No Planning Board or Commission			
c. City, Town or ☐ Yes ☐ No Village Zoning Board of Appeals			
d. Other local agencies □ Yes □ No			
e. County agencies □ Yes □ No			
f. Regional agencies □ Yes □ No			
g. State agencies □ Yes □ No			
h. Federal agencies □ Yes □ No			
i. Coastal Resources.i. Is the project site within a Coastal Area, o	or the waterfront area of a Designated Inland Wa	terway?	□ Yes □ No
ii. Is the project site located in a communityiii. Is the project site within a Coastal Erosion	with an approved Local Waterfront Revitalization Hazard Area?	on Program?	□ Yes □ No □ Yes □ No
C. Planning and Zoning			
C.1. Planning and zoning actions.			
 only approval(s) which must be granted to enable If Yes, complete sections C, F and G. 	mendment of a plan, local law, ordinance, rule or ole the proposed action to proceed? helete all remaining sections and questions in Pa		□ Yes □ No
C.2. Adopted land use plans.			
a. Do any municipally- adopted (city, town, vill where the proposed action would be located?		nclude the site	□ Yes □ No
If Yes, does the comprehensive plan include spe would be located?		oposed action	□ Yes □ No
b. Is the site of the proposed action within any le	ocal or regional special planning district (for exa ated State or Federal heritage area; watershed ma		□ Yes □ No
c. Is the proposed action located wholly or parts or an adopted municipal farmland protection If Yes, identify the plan(s):		al open space plan,	□ Yes □ No

C.3. Zoning	
a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. If Yes, what is the zoning classification(s) including any applicable overlay district?	□ Yes □ No
b. Is the use permitted or allowed by a special or conditional use permit?	□ Yes □ No
c. Is a zoning change requested as part of the proposed action? If Yes, i. What is the proposed new zoning for the site?	□ Yes □ No
C.4. Existing community services.	
a. In what school district is the project site located?	
b. What police or other public protection forces serve the project site?	
c. Which fire protection and emergency medical services serve the project site?	
d. What parks serve the project site?	
D. Project Details	
D.1. Proposed and Potential Development	
a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, icomponents)?	include all
b. a. Total acreage of the site of the proposed action? b. Total acreage to be physically disturbed? c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? acres acres	
c. Is the proposed action an expansion of an existing project or use? i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, h square feet)? % Units:	
square feet)? % Units: d. Is the proposed action a subdivision, or does it include a subdivision? If Yes, i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)	□ Yes □ No
ii. Is a cluster/conservation layout proposed?iii. Number of lots proposed?iv. Minimum and maximum proposed lot sizes? Minimum Maximum	□ Yes □ No
e. Will the proposed action be constructed in multiple phases?	□ Yes □ No
 i. If No, anticipated period of construction: months ii. If Yes: Total number of phases anticipated Anticipated commencement date of phase 1 (including demolition) month year Anticipated completion date of final phase month year Generally describe connections or relationships among phases, including any contingencies where progress 	of one phase may
determine timing or duration of future phases:	

	et include new resid				□ Yes □ No
If Yes, show num	bers of units propo				
	One Family	Two Family	Three Family	Multiple Family (four or more)	
Initial Phase					
At completion					
of all phases					
- D	4 4		1	1:	D.V D.N.
g. Does the propo	osed action include	new non-residentia	l construction (inclu	ding expansions)?	□ Yes □ No
<i>i</i> . Total number	of structures				
ii. Dimensions (in feet) of largest p	roposed structure.	height.	width; andlength	
iii. Approximate	extent of building	space to be heated	or cooled:	square feet	
				result in the impoundment of any	□ Yes □ No
				igoon or other storage?	
If Yes,	o creation of a wate	r suppry, reservoir,	pona, iake, waste ia	agoon of other storage.	
	e impoundment:				
ii. If a water imp	oundment, the prin	cipal source of the	water:	☐ Ground water ☐ Surface water stream	ns □ Other specify:
			·····		
iii. If other than v	vater, identify the ty	pe of impounded/o	contained liquids and	d their source.	
iv Approximate	size of the propose	d impoundment	Volume:	million gallons: surface area:	acres
v. Dimensions o	f the proposed dam	or impounding str	ucture:	million gallons; surface area:height;length	
vi. Construction	method/materials f	for the proposed da	m or impounding str	ructure (e.g., earth fill, rock, wood, conc	rete):
D.2. Project Op					
				uring construction, operations, or both?	□ Yes □ No
		ation, grading or in	stallation of utilities	or foundations where all excavated	
materials will r	emain onsite)				
If Yes:	C /1	1 1 . 0			
i. What is the pu	irpose of the excava	ation or dreaging?		b be removed from the site?	
и. пом much ma	(anacify tong or out	ck, earm, seannend	s, etc.) is proposed to	o de removed from the site?	
Over wh	at duration of time	oic yaius)			
iii Describe natu	re and characteristic	s of materials to h	e excavated or dredo	ged, and plans to use, manage or dispose	of them
iii. Deseribe natu	re and enaracteristiv	es of materials to o	e executated of dreag	sed, and plans to use, manage of dispose	or them.
. =====					
	onsite dewatering				□ Yes □ No
If yes, descri	be				
v What is the to	atal area to be dredo	red or excavated?		acres	
vi What is the m	narimum area to be	worked at any one	time?	acres acres	
vii What would h	ne the maximum de	nth of excavation of	or dredging?	feet	
	vation require blas				□ Yes □ No
				crease in size of, or encroachment	□ Yes □ No
	ng wetland, waterb	ody, shoreline, bea	ch or adjacent area?		
If Yes:		1 . 1	66 + 1.4		4 •
				vater index number, wetland map number	
description):					

