Sarah Yellow Wolf Comments
Mizoue, JoDell
to:
Kathleen Paser, R8AirPermitting
04/20/2012 09:06 AM
Hide Details
From: "Mizoue, JoDell" <JoDell.Mizoue@wpxenergy.com>

To: Kathleen Paser/R8/USEPA/US@EPA, R8AirPermitting@EPA

2 Attachments

image001.gif WPX Energy_Sara Yellow Wolf Comments_20120420.pdf

Hi Kathy:

Attached are WPX Energy's comments for Sara Yellow Wolf.

Thanks,

JoDell Mizoue, PE
WPXENERGY.
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Denver, CO 80202
(303) 606-4056 (office)
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WPXENERGY

April 20, 2012

Ms. Kathleen Paser
U.S. EPA, Region 8 Air Program, 8P-AR
Tribal Permit Program
1595 Wynkoop Avenue
Denver, CO 80202

Duplicate submittal provided via e-mail to:
R8AirPermitting@@EPA.gov

Re: Comments
Sara Yellow Wolf 22-27H Proposed Synthetic Minor Permit,

Dear Ms. Paser:

WPX Energy Williston, LLC (WPX Energy) is submitting these comments on the Sarah Yellow Wolf 22-27H Proposed Synthetic Minor Permit to Construct.

1. Cover page. WPX Energy would like to request that the permit also provide facility-wide limit to avoid Title V in addition to PSD and HAP requirement for major sources (as requested in the NSR/Title V Synthetic Minor Permit application submitted on March 8, 2012). The proposed VOC and CO and NO_x limits are less than 100 tons/year. Please change the title page to read:

   Proposed Synthetic Minor Permit to Construct to establish facility-wide limit to avoid Prevention of Significant Deterioration (PSD), Title V, and hazardous air pollutant (HAP) permitting requirements for major sources.

2. Page 4. C. Applicability 2. WPX Energy would like to request that the permit also provide facility-wide limit to also avoid Title V requirements. Add Title V permitting requirements at 40 CFR Part 71.

3. Page 4. D. Facility-Wide Requirements 1. Emission Limits. WPX Energy would like to request that the following changes in the emission limits:

   (a) Facility-wide VOC emissions shall apply at all times and shall not exceed 98 tons during any consecutive twelve (12) months.
   (b) Facility-wide emissions of total HAPs shall apply at all times and shall not exceed 24 tons during any consecutive twelve (12) months.
   (c) Facility-wide emissions of individual HAPs shall apply at all times and shall not exceed 9.8 tons during any consecutive twelve (12) months.

4. Page 5. D. Facility-Wide Requirements 3. Construction and Operation Requirements. (c). WPX would like to clarify that the flow back period during well completion or re-completion activities are not included in the 500 hours of pit flare operation.

5. Page 7. E. Requirements for Control Systems for VOC & HAP Emissions 1. Closed-Vent Systems (d). WPX Energy would like to add a third option as follows:

    iii. Label the bypass device valve installed at the inlet to indicate that the non-diverting position is the correct position for normal operation. The permittee shall check the bypass device valve frequently (when personnel are on site) to ensure it is in the correct position for normal operation and the label is legible. The valve shall only be switched to the divert position during times of sudden infrequent, and unavoidable events. If the label is illegible the permittee shall replace the label.

6. Page 8. E. Requirements for Control Systems for VOC & HAP Emission. 2. Enclosed Combustors and Utility Flares. (d). WPX Energy believes that the requirements iii. and iv that specify a thermocouple and continuous recording device are not necessary if the facility is below Title V thresholds. WPX Energy would like to remove these requirements. The enclosed combustors and/or utility flares WPX Energy is proposing to install are manufactured control devices that are designed to meet or exceed the minimum requirements of 40 CFR 60.18. Rather than installing control devices that meet the minimum requirements of 40 CFR 60.18, including the required thermocouple, WPX is investing in performance tested manufactured devices that have destruction efficiency guarantees, and therefore, do not require additional monitoring equipment beyond the manufacturer's inherent design to ensure proper operation. WPX will be maintaining and operating the combustors and/or utility flares as required by the manufacturer to ensure proper operation and the guaranteed destruction efficiency of the combustion device. If WPX Energy determines a thermocouple and/or continuous recording device to be the most effective way to operate the combustors and/or utility flares, WPX Energy will implement them. However, due to harsh weather conditions, a thermocouple and/or continuous recording device may not be the only way to document control device operation. These components have a much higher chance of malfunctioning during extreme conditions; therefore, showing no flame presence or lack of recorded data when a flare is actually running may not be the best method to document operation. WPX Energy would like the flexibility to use the most effective method or a combination of methods to ensure operations.

