

Construction Permit Application Preliminary Analysis Summary

Section 1 – Applicant Information	
Company Name:	Encana Oil & Gas (USA) Inc.
Permit Number:	14WE1232
Source Name:	State 3H
Source Location:	NWSW SEC16 T3N R68W
Equipment Description:	Hydrocarbon liquid loadout
AIRS ID:	123/9CFB/003
Review Date:	9/15/2014
Review Engineer:	Stuart Siffring

Section 2 – Action Completed			
X	CP1	Modification	APEN Required/Permit Exempt
	Final Approval	Transfer of Ownership	APEN Exempt/Permit Exempt

Section 3 – Applicant Completeness Review				
Was the correct APEN submitted for this source type?	X	Yes		No
Is the APEN signed with an original signature?	X	Yes		No
Was the APEN filled out completely?	X	Yes		No
Did the applicant submit all required paperwork?	X	Yes		No
Did the applicant provide ample information to determine emission rates?	X	Yes		No
If you answered “no” to any of the above, when did you mail an Information Request letter to the source?				
On what date was this application complete?	7/17/2014			

Section 4 – Source Description					
AIRS Point	Equipment Description				
003	Truck Condensate Loadout				
Is this a portable source?		Yes	X	No	
Is this location in a non-attainment area for any criteria pollutant?	X	Yes		No	
If “yes”, for what pollutant?		PM ₁₀		CO	X Ozone
Is this location in an <i>attainment maintenance</i> area for any criteria pollutant?		Yes	X	No	
If “yes”, for what pollutant? (Note: These pollutants are subject to minor source RACT per Regulation 3, Part B, Section III.D.2)		PM ₁₀		CO	Ozone
Is this source located in the 8-hour ozone non-attainment region? (Note: If “yes” the provisions of Regulation 7, Sections XII and XVII.C may apply)	X	Yes		No	
Is this source located at an oil and gas exploration site? <i>(Section 03 on APEN)</i>		Yes		No	

If yes, does this source load less than 10,000 gallons of crude oil per day on an annual average, splash fill less than 6750 bbl of condensate (hydrocarbons that have an API gravity of 40 degrees or greater) per year or submerged fill less than 16,308 bbl of condensate per year? <i>(Section 03 on APEN)</i>		Yes	X	No	
Is this source located at a facility that is considered a major source of hazardous air pollutant (HAP) emissions? <i>(Section 03 on APEN) If yes, source might be subject to Subparts EEEE, CC, R. Please review these rules and determine applicability.</i>		Yes	X	No	
Will this equipment be operated in any NAAQS nonattainment area? <i>(Section 03 on APEN) If yes, source might be subject to Reg. 3, Part B, Section III.D.2, Please review these rules and determine applicability.</i>	X	Yes		No	
Does this source load gasoline into transport vehicles? <i>(Section 03 on APEN). If yes, source might be subject to Reg. 7, Section VI.C, subpart BBBB or XX. Please review these rules and determine applicability.</i>		Yes	X	No	

Section 5 – Emission Estimate Information						
AIRS Point	Emission Factor Source					
003	AP-42: Chapter 5.2, Equation 1 $L = 12.46 * S * P * M / T$ L = loading losses in lb per 1000 gallons loaded S = Saturation Factor P = true vapor pressure of liquid loaded [psia] M = molecular weight of vapors [lb/lb-mole] T = temperature of bulk liquid loaded [deg. R]					
Did the applicant provide actual process data for the emission inventory?				X	Yes	No
Basis for Potential to Emit (PTE)						
AIRS Point	Process Consumption/Throughput/Production					
003	410,520 BBL per year condensate loaded					
Basis for Permitted Emissions (Permit Limits)						
AIRS Point	Process Consumption/Throughput/Production					
003	410,520 BBL per year condensate loaded					
Does this source use a control device?		X	Yes		No	

Section 6 – Emission Summary (tons per year)						
	Point	NO _x	VOC	CO	Single HAP	HAP
PTE:	003		41.91		0.98 (n-hexane)	2.3
Uncontrolled point source emission rate:	003		41.91		0.98 (n-hexane)	2.3
Permitted point source emission rate:	003		2.1		0.05 (n-hexane)	0.13
	Total	See history file for facility totals				

Section 7 – Non-Criteria / Hazardous Air Pollutants					
Pollutant	CAS #	BIN	Uncontrolled Emission Rate (lb/yr)	Are the emissions reportable?	Controlled Emission Rate (lb/yr)

Benzene	71432	A	788	Yes	39
n-Hexane	110543	C	1953	Yes	98
Toluene	108883	C	1391	Yes	70
Xylenes	1130207	C	612	Yes	31
Note: Regulation 3, Part A, Section II.B.3.b APEN emission reporting requirements for non-criteria air pollutants are based on potential emissions without credit for reductions achieved by control devices used by the operator.					

