Construction Permit Application
Preliminary Analysis Summary

Section 1 – Applicant Information	
Company Name:	**DCP Midstream, LP**
Permit Number:	**12WE2039**
Source Name:	**Wells Ranch Compressor Station**
Source Location:	**NWNW Section 27, T6N, R63W**
Equipment Description:	**Point 001 - One (1) Reciprocating Internal Combustion Engine for Natural gas compression**
	Point 002 - One (1) Reciprocating Internal Combustion Engine for Natural gas compression
	Point 003 - One (1) Reciprocating Internal Combustion Engine for Natural gas compression
	Point 004 - One (1) Reciprocating Internal Combustion Engine for Natural gas compression
	Point 005 - One (1) 50 MMSCFD TEG Dehydrator
	Point 006 - Fugitive emissions from valves, flanges, connectors, and other components
	Point 007 - One (1) Reciprocating Internal Combustion Engine for Natural gas compression
AIRS ID:	**123/9950/001-007**
Date:	**August 31, 2012**
Review Engineer:	**Oluwaseun Ogungbenle**
Control Engineer:	**Chris Laplante**

Section 2 – Action Completed					
	Grandfathered		Modification		APEN Required/Permit Exempt
X	**CP1**		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?	**November 16, 2012**			

Section 4 – Source Description	
AIRS Point	**Equipment Description**

001	One (1) Waukesha, Model L7044GSI, Serial Number TBD, natural gas-fired, turbo-charged, 4SRB reciprocating internal combustion engine, site rated at 1680 horsepower at 1200 RPM. This engine shall be equipped with a non-selective catalytic reduction (NSCR) system and air-fuel ratio control (AFRC). This emission unit will be used for natural gas compression.
002	One (1) Waukesha, Model L7044GSI, Serial Number TBD, natural gas-fired, turbo-charged, 4SRB reciprocating internal combustion engine, site rated at 1680 horsepower at 1200 RPM. This engine shall be equipped with a non-selective catalytic reduction (NSCR) system and air-fuel ratio control (AFRC). This emission unit will be used for natural gas compression.
003	One (1) Waukesha, Model L7044GSI, Serial Number TBD, natural gas-fired, turbo-charged, 4SRB reciprocating internal combustion engine, site rated at 1680 horsepower at 1200 RPM. This engine shall be equipped with a non-selective catalytic reduction (NSCR) system and air-fuel ratio control (AFRC). This emission unit will be used for natural gas compression.
004	One (1) Waukesha, Model L7044GSI, Serial Number TBD, natural gas-fired, turbo-charged, 4SRB reciprocating internal combustion engine, site rated at 1680 horsepower at 1200 RPM. This engine shall be equipped with a non-selective catalytic reduction (NSCR) system and air-fuel ratio control (AFRC). This emission unit will be used for natural gas compression.
005	One (1) Triethylene glycol (TEG) natural gas dehydration unit (make, model, serial number: not submitted) with a design capacity of 50 MMscf per day. This emissions unit is equipped with two (2) electric pumps (make, model: not submitted) with a design capacity of 24 gallons per minute. One of the pumps will serve as a backup. This unit is equipped with a flash tank, reboiler and still vent. There is no stripping gas. Emissions from the still vent will be routed through a BTEX condenser to an enclosed combustor (make, model, serial no: **TBD**). Emissions from the flash tank will be routed to a vapor recovery unit (VRU) which then returns vapors back to the inlet of the compressor station.
006	Equipment leaks (fugitive VOC emissions) from valves, flanges, connectors, and other components.
007	One (1) Waukesha, Model L7044GSI, Serial Number TBD, natural gas-fired, turbo-charged, 4SRB reciprocating internal combustion engine, site rated at 1680 horsepower at 1200 RPM. This engine shall be equipped with non-selective catalytic reduction (NSCR) system and air-fuel ratio control (AFRC). This emission unit will be used for natural gas compression. This engine will function as a backup to the four main engines (points 001-004). All five engines will be permitted, but only four engines will be running at any given time.