7. Page 8. E. Requirements for Control Systems for VOC & HAP Emission. 2. Enclosed Combustors and Utility Flares. (e). WPX Energy believes that the requirements i. and ii that specify a thermocouple and continuous recording device are not necessary if the facility is below Title V thresholds. WPX Energy would like to replace the monitoring requirements with.

    i. Check the pilot flame to ensure proper operation whenever an operator is on site; at a minimum, quarterly. <u>OR</u>

ii. Use a thermocouple and recording device to detect and document the pilot flame and proper operation of the combustor or utility flare.

8. Page 9. Pit Flares (b) iii. WPX Energy believes that the pit flare should be available during completion or recompletion activities and should not be restricted by the 500 hours. This could be accomplished by replacing iii with the following:

iii. Use of the pit flare is limited to no more than 500 hours for sudden, infrequent and unavoidable events in any twelve (12) consecutive months, excluding completion and recompletion activities;

iv. Use of a pit flare should be required at all times for completion and recompletion activities in the absence of other permanent control devices. For sudden, infrequent, and unavoidable events, a demonstration with the hours of operation limit is made by keeping records in a log book during each period of time that the pit flare is operating. The records shall be kept onsite (or at the field office) and shall contain the following information:

(A) Date and time the flare was started up and subsequently shut down;
(B) Running total of the hours operated for the previous consecutive 12 months, and
(C) Brief description of the justification for operation.

9. Page 10. Recordkeeping Requirements. WPX Energy recognizes that there are many ways to confirm that the control equipment is properly operating and would like the recordkeeping requirements to be flexible. In some cases the requirements currently identified may not be applicable due to the type of control device installed. In other cases, WPX Energy may choose to confirm presence of flame by a combination of methods. For example, if maintenance is being done on a thermocouple or recording device the pilot flame could be confirmed by a visual inspection. If the facility is frequently visited it may be more effective to visually inspect the device rather than install recording devices and thermocouples. Possible changes to these requirements could include:

(a) As applicable, the site specific design input parameter provided through an independent engineering analysis or from the manufacturer or vender and used to properly size the enclosed combustors and utility flares to assure the minimum 98.0% reduction requirements;
(b) As applicable, all required monitoring of the control device operations;
(c) As applicable, the exceedances of the operating parameters specified in the manufacturer or vendor Guarantee or engineering. The records…
(d) Any instances in which any closed –vent system or control device was bypassed or down in each calendar month, the reason for each incident, its duration, and the corrective actions taken and any preventative measures adopted to avoid such bypasses or downtimes;
(e) *Remove.* This is repetitive of item (d).

(f) *Remove.* Presence of flame may be determined by thermocouple, or visual inspection.
(g) Remove. Documentation may include a recording device, daily log, or other method.
(h) No change.
(i) No change.

10. Page 11. F. Equipment Leaks – Closed Vent Systems. WPX Energy believes that the monitoring, inspections, and record keeping requirements identified in the permit may be excessive due to the estimated fugitive emissions associated with this source. Using the default component counts in *Table W-C1 to Subpart W of Part 98* and applying the emission factors in *EPA Protocol for Equipment Leak Emission Estimates, Table 2-4: Oil and Gas Production Operations Average Emission Factors*, WPX's estimated fugitive emissions have been conservatively estimated* to be as follows:

VOC = 6.1 tons/yr	Ethylbenzene = 0.001 tons/yr
Total HAPs = 0.12 tons/yr	Xylenes = 0.01 tons/yr
Benzene = 0.01 tons/yr	n-Hexane = 0.08 tons/yr
Toluene = 0.01 tons/yr	2,2,4-Trimethylpentane = 0.002 tons/yr

*The calculations, emission factors and assumptions are included in the attached tables.

Based on these limited emissions relative to the facility-wide emissions, WPX Energy proposes the following requirements to replace part F.

(a) The permittee shall minimize leaks of volatile organics from each connector, valve pump, flange, open ended line, or any other appurtenance employed to contain and collect vapors and transport them such that the long term facility-wide emissions limit requirements in this permit will be met when the total emissions from leaks are included in the consecutive 12-month facility total.
(b) The permittee shall make the first attempt to repair any leaking equipment within five (5) days after the leak is detected. Any leaking equipment shall be repaired as soon as practicable, but no later than fifteen (15) days after the leak is initially discovered, unless the repair is technically infeasible without a facility shutdown. If a facility shutdown is required, such equipment shall be repaired before the facility resumes operations.
(c) The permittee shall include the following estimated VOC and HAP equipment leak emissions, for each well and associated equipment constructed and operated for that month, in the consecutive 12-month facility-wide total calculated for each calendar month.