Section 8 – Testing Requirements				
Will testing be required to show compliance with any emission rate or regulatory standard?		Yes	X	No

Section 9 – Source Classification						
Is this a new previously un-permitted source?	X	Yes		No		
What is this facility classification?		True Minor	X	Synthetic Minor		Major
Classification relates to what programs?	X	Title V		PSD	X	NA NSR
Is this a modification to an existing permit?		Yes	X	No		
If “yes” what kind of modification?		Minor		Synthetic Minor		Major

Section 10 – Public Comment				
Does this permit require public comment per CAQCC Regulation 3?	X	Yes		No
If “yes”, for which pollutants? Why?				
For Reg. 3, Part B, III.C.1.a (emissions increase > 25/50 tpy)?	X	Yes		No
For Reg. 3, Part B, III.C.1.c.iii (subject to MACT)?		Yes	X	No
For Reg. 3, Part B, III.C.1.d (synthetic minor emission limits)?	X	Yes		No

Section 11 – Modeling				
Is modeling required to demonstrate compliance with National Ambient Air Quality Standards (NAAQS)?		Yes	X	No

AIRS Point	Section 12 – Regulatory Review
	<u>Regulation 1 - Particulate, Smoke, Carbon Monoxide and Sulfur Dioxide</u>
003	Visible emissions shall not exceed twenty percent (20%) opacity during normal operation of the source. During periods of startup, process modification, or adjustment of control equipment visible emissions shall not exceed 30% opacity for more than six minutes in any sixty consecutive minutes. (Reference: Regulation No. 1, Section II.A.1. & 4.)
	<u>Regulation 2 – Odor</u>
003	Section I.A - No person, wherever located, shall cause or allow the emission of odorous air contaminants from any single source such as to result in detectable odors which are measured in excess of the following limits: For areas used predominantly for residential or commercial purposes it is a violation if odors are detected after the odorous air has been diluted with seven (7) or more volumes of odor free air.

	<u>Regulation 3 - APENs, Construction Permits, Operating Permits, PSD</u>
003	<p>Criteria Pollutants: For criteria pollutants, Air Pollutant Emission Notices are required for: each individual emission point in a non-attainment area with uncontrolled actual emissions of one ton per year or more of any individual criteria pollutant (pollutants are not summed) for which the area is non-attainment. (Applicant is required to file an APEN since emissions exceed 1 tons per year VOC)</p> <p>Part B – Construction Permit Exemptions Applicant is required to obtain a permit since uncontrolled VOC emissions from this facility are greater than the 2.0 TPY threshold (Reg. 3, Part B, Section II.D.3.a)</p> <p>Part B, III.D.2 - RACT requirements for new or modified minor sources This section of Regulation 3 requires RACT for new or modified minor sources located in nonattainment or attainment/maintenance areas. This source is located in the 8-hour ozone nonattainment area, but not the 1-hour ozone area.</p> <p><i>If source is in non-attainment:</i> The date of interest for determining whether the source is new or modified is therefore November 20, 2007 (the date of the 8-hour ozone NA area designation). Since the tank battery from which loadout is occurring has not been in service since before the date above, this source is considered “new or modified.” Operator is using submerged fill (0.6 saturation factor), therefore, RACT requirements are satisfied.</p>
	<u>Regulation 6 - New Source Performance Standards</u>
003	No applicable subpart. <u>This facility is not a bulk gasoline terminal.</u>
	<u>Regulation 7 – Volatile Organic Compounds</u>
003	<p>No sections apply. Per Regulation 7, Section VI.C, a terminal is defined as a petroleum liquid storage and distribution facility that has a daily average throughput of more than 76,000 liters of gasoline (20,000 gallons), which is loaded directly into transport vehicles.</p> <p>This facility is neither a terminal, nor a bulk plant per definitions in Reg 7, Section VI.C.</p>
	<u>Regulation 8 – Hazardous Air Pollutants</u>
003	None

Section 13 – Aerometric Information Retrieval System Coding Information								
Point	Process	Process Description	Process/throughput Limit	Emission Factor	Pollutant / CAS #	Fugitive (Y/N)	Emission Factor Source	Control (%)
003	01	Truck Condensate Loadout	410,520 BBL/yr	4.76 lb/1,000 gallon throughput	VOC	No	Hysys and EPA Tanks	95
	SCC	40600132: Crude Oil: Submerged Loading (Normal Service)						

Section 14 – Miscellaneous Application Notes

AIRS Point	002	Truck Condensate Loadout	
		Units	Basis
S	0.6		Submerged loading: dedicated normal service based on source's description/drawings
P	4.9	Psia	Based on extended natural gas sample OR based on EPA TANKs run
M	68	Lb/lb-mole	Based on extended natural gas sample OR based on EPA TANKs run
T	512.12	Deg R	Based on source's knowledge of bulk liquid temperature OR based on EPA TANKs run
L	4.76	Lb/10 ³ gal	Clarify if this value is used to calculate annual emissions or if methane/ethane are removed to represent VOC vs TOC or if a safety factor is applied OR any other relevant notes
	0.2	Lb/bbl	

AP-42: Chapter 5.2

Equation 1

$$L = 12.46 \cdot S \cdot P \cdot M / T$$

L = loading losses in lb per 1000 gallons loaded

S = Saturation Factor

P = true vapor pressure of liquid loaded [psia]

M = molecular weight of vapors [lb/lb-mole]

T = temperature of bulk liquid loaded [deg. R]

Use the loadout PA spreadsheet to calculate emission factor and emissions

L	4.76lb/10 ³ gal
	0.2lb/bbl
Annual requested Throughput	17241840gal/yr
Annual requested VOC emissions	83820lb/yr
	41.9tpy