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 *attainment maintenance* 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**		

Section 5 – Emission Estimate Information	
AIRS Point	**Emission Factor Source**

001	Manufacturer's specifications/ AP-42
002	Manufacturer's specifications/ AP-42
003	Manufacturer's specifications/ AP-42
004	Manufacturer's specifications/ AP-42
005	GRI Gly-Calc v4.0 (Refer to Section 14 for calculations)
006	EPA-453/R-95-017, Table 2-4
007	Manufacturer's specifications/ AP-42

Did the applicant provide actual process data for the emission inventory?		Yes	**X**	**No**

Basis for Potential to Emit (PTE)

AIRS Point	**Process Consumption/Throughput/Production**
001-004, 007	115.9 MMscf per year; 7876 Btu/HP-hr; 1680 hp; 1000 Btu/scf (for each engine)
005	18,250 MMSCF per year, 24 gallons per minute glycol circulation rate

006

Equipment Type	**Gas**	**Heavy Oil (or Heavy Liquid)**	**Light Oil (or Light Liquid)**	**Water/Oil**
Connectors	1422	----	217	----
Flanges	231	----	89	----
Open-Ended Lines	51	----	8	----
Pump Seals	0	----	2	----
Valves	306	----	72	----
Other	31	----	4	----

Basis for Actual Emissions Reported During this APEN Filing (Reported to Inventory)

AIRS Point	**Process Consumption/Throughput/Production**	**Data Year**
	Did not report actual – new facility	

Basis for Permitted Emissions (Permit Limits)

AIRS Point	**Process Consumption/Throughput/Production**
001-004, 007	115.9 MMscf per year; 7876 Btu/HP-hr; 1680 hp; 1000 Btu/scf (for each of the four main engines)
005	18,250 MMSCF per year, 24 gallons per minute glycol circulation rate

006

Equipment Type	**Gas**	**Heavy Oil (or Heavy Liquid)**	**Light Oil (or Light Liquid)**	**Water/Oil**
Connectors	1422	----	217	----
Flanges	231	----	89	----
Open-Ended Lines	51	----	8	----
Pump Seals	0	----	2	----
Valves	306	----	72	----
Other	31	----	4	----

Does this source use a control device?	**X**	**Yes**		No

AIRS Point	**Process**	**Control Device Description**	**Pollutant**	**% Reduction Granted**
001- 004, 007	01	NSCR and Air-Fuel ratio controller	NOx	96.2%
			VOC	53.3%
			CO	91.5%
			HCHO	76%
			Other HAPs	50%

005	01	VRU for flash tank; condenser and enclosed combustor for Still Vent	VOC Benzene Toluene Ethylbenzene Xylenes n-Hexane	97.3% 94.8% 95.5% 96.7% 96.9% 97.0%
006	01	None		NA

Section 6 – Emission Summary (tons per year)							
	Point	**TSP**	**NO_x**	**VOC**	**CO**	**Single HAP**	**Total HAP**
Facility PTE Before Emissions Controls/Limits:	**001**	4.4	850.0	97.2	759.2	3.24 (Formaldehyde)	5.8
	002						
	003						
	004						
	007						
	005[A]	---	0.6	645.4	3.0	99.12 (Toluene)	270.3
	006[B]	---	---	8.0	---	0.3 (n-Hexane)	0.3
	Total[C]	**4.6**	**851.2**	**744.7**	**763.3**	**99.12 (Toluene)**	**276.1**
	Point	**TSP**	**NO_x**	**VOC**	**CO**	**Single HAP**	**Total HAP**
Controlled point source emission rate:	**001**	4.4	32.4	45.6	64.8	0.8 (Formaldehyde)	2.0
	002						
	003						
	004						
	007						
	005[A]	---	0.6	17.7	3.0	4.43 (Toluene)	11.3
	006[B]	---	---	8.0	---	0.3 (n-Hexane)	0.3
	Total[C]	**4.5**	**34.1**	**65.4**	**71.9**	**4.4 (Toluene)**	**13.3**
Total permitted plant-wide emissions[D]:			**33.0**	**71.3**	**67.8**	**4.4 (Toluene)**	**13.6**

A: NOx and CO emissions are from the Internal Combustor that is used to control the Dehy unit.

B: These emissions are fugitive sources so they are not included in the total for PTE.

C: The total PTE values in this line also include emissions for insignificant activities. The facility's insignificant activities include one 2.86 MMBtu/hr Dehy reboiler, pressurized condensate loadout, compressor blowdowns, two 100 bbl produced water tanks, one 1000 gallon methanol tank, 200 gallon lube oil tank, 1000 gallon glycol tanks and 80 bbl drain tank. Emission rates for insignificant activities are based on emission estimates provided with this package.

D: These emissions do not include insignificant activities but do include fugitives that qualify as permitted emission sources.

Section 7 – Non-Criteria / Hazardous Air Pollutants						
AIRS ID	**Pollutant**	**CAS #**	**BIN**	**Uncontrolled Emission Rate (lb/yr)**	**Are the emissions reportable?**	**Controlled Emission Rate (lb/yr)**
001	Formaldehyde	5000	A	1622	Yes	389
	Methanol	67561	C	355	No	177
	Acetaldehyde	75070	A	323	Yes	162
	Acrolein	107028	A	305	Yes	152
	Benzene	71432	A	183	Yes	92
	1,3-Butadiene	106990	A	77	Yes	38
	Toluene	108883	C	65	No	32
002	Formaldehyde	5000	A	1622	Yes	389
	Methanol	67561	C	355	No	177
	Acetaldehyde	75070	A	323	Yes	162
	Acrolein	107028	A	305	Yes	152
	Benzene	71432	A	183	Yes	92
	1,3-Butadiene	106990	A	77	Yes	38
	Toluene	108883	C	65	No	32
003	Formaldehyde	5000	A	1622	Yes	389
	Methanol	67561	C	355	No	177
	Acetaldehyde	75070	A	323	Yes	162
	Acrolein	107028	A	305	Yes	152
	Benzene	71432	A	183	Yes	92
	1,3-Butadiene	106990	A	77	Yes	38
	Toluene	108883	C	65	No	32
004	Formaldehyde	5000	A	1622	Yes	389
	Methanol	67561	C	355	No	177
	Acetaldehyde	75070	A	323	Yes	162
	Acrolein	107028	A	305	Yes	152
	Benzene	71432	A	183	Yes	92
	1,3-Butadiene	106990	A	77	Yes	38
	Toluene	108883	C	65	No	32
005	Benzene	71432	A	158,086	Yes	8,181
	Toluene	108883	C	198,245	Yes	8,863
	Ethylbenzene	100414	C	8,569	Yes	276
	Xylenes	1330207	C	96,868	Yes	2,977
	n-Hexane	110543	C	78,800	Yes	2,374
006	Benzene	71432	A	33	No	NA
	Toluene	108883	C	33	No	NA

	Xylenes	1330207	C	9	No	NA
	n-Hexane	110543	C	568	No	NA
007	HAPs	n/a	n/a	0	n/a	0
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?	**X**	**Yes**		No
If "yes", complete the information listed below				

AIRS Point	**Process**	**Pollutant**	**Regulatory Basis**	**Test Method**
001-004, 007	01	NOx, CO, VOC, HAPS	Regulation No. 3, Part B., Section III.G.3	Stack Test

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

***This point refers to the combination of all points covered under this permit. Actually, with the exception of point 006, each of the points covered under this permit is by itself a Synthetic Minor source.**

Section 10 – Public Comment				
Does this permit require public comment per CAQCC Regulation 3?	**X**	**Yes**		No
If "yes", for which pollutants? Why?	**NOx, CO, VOC and, HAP**			
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		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**
If "yes", for which pollutants? Why?	Controlled NOx emissions < 40 tpy. Controlled CO emissions < 100 tpy.			

AIRS Point	**Section 12 – Regulatory Review**
	Regulation 1 - Particulate, Smoke, Carbon Monoxide and Sulfur Dioxide
	Section II.A.1 - Except as provided in paragraphs 2 through 6 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity. This standard is based on 24 consecutive opacity readings taken at 15-second intervals for six minutes. The approved reference test method for visible emissions measurement is EPA Method 9 (40 CFR, Part 60, Appendix A (July, 1992)) in all subsections of Section II. A and B of this regulation.
	Regulation 2 – Odor