Will the proposed action cause or result in disturbance to bottom sediments? If Yes, describe:	Yes □ No
will the proposed action cause or result in the destruction or removal of aquatic vegetation?	□ Yes □ No
If Yes:	
acres of aquatic vegetation proposed to be removed:	
expected acreage of aquatic vegetation remaining after project completion:	
purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):	
proposed method of plant removal:	
if chemical/herbicide treatment will be used, specify product(s):	
Describe any proposed reclamation/mitigation following disturbance:	
Will the proposed action use, or create a new demand for water?	□ Yes □ No
Yes: . Total anticipated water usage/demand per day: gallons/day	
Will the proposed action obtain water from an existing public water supply?	□ Yes □ No
Yes:	= 103 = 110
Name of district or service area:	
Does the existing public water supply have capacity to serve the proposal?	□ Yes □ No
Is the project site in the existing district?	□ Yes □ No
Is expansion of the district needed?	□ Yes □ No
Do existing lines serve the project site?	□ Yes □ No
. Will line extension within an existing district be necessary to supply the project? Yes:	□ Yes □ No
Describe extensions or capacity expansions proposed to serve this project:	
Source(s) of supply for the district:	
Yes:	□ Yes □ No
Applicant/sponsor for new district:	
Date application submitted or anticipated:	
Proposed source(s) of supply for new district:	
. If a public water supply will not be used, describe plans to provide water supply for the project:	
If water supply will be from wells (public or private), what is the maximum pumping capacity: ga	allons/minute.
Will the proposed action generate liquid wastes?	□ Yes □ No
Yes:	
Total anticipated liquid waste generation per day: gallons/day	
. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all co	=
approximate volumes or proportions of each):	
Will the proposed action use any existing public wastewater treatment facilities? If Yes:	□ Yes □ No
Name of wastewater treatment plant to be used:	
Name of district:	
 Name of district: Does the existing wastewater treatment plant have capacity to serve the project? 	□ Yes □ No
 Name of district: Does the existing wastewater treatment plant have capacity to serve the project? Is the project site in the existing district? 	□ Yes □ No □ Yes □ No

 Do existing sewer lines serve the project site? 	\square Yes \square No
• Will a line extension within an existing district be necessary to serve the project?	□ Yes □ No
If Yes:	
 Describe extensions or capacity expansions proposed to serve this project: 	
iv. Will a new wastewater (sewage) treatment district be formed to serve the project site?	□ Yes □ No
If Yes:	
 Applicant/sponsor for new district: Date application submitted or anticipated: 	
Date application submitted or anticipated:	
What is the receiving water for the wastewater discharge?	
v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including spec	ifying proposed
receiving water (name and classification if surface discharge or describe subsurface disposal plans):	
vi. Describe any plans or designs to capture, recycle or reuse liquid waste:	
e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point	□ Yes □ No
sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point	
source (i.e. sheet flow) during construction or post construction?	
If Yes:	
i. How much impervious surface will the project create in relation to total size of project parcel?	
Square feet or acres (impervious surface)	
Square feet or acres (parcel size)	
ii. Describe types of new point sources.	
u. Describe types of new point sources.	
iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent progroundwater, on-site surface water or off-site surface waters)?	roperties,
If to surface waters, identify receiving water bodies or wetlands:	
Will stormwater runoff flow to adjacent properties?	□ Yes □ No
<i>iv.</i> Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater?	□ Yes □ No
f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel	□ Yes □ No
combustion, waste incineration, or other processes or operations?	
If Yes, identify:	
<i>i</i> . Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)	
1. Mobile sources during project operations (e.g., neavy equipment, neet of derivery venicles)	
ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)	
iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)	
g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit,	□ Yes □ No
or Federal Clean Air Act Title IV or Title V Permit?	= 103 = NO
If Yes:	
i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet	□ Yes □ No
ambient air quality standards for all or some parts of the year)	
ii. In addition to emissions as calculated in the application, the project will generate:	
• Tons/year (short tons) of Carbon Dioxide (CO ₂)	
• Tons/year (short tons) of Carbon Dioxide (CO ₂) • Tons/year (short tons) of Nitrous Oxide (N ₂ O)	
•Tons/year (short tons) of Perfluorocarbons (PFCs)	
•Tons/year (short tons) of Sulfur Hexafluoride (SF ₆)	
•Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)	
• Tons/year (short tons) of Hazardous Air Pollutants (HAPs)	