VOC = 0.87 tons/yr	Ethylbenzene = 0.000101 tons/yr
Total HAPs = 0.0169 tons/yr	Xylenes = 0.00106 tons/yr
Benzene = 0.00162 tons/yr	n-Hexane = 0.0119 tons/yr
Toluene = 0.00187 tons/yr	2,2,4-Trimethylpentane = 0.000276 tons/yr

11. Page 15. K. Requirement for Engines. 1 (a). Construction requirements. WPX Energy would like the flexibility within the permit to reduce combustion emissions whenever possible at the facility, without having to continually submit modifications or minor source permit applications for emission reductions. If there are opportunities to beneficially use the flared produced gas as fuel in a cleaner natural gas fired engine in place of the diesel-fired compression ignition internal combustion engines (with site rated horse power of no more than 1925 hp), WPX Energy would like to take advantage of this opportunity. Modify language in 1(a) to:

    (a) The permittee shall install no more than seven (7) diesel-fired compression ignition internal combustion engines with a combined site rated horse power rating of no more than 1925 hp or natural gas fired engines that have combined equivalent or lower annual emissions.

Do not hesitate to contact me with any questions either by phone at 303-606-4056, or by e-mail at JoDell.Mizoue@wpxenergy.com.

Sincerely,

WPX Energy Williston, LLC

JoDell Mizoue, P.E
Staff Environmental Specialist

Attachment

cc: file

VOC Fugitive Calculations:	Emission Factor[a] (lbs/hr/ comp.)	Component Number[b]	VOC Weight Fraction[c,d]	HAP weight Fraction[c,d]	VOC Emission Rate, (lbs/hr)	VOC Emission Rate, (tons/yr)	HAPs Emissions Rate, (lbs/hr)	HAPs Emissions Rate, (tons/yr)
Gas Valve VOC's:	9.90E-03	19	45.94%	1.28%	8.64E-02	3.78E-01	2.41E-03	1.05E-02
Light Oil Valve VOC's:	5.50E-03	19	73.88%	0.73%	7.72E-02	3.38E-01	7.62E-04	3.34E-03
Gas Connection VOC's:	4.40E-04	29	45.94%	1.28%	5.86E-03	2.57E-02	1.63E-04	7.15E-04
Light Oil Connection VOC's:	4.62E-04	29	73.88%	0.73%	9.90E-03	4.34E-02	9.77E-05	4.28E-04
Gas Flange VOC's:	8.58E-04	34	45.94%	1.28%	1.34E-02	5.87E-02	3.73E-04	1.64E-03
Light Oil Flange VOC's:	2.42E-04	34	73.88%	0.73%	6.08E-03	2.66E-02	6.00E-05	2.63E-04
Gas Other VOC's	1.94E-02	0	73.88%	0.73%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Light Oil Other VOC's	1.65E-02	0	73.88%	0.73%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Light Oil Service Total Emission (tons/yr):					9.32E-02	4.08E-01	9.19E-04	4.03E-03
Gas Service Total Emission (tons/yr):					1.06E-01	4.63E-01	2.94E-03	1.29E-02
Single Well Total Emission (tons/yr):					**0.20**	**0.87**	**3.86E-03**	**1.69E-02**
Sarah Yellow Wolf Pad (7 Wells) Total Emission (tons/yr):					**1.39**	**6.10**	**2.70E-02**	**1.18E-01**

[a]Referenced EPA Protocol for Equipment Leak Emission Estimates, Table 2-4: Oil and Gas Production Operations Average Emission Factors

[b]Component count based upon 40 CFR 98 Table W-1C and applying a safety factor of 1.5 to increase conservatism (rounding up to the next whole number).

[c]Constituent Weight % values for gas components are based on Casing Head Gas values

[d]Constiuent Weight % values for heavy oil components are based on Tank Gas values

Individual Constituent Components	HAP Fraction, Weight Percentage		Emission Rate, (lbs/hr)		Emission Rate, (tons/yr)		Single Well Total Emissions		Sarah Yellow Wolf Pad Total Emissions	
	Light Oil Service[e]	Gas Service[f]	Light Oil Service	Gas Service	Light Oil Service	Gas Service	lbs/hr	tons/yr	lbs/hr	tons/yr
Total VOCs	73.88%	45.94%	9.32E-02	1.06E-01	4.08E-01	4.63E-01	1.99E-01	**8.71E-01**	1.39	**6.10**
Total HAPS	0.73%	1.28%	9.21E-04	2.94E-03	4.03E-03	1.29E-02	3.87E-03	**1.69E-02**	0.03	**0.12**
Benzene	0.02%	0.15%	2.52E-05	3.45E-04	1.10E-04	1.51E-03	3.70E-04	**1.62E-03**	2.59E-03	**0.01**
E-Benzene	0.00%	0.01%	0.00E+00	2.30E-05	0.00E+00	1.01E-04	2.30E-05	**1.01E-04**	1.61E-04	**7.05E-04**
Toluene	0.01%	0.18%	1.26E-05	4.14E-04	5.52E-05	1.81E-03	4.27E-04	**1.87E-03**	2.99E-03	**0.01**
n-Hexane	0.63%	0.84%	7.95E-04	1.93E-03	3.48E-03	8.46E-03	2.73E-03	**1.19E-02**	0.02	**0.08**
Xylene	0.01%	0.10%	1.26E-05	2.30E-04	5.52E-05	1.01E-03	2.43E-04	**1.06E-03**	1.70E-03	**0.01**
2,2,4 - Trimethylpentane	0.05%	0.00%	6.31E-05	0.00E+00	2.76E-04	0.00E+00	6.31E-05	**2.76E-04**	4.41E-04	**1.93E-03**
CO_2	0.29%	0.86%	3.66E-04	1.98E-03	1.60E-03	8.66E-03	2.34E-03	**1.03E-02**	0.02	**0.07**
CH_4	2.15%	25.75%	2.71E-03	5.92E-02	1.19E-02	2.59E-01	6.19E-02	**2.71E-01**	0.43	**1.90**