	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.
	Regulation 3 - APENs, Construction Permits, Operating Permits, PSD
	Part A-APEN Requirements *Applicant is required to file an APEN since emissions exceed applicable thresholds.*
	Part B – Construction Permit Exemptions *Applicant is required to obtain a permit since emissions exceed applicable thresholds. (Reg. 3, Part B, Section II.D.2)*
	Regulation 6 - New Source Performance Standards
001-004, 007	**NSPS JJJ:** All four engines are subject to this subpart; however, NSPS JJJJ is not currently adopted in Colorado regulations. Applicable NSPS JJJJ requirements are listed in the "Notes to permit holder" section of the permit.
	Regulation 7 – Volatile Organic Compounds
001-004, 007	Section XVI.B Applicant is located in a non-attainment area and thus required to install NSCR on rich burn engine rated greater than 500 hp. Section XVII.E. Engines are subject to emission standards unless NSPS JJJJ and MACT ZZZZ requirements ultimately are applicable.
005	**Section XII.H.** This source is located in a non-attainment area and uncontrolled VOC emissions are greater than the 15.0 TPY threshold. Therefore, the dehydration unit at this source is subject to requirements under Section XII.H. **Section XVII.D (State only enforceable).** Applicant is required to reduce VOC emissions from this dehydrator by at least 90% since uncontrolled VOC emissions are greater than the 15.0 TPY threshold.
006	**Section XII.G.1.** Source is located in a non-attainment area, but since it is not a gas processing facility, the requirements of this subpart are not applicable.
	Regulation 8 – Hazardous Air Pollutants
001-004, 007	**MACT ZZZZ:** All four engines are subject to this subpart; however, MACT ZZZZ is not currently adopted in Colorado regulations. Applicable MACT ZZZZ requirements are listed in the "Notes to permit holder" section of the permit.
005	**MACT HH:** This facility is an area source of HAP and MACT HH area source requirements apply to this TEG dehydrator. This Dehydrator is **not located** within a UA plus offset or UC boundary; it will only be required to comply with the optimal circulation rate standard in this subpart.
006	**MACT HH:** This facility is an area source of HAPs. No fugitive requirements for area sources.

Section 13 – Aerometric Information Retrieval System Coding Information

Point	Process	Process Description	Throughput limit	Emission Factor	Pollutant / CAS #	Fugitive (Y/N)	Emission Factor Source	Control (%)
*See separate table for AIRS Coding for Points 001 through 004.								
005	01	Glycol Dehydrator	18,250 MMSCF per year	70.72 lbs/MMscf	VOC	No	GLYCalc 4.0	97.3
				8.66 lbs/MMscf	Benzene / 71432	No	GLYCalc 4.0	94.8
				10.86 lbs/MMscf	Toluene / 108883	No	GLYCalc 4.0	95.5
				0.47 lbs/MMscf	Ethylbenzene / 100414	No	GLYCalc 4.0	96.7

				5.31 lbs/MMscf	Xylenes / 1330207	No	GLYCalc 4.0	96.9
				4.32 lbs/MMscf	n-Hexane / 110543	No	GLYCalc 4.0	97.0
	SCC	31000227: Glycol Dehydrator: reboiler still stack						
006	01	Fugitive VOC Equipment Leaks	NA	NA	VOC	Yes	EPA-453/R-95-017, Table 2-4	NA

Section 14 – Miscellaneous Application Notes		
AIRS Point	**001-004, 007**	**Waukesha Engines, 1680 hp each**

The engine at point 007 will function as a backup to the four main engines (points 001-004). All five engines will be permitted, but only four engines will be running at any given time. Therefore, the fuel usage for this engine will be represented as **0 MMSCF/yr** at **0 hr/yr** and the combined total annual run time will be **35, 040 hrs/yr (4 engines x 8760 hrs/yr).**
These engines have not yet been ordered so exact dates are not yet known for establishing regulatory applicability. The engines will most likely be subject to area source requirements under MACT ZZZZ and NSPS JJJJ requirements.

AIRS Point	005	TEG Dehydrator

This emission point covers emissions from one Triethylene glycol (TEG) dehydrator that treats field gas prior to sending the gas on for additional processing at a gas plant. The TEG dehydrator will have a maximum capacity of 50 MMscfd based on the APEN. The pump specifications are not yet known but the requested glycol recirculation rate is 24.0 gallons per minute. Prior to the correspondence I had with Wes Hill on 10/09/2012, the unit was designed such that the still vent emissions would be routed to a condenser and then to the reboiler firebox. The flash tank emissions are routed back to the plant inlet via a vapor recovery unit (VRU). The reboiler is rated at 2.86 MMBtu/hr. Following the correspondence with Wes, DCP is making a minor modification to the Dehy unit. With this modification, still vent emissions will now be routed via a condenser to an enclosed combustor. DCP considered using the enclosed combustor as a backup to the VRU that will be used to control emissions from the flash tank; however, per my discussion with Carissa, I let them know that they would not be able to achieve 100% control of their flash tank emissions with this proposed control system. Wes emailed me back *saying "I just spoke with my engineers and they agree they would rather use a second VRU as a backup for recycling the TEG flash gas, so we will go with our original design using 100% control for the flash gas stream."* The control efficiency achieved with the enclosed combustor will remain 95%.

In order to determine emissions, the operator used GRI GLYCalc 4.0. The source assumed an inlet gas temperature of 125°F and pressure of 920 psig. The permitted glycol recirculation rate of 24.0 gallons per minute is also used in the GLYCalc report and I confirmed these values were used in the GLYCalc report. Since the facility is a proposed, new facility, a site-specific gas analysis was not available for emission calculations. The source stated that they compiled various gas samples from the area which they felt to be representative of the gas for the facility. This method is appropriate for a new facility. An extended gas analysis will be required as part of the self-certification process to confirm emissions. In reviewing the GLYCalc report, I noted that the "wet gas water content" was marked as sub-saturated for the simulation which is not typical. I noticed a discrepancy between the controlled emissions shown on the GLYCalc report and those reported on the APEN. I brought this to the attention of Wes Hill, and he verified that the preparers of the application had inadvertently included an old GLYCalc run with the original Wells Ranch application. He attached the correct GLYCalc run report in his clarification email. One difference between this GLYCalc run and the GLYCalc runs from other similar (almost identical) DCP compressor station permit applications is that DCP is taking credit for the condenser. This is why the VOC & HAP emissions for the Wells Ranch compressor station dehy unit are lower than other facilities'. DCP also added a 20% buffer to the controlled emissions from the GLYCalc results to allow for any potential changes to the gas analysis (see the calculation sheet provided).
Emission factors listed in Section 13 of this analysis are based on the sum of flash tank and still vent emissions from the GLYCalc report.

MACT HH includes requirements for both major and area sources of HAPs. The definition of major source for MACT HH (63.761) states:

> (3) For facilities that are production field facilities, only HAP emissions from glycol dehydration units and storage vessels with the potential for flash emissions shall be aggregated for a major source determination. For facilities that are not production field facilities, HAP emissions from all HAP emission units shall be aggregated for a major source determination.

The following definitions from 63.761 are also needed to determine major source applicability:

> *Production field facilities* means those facilities located prior to the point of custody transfer
>
> *Custody transfer* means the transfer of hydrocarbon liquids or natural gas: after processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.
>
> *Natural gas processing plant* (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, or the fractionation of mixed NGL to natural gas products, or a combination of both.

Based on the definitions above, this source qualifies as a production field facility since it is prior to entering a natural gas processing plant. For a production field facility, only HAP emissions from dehys and storage tanks with flash emissions are included for determining major source status. The facility's storage tanks are pressurized bullet tanks and there is only one dehy. Based on HAP emissions reported in Section 7, this facility is an area source for MACT HH. Controlled emissions are based on 100% of flash tank emissions being recycled, 95% control of still vent emissions, and the use of a condenser. As specified in 63.760(b)(2), the only affected sources for area sources are TEG dehydrators.

The source cannot meet the processing exemption limit in 63.764(e)(i) because the proposed process limit is 50 MMscfd which exceeds the exemption limit of 3.002 MMscfd. The source cannot meet the benzene exemption limit of 1,984 lb/yr in 63.764(e)(ii) because controlled benzene emissions are estimated at 6,107 lb/yr. The source will be located outside of an "UA Plus Offset or within a UC boundary." Thus, as an area source outside of a UC boundary, it is subject to the optimal circulation rate work practice standard in 63.764(d)(2). These requirements will be listed in the permit.

Regulation 7, Section XVII.D requires emission control standards for dehydrators with uncontrolled emissions of VOC greater than 15 tons per year from all the dehydrators on site. As discussed above, uncontrolled VOC emissions are 534.3 tpy. Section XVII.B.4 states that dehydrators subject to an emission *control* requirement in a federal MACT standard are not subject to requirements under Section XVII. This dehy is subject to a work practice standard under MACT HH, not an emission control requirement; thus, the dehy is still subject to the requirements of Section XVII.D. Further, since the source will be located in a non-attainment area, the dehy is also subject to the requirements of Regulation 7, Section XII.H.

The unit is equipped with a reboiler rated at 2.86 MMBtu/hr. This reboiler burner is APEN-exempt since it has a design rate less than 5 MMBtu/hr (Regulation No. 3, Part A, II.D.1.k); the reboiler is, therefore, also exempt from construction permitting requirements (Regulation no. 3, Part B, II.D.1.a).

On November 16, 2012, DCP submitted revised calculations as well as corresponding documentation for the TEG Dehydration Unit. For the initial submittal, emissions from the Dehy unit were calculated based on a maximum condenser outlet temperature of 120 °F. The Division allows operators a maximum condenser outlet temperature of 160 °F if they are claiming control efficiency for the condenser. DCP is claiming control efficiency for their condenser. Therefore, DCP elected to revise their Dehy emissions calculations by running GLYCalc at 160 °F condenser outlet temperature. The condenser outlet temperature shall not exceed 160 °F on a monthly average basis. As expected this increase in condenser outlet temperature resulted in a corresponding increase in VOC and HAP emissions. DCP also added a 20% buffer to their controlled emissions in order to account for possible changes in inlet gas composition.

With this most recent submittal, DCP also submitted an APEN for the enclosed combustor that is used to control the still vent stream after the stream has passed through the condenser. NOx and CO emissions from the combustor are above APEN threshold; therefore, they will be permitted because they will be aggregated with the NOx and CO emissions from other permitted sources at the Wells Ranch Compressor Station. Emissions from the combustor will be attributed to the Dehy unit since the combustor is part of the Dehy unit, and is not a stand-alone emissions point.

AIRS Point	006	Fugitive Emissions from Equipment Leaks

In her preliminary analysis of a permit application for the Bernhardt Compressor Station, a facility that is almost identical to Wells Ranch, Carissa Money notes: "*In the March 2011 application, DCP stated that the Bernhardt compressor station will include a fuel gas conditioning skid that extracts natural gas liquids. DCP stated that since condensate is extracted in the fuel gas conditioning skid, the site qualifies as an onshore natural gas processing plant per 60.631 for NSPS KKK applicability. DCP provided additional information regarding the fuel gas conditioning skid in a letter dated August 5, 2011. The letter provided additional information regarding the operation of the fuel gas conditioning skid and ultimately clarified that the compressor station should not qualify as a natural gas processing plant per NSPS KKK.*

DCP clarified that the purpose of the fuel gas conditioning skid is to treat or condition a small volume of field gas to remove impurities and ensure proper heat content so that the field gas can be used for combustion in the compressor engines at the station. More specifically, a slip stream of the residue gas (at the outlet of the dehydrator) is routed to the fuel gas conditioning skid. The first step in the skid is a pressure reduction station, which is followed by a coalescing filter that further collects condensed liquids and/or liquid carry-over from the TEG dehydrator system. After the residue gas passes through the coalescing filter to drop out any liquids, the next step is a permeable membrane that separates the fuel gas into a residue stream (gas that is lower than C4) and a permeate stream (gas that is higher than C4). The permeate stream is recycled back to the plant inlet and the residue stream is directed to the compressor engines as fuel. Any liquids collected from the fuel gas conditioning skid are routed to the facility's condensate separator which separates the water and condensate. Condensate is then sent to condensate storage tanks and water is sent to a water storage tank. These tanks are used for collecting all liquids from the site and are not dedicated storage tanks for the fuel gas conditioning skid. The fuel gas conditioning skid will only process the amount of gas needed to operate the natural gas fired equipment (i.e., compressor engines) at the facility.

EPA Region 8 clarified in a memo dated 4/7/2009 that certain compression facilities can qualify as natural gas processing plants per the definition in 60.631 and then are subject to NSPS KKK requirements. In the 2009 memo, EPA clarified that compression facilities that extract hydrocarbon liquids, including condensate, by force from field gas qualify as a natural gas processing plant. It is important to note that the April 2009 memo focuses on the purpose of the processing facility and is intended to address compression facilities that are implementing dew point control to achieve pipeline specifications. The Bernhardt station will compress gas, dehydrate it and then send gas on for further processing at a gas plant. While ultimately the same thermodynamic principles are being used in the fuel gas conditioning skid, the intent of the facility is not to use dew point or JT skids to remove natural gas liquids from field gas to meet pipeline specifications. The fuel gas conditioning skid simply enables the site to use a small volume of field gas for on-site compression. The gas routed through Bernhardt compressor station must still be processed at a gas processing plant before entry into a natural gas transmission line. The Division has determined that the Bernhardt compressor station does not meet the definition of natural gas processing plant per 60.631. Thus, the facility is not subject to NSPS KKK.