h. Will the proposed action generate or emit methane (included landfills, composting facilities)? If Yes: i. Estimate methane generation in tons/year (metric): ii. Describe any methane capture, control or elimination mediate floring):	easures included in project design (e.g., combustion to g	□ Yes □ No
electricity, flaring):		_
i. Will the proposed action result in the release of air polluta quarry or landfill operations? If Yes: Describe operations and nature of emissions (e.g., d.		□ Yes □ No
11 Tes. Describe operations and nature of emissions (e.g., d	iesei exilaust, fock particulates/dust).	
 j. Will the proposed action result in a substantial increase in new demand for transportation facilities or services? If Yes: i. When is the peak traffic expected (Check all that apply) □ Randomly between hours of): ☐ Morning ☐ Evening ☐ Weekend	
iii. Parking spaces: Existing	Proposed Net increase/decrease	
iv. Does the proposed action include any shared use parkingv. If the proposed action includes any modification of exists		Yes No access, describe:
vi. Are public/private transportation service(s) or facilitiesvii Will the proposed action include access to public transported or other alternative fueled vehicles?		□ Yes □ No □ Yes □ No
viii. Will the proposed action include plans for pedestrian or pedestrian or bicycle routes?	r bicycle accommodations for connections to existing	□ Yes □ No
k. Will the proposed action (for commercial or industrial pr for energy?If Yes:i. Estimate annual electricity demand during operation of the commercial or industrial properties.		□ Yes □ No
<i>ii.</i> Anticipated sources/suppliers of electricity for the project other):	ct (e.g., on-site combustion, on-site renewable, via grid/l	ocal utility, or
iii. Will the proposed action require a new, or an upgrade, to	o an existing substation?	□ Yes □ No
Hours of operation. Answer all items which apply. i. During Construction:	 ii. During Operations: Monday - Friday: Saturday: Sunday: Holidays: 	

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction,	□ Yes □ No
operation, or both? If yes:	
i. Provide details including sources, time of day and duration:	
<i>ii.</i> Will the proposed action remove existing natural barriers that could act as a noise barrier or screen?	□ Yes □ No
Describe:	
n. Will the proposed action have outdoor lighting? If yes:	□ Yes □ No
<i>i.</i> Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:	
<i>ii</i> . Will proposed action remove existing natural barriers that could act as a light barrier or screen?	□ Yes □ No
Describe:	
o. Does the proposed action have the potential to produce odors for more than one hour per day?	□ Yes □ No
If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:	
occupied structures:	
p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons)	□ Yes □ No
or chemical products 185 gallons in above ground storage or any amount in underground storage?	
If Yes: i. Product(s) to be stored	
ii. Volume(s) per unit time (e.g., month, year)	
iii. Generally, describe the proposed storage facilities:	
Will do a constant in the first tender of tender of tender of tender of tender of tender of tender of tend	D.V. D.N.
q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation?	□ Yes □ No
If Yes:	
<i>i.</i> Describe proposed treatment(s):	
ii. Will the proposed action use Integrated Pest Management Practices?	□ Yes □ No
r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal	□ Yes □ No
of solid waste (excluding hazardous materials)?	
If Yes: i. Describe any solid waste(s) to be generated during construction or operation of the facility:	
• Construction: tons per (unit of time)	
• Operation : tons per (unit of time)	
ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:	
• Construction:	
Operation:	
iii. Proposed disposal methods/facilities for solid waste generated on-site:	
Construction:	
Operation:	