[e]Constituent Weight % values for light oil components are based on Tank Gas values

[f]Constituent Weight % values for gas components are based on Casing Head Gas values

Table W-1C to Subpart W of Part 98-Default Average Component Counts For Major Crude Oil Production Equipment						
Major equipment	Major Equipment Count	Number of Components per major equipment Count				
		Valves	Flanges	Connectors	Open-ended lines	Other components
Western U.S.						
Wellhead	N/A	5	10	4	0	1
Separator	N/A	6	12	10	0	0
Heater-treater	N/A	8	12	20	0	0
Header	N/A	5	10	4	0	0

Total WPX, with 1.5X multiplier, rounded up to whole count						
Major equipment	Major Equipment Count	Valves	Flanges	Connectors	Open-ended lines	Other components
Wellhead	1	8	15	6	0	2
Separator	1	9	18	15	0	0
Heater-treater	1	12	18	30	0	0
Header	1	8	15	6	0	0

Split Count for Light Oil and Gas, rounded up to whole count						
Major equipment	Major Equipment Count	Valves	Flanges	Connectors	Open-ended lines	Other components
Wellhead	1	4	8	3	0	1
Separator	1	5	9	8	0	0
Heater-treater	1	6	9	15	0	0
Header	1	4	8	3	0	0
Total	N/A	19	34	29	0	1

From Table 2-4. Oil and Gas Production Operations Average Emission Factors

Equipment Type	Service Type	Emission Factor kg/hr/source	Emission Factor lb/hr/souce
Valves	Gas	4.50E-03	9.90E-03
	Heavy Oil	8.40E-06	1.85E-05
	Light Oil	2.50E-03	5.50E-03
	Water/Oil	9.80E-05	2.16E-04
Pump Seals	Gas	2.40E-03	5.28E-03
	Heavy Oil	N/A	
	Light Oil	1.30E-02	2.86E-02
	Water/Oil	2.40E-05	5.28E-05
Others	Gas	8.80E-03	1.94E-02
	Heavy Oil	3.20E-05	7.04E-05
	Light Oil	7.50E-03	1.65E-02
	Water/Oil	1.40E-02	3.08E-02
Connectors	Gas	2.00E-04	4.40E-04
	Heavy Oil	7.50E-06	1.65E-05
	Light Oil	2.10E-04	4.62E-04
	Water/Oil	1.10E-04	2.42E-04
Flanges	Gas	3.90E-04	8.58E-04
	Heavy Oil	3.90E-07	8.58E-07
	Light Oil	1.10E-04	2.42E-04
	Water/Oil	2.90E-06	6.38E-06
Open-ended Lines	Gas	2.00E-03	4.40E-03
	Heavy Oil	1.40E-04	3.08E-04
	Light Oil	1.40E-03	3.08E-03
	Water/Oil	2.50E-04	5.50E-04

VOC Fugitive Calculations:	Emission Factor[a] (lbs/hr/ comp.)
Gas Valve VOC's:	9.90E-03
Light Oil Valve VOC's:	5.50E-03
Gas Connection VOC's:	4.40E-04
Light Oil Connection VOC's:	4.62E-04
Gas Flange VOC's:	8.58E-04
Light Oil Flange VOC's:	2.42E-04
Gas Other VOC's	1.94E-02
Light Oil Other VOC's	1.65E-02

VOC Fugitive Calculations:	Emission Factor[a] (lbs/hr/ comp.)
Gas Valve VOC's:	9.90E-03
Heavy Oil Valve VOC's:	1.85E-05
Gas Connection VOC's:	4.40E-04
Heavy Oil Connection VOC's:	1.65E-05
Gas Flange VOC's:	8.58E-04
Heavy Oil Flange VOC's:	8.58E-07
Gas Other VOC's	1.94E-02
Heavy Oil Other VOC's	