This facility will be subject to minor source RACT requirements per Regulation 3, Part B, II.D.2.a. Since this facility will be located in the nonattainment area for ozone, the source is required to apply RACT for the pollutants for which the area is in nonattainment (i.e., NOx and VOC). The source did not include a RACT analysis for fugitives and, in subsequent communications, stated that the fugitives are not subject to RACT since there are no applicable requirements under Regulation 7 for fugitives at compressor stations. The Division disagrees with this interpretation. Minor source RACT under Regulation 3 Part B does not direct a source to Regulation 7. The source must develop a RACT analysis to evaluate whether RACT has been applied to each emission unit emitting the pollutant for which the area is in nonattainment. The source provided a RACT analysis on 8/17/2011 and proposed weekly audio, visual and olfactory (AVO) inspections as RACT. To satisfy RACT, the facility must also include periodic screening using either IR camera or Method 21. I proposed this option on 8/23/2011. The source submitted a revised O&M plan on 8/29/2011 that included periodic screening using IR camera. A condition for monitoring equipment in VOC service semi-annually using IR camera will be included in the permit."

Since the Wells Ranch Compressor station is "a mirror image" of the Bernhardt compressor station, the conditions above will be applicable to it.

Insignificant Activities
The source provided emission estimates for several insignificant sources at the facility. Since APENs were not submitted for these insignificant sources, emissions and regulatory applicability were not evaluated for these points/activities. Total emissions from these sources is included in the history file to understand total facility emissions but otherwise not reviewed as part of this permit action.
Facility Wide Comments
DCP is proposing to construct and operate a natural gas compression facility with a capacity of 50 MMscfd. This stationary source will be located in a portion of Weld County which is currently considered a non-attainment area for ozone. The facility will install emissions controls in order to be considered a synthetic minor source for Non-attainment New Source Review (NANSR) requirements that would have otherwise been triggered due to emissions of nitrogen oxides (NOx) and volatile organic compounds (VOC) in excess of 100 tons per year. The facility will also be considered synthetic minor source for Prevention of Significant Deterioration (PSD) requirements that would have otherwise been triggered due to emissions of Carbon monoxide (CO) in excess of 250 tons per year. The source will be a synthetic minor source of criteria pollutants and HAP emissions for the Title V Operating Permit program. DCP supplied a greenhouse gas inventory with the application and stated that the CO_2e potential to emit from the Wells Ranch Compressor Station will be less than 100,000 tpy. DCP will comply with the requirements of NSPS Subpart OOOO when they become applicable. On 10/11/2012, per correspondence with Wes Hill, the equipment IDs for the engines were changed from C-1, C-2, C-3 and C-4 to C-193, C-194, C-195, and C-196, respectively. On 10/22/2012, Wes Hill, on behalf of DCP, submitted the following request: "*Per our discussion, my Engineers wanted to know if we could add a fifth Waukesha 7044 as a backup engine to the draft Wells Ranch. This would require permitting all 5 engines together and only running 4 engines at any given time. We would need to combine the emission limits as one source and permit them to run a combined 35,040 hours/yr (4 engines x 8760 hrs). The APEN on the 5th engine would be listed as a backup operating 0 hours/yr. We have permitted backup engines for other facilities like the 5 CATs at the Mewbourn Plant (see attached Permit 09WE1136, AIRS ID 123/0090, Points 113-117). This allows us the flexibility to use a backup when one of the main engines goes down. I'd appreciate it if you could check and see if this change could be done during the current draft permitting action."* I discussed this request with Chris and Carissa about, and they okayed it. Subsequently, Wes submitted an APEN for this backup engine. Therefore, five engines will now be covered under this facility wide permit instead of the four for which applications were initially submitted in the original package. Thursday, October 25, 2012 was Wes Hill's last day with DCP. Brian Taylor took over from him on Monday, October 29, 2012. Brian has been the contact person for this project since he took over from Wes.