s. Does the proposed action include construction or modificIf Yes:i. Type of management or handling of waste proposed for			☐ Yes ☐ No
other disposal activities):			<u></u>
• Tons/month, if transfer or other non-co • Tons/hour, if combustion or thermal tre	eatment	nent, or	
iii. If landfill, anticipated site life:			
t. Will the proposed action at the site involve the commerc waste? If Yes:	ial generation, treatment	, storage, or disposal of hazard	ous □ Yes □ No
i. Name(s) of all hazardous wastes or constituents to be g	enerated, handled or ma	naged at facility:	
ii. Generally describe processes or activities involving has	zardous wastes or consti	tuents:	
iii. Specify amount to be handled or generated toniv. Describe any proposals for on-site minimization, recycle.	s/month cling or reuse of hazardo	us constituents:	
v. Will any hazardous wastes be disposed at an existing of If Yes: provide name and location of facility:			□ Yes □ No
If No: describe proposed management of any hazardous wa	astes which will not be s	ent to a hazardous waste facili	ty:
-			
E. Site and Setting of Proposed Action			
E.1. Land uses on and surrounding the project site			
a. Existing land uses. i. Check all uses that occur on, adjoining and near the pr □ Urban □ Industrial □ Commercial □ Resider □ Forest □ Agriculture □ Aquatic □ Other (ii. If mix of uses, generally describe:	ntial (suburban) 🗆 R		
b. Land uses and covertypes on the project site.			
Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
Roads, buildings, and other paved or impervious surfaces			
• Forested			
Meadows, grasslands or brushlands (non- agricultural, including abandoned agricultural)			
Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
Wetlands (freshwater or tidal)			
Non-vegetated (bare rock, earth or fill)			
• Other Describe:			

c. Is the project site presently used by members of the community for public recreation? i. If Yes: explain:	□ Yes □ No
d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? If Yes, i. Identify Facilities:	□ Yes □ No
e. Does the project site contain an existing dam?	□ Yes □ No
If Yes:	
<i>i</i> . Dimensions of the dam and impoundment:	
• Dam height: feet	
 Dam length: feet Surface area: acres 	
 Surface area: acres Volume impounded: gallons OR acre-feet 	
ii. Dam's existing hazard classification:	
iii. Provide date and summarize results of last inspection:	
f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management fac	□ Yes □ No ility?
if Yes:	- W - M
i. Has the facility been formally closed?	□ Yes □ No
• If yes, cite sources/documentation:	
ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:	
iii. Describe any development constraints due to the prior solid waste activities:	
ui. Describe any development constraints due to the prior solid waste activities.	
g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? If Yes:	□ Yes □ No
i. Describe waste(s) handled and waste management activities, including approximate time when activities occur	red:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occur	red:
h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any	red: □ Yes □ No
h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site?	
n. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? If Yes:	□ Yes □ No
n. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? If Yes: i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site	
n. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? If Yes: i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply:	□ Yes □ No
n. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? If Yes: i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply:	□ Yes □ No
n. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? If Yes: i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply:	□ Yes □ No
h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? If Yes: i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes – Spills Incidents database Provide DEC ID number(s): Yes – Environmental Site Remediation database Neither database ii. If site has been subject of RCRA corrective activities, describe control measures:	□ Yes □ No
h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? If Yes: i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: □ Yes – Spills Incidents database □ Yes – Environmental Site Remediation database □ Neither database ii. If site has been subject of RCRA corrective activities, describe control measures: iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database?	□ Yes □ No
h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? If Yes: i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes – Spills Incidents database Provide DEC ID number(s): Yes – Environmental Site Remediation database Neither database ii. If site has been subject of RCRA corrective activities, describe control measures:	□ Yes □ No

v. Is the project site subject to an institutional control limiting property uses?	□ Yes □ No
 If yes, DEC site ID number: Describe the type of institutional control (e.g., deed restriction or easement): 	
Describe any use limitations:	
 Describe any use limitations: Describe any engineering controls: 	
 Will the project affect the institutional or engineering controls in place? 	□ Yes □ No
Explain:	
E.2. Natural Resources On or Near Project Site	
a. What is the average depth to bedrock on the project site? feet	
b. Are there bedrock outcroppings on the project site?	□ Yes □ No
If Yes, what proportion of the site is comprised of bedrock outcroppings?)
c. Predominant soil type(s) present on project site:	%
d. What is the average depth to the water table on the project site? Average: feet	
e. Drainage status of project site soils: Well Drained: % of site	
☐ Moderately Well Drained:% of site	
□ Poorly Drained% of site	
	of site
	of site
g. Are there any unique geologic features on the project site?	□ Yes □ No
If Yes, describe:	□ Tes □ No
h. Surface water features.	
i. Does any portion of the project site contain wetlands or other waterbodies (including streams, ri	vers, □ Yes □ No
ponds or lakes)?	,
ii. Do any wetlands or other waterbodies adjoin the project site?	□ Yes □ No
If Yes to either <i>i</i> or <i>ii</i> , continue. If No, skip to E.2.i.	
iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any fector state or local agency?	deral, □ Yes □ No
<i>iv.</i> For each identified regulated wetland and waterbody on the project site, provide the following is	information:
• Streams: Name Classifi	
Lales on Danday Name	antinu
Wetlands: Name Approx Wetland No. (if regulated by DEC) Are any of the above water bodies listed in the most recent compilation of NYS water quality-in	imate Size
v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-in	npaired □ Yes □ No
waterbodies?	
If yes, name of impaired water body/bodies and basis for listing as impaired:	
i. Is the project site in a designated Floodway?	□ Yes □ No
j. Is the project site in the 100-year Floodplain?	□ Yes □ No
k. Is the project site in the 500-year Floodplain?	□ Yes □ No
1. Is the project site located over, or immediately adjoining, a primary, principal or sole source aqui If Yes:	fer? □ Yes □ No
i. Name of aquifer:	
1	

m. Identify the predominant wildlife species that occupy or use the project site:	
n. Does the project site contain a designated significant natural community? If Yes: i. Describe the habitat/community (composition, function, and basis for designation):	□ Yes □ No
 ii. Source(s) of description or evaluation: iii. Extent of community/habitat: Currently: Following completion of project as proposed: Gain or loss (indicate + or -): 	
 o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened specifies: i. Species and listing (endangered or threatened): 	□ Yes □ No
 p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? If Yes: i. Species and listing: 	□ Yes □ No
q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? If yes, give a brief description of how the proposed action may affect that use:	□ Yes □ No
E.3. Designated Public Resources On or Near Project Site	
a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? If Yes, provide county plus district name/number:	□ Yes □ No
 b. Are agricultural lands consisting of highly productive soils present? i. If Yes: acreage(s) on project site? ii. Source(s) of soil rating(s): 	□ Yes □ No
 c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? If Yes: i. Nature of the natural landmark: □ Biological Community □ Geological Feature ii. Provide brief description of landmark, including values behind designation and approximate size/extent:	
d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? If Yes: i. CEA name: ii. Basis for designation: iii. Designating agency and date:	□ Yes □ No

a building, archaeological site, or district es, or that has been determined by the Com- ble for listing on the State Register of Histor	✓ Yes No missioner of the NY ric Places?
Site Historic Building or District	
an area designated as sensitive for e (SHPO) archaeological site inventory?	Z Yes □No
een identified on the project site?	□Yes Z No
and publicly accessible federal, state, or lo	cal ∏Yes Z No
overlook, state or local park, state historic to	rail or scenic byway,
ler the Wild, Scenic and Recreational River	s ☐ Yes☑No
ed in 6NYCRR Part 666?	□Yes □No
y your project. iated with your proposal, please describe the	ose impacts plus an
nowledge.	
Date 3/19/2020	
Title Vice President, Environmental Hea	olth and Safety
	Site Historic Building or District an area designated as sensitive for e (SHPO) archaeological site inventory? een identified on the project site? and publicly accessible federal, state, or local park, state historic to miles. ler the Wild, Scenic and Recreational River ed in 6NYCRR Part 666? by your project. iated with your proposal, please describe the mowledge. Date 3/19/2020



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	Yes
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	Remediaton Sites:546031, NYS Heritage Areas:Mohawk Valley Heritage Corridor
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	546031
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	546031, 442004, 442022, V00521, V00464, 442027, C442035, B00005, B00055, 442009
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:Hudson River (Class C) – Priority Organics – Fish Consumption

E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.I. [Aquifers]	Yes
E.2.I. [Aquifer Names]	Principal Aquifer
E.2.n. [Natural Communities]	Yes
E.2.n.i [Natural Communities - Name]	Tidal River
E.2.n.i [Natural Communities - Acres]	74248.64
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Shortnose Sturgeon
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National Register of Historic Places - Name]	Cherry Hill, Mendelson, A., & Son Company Building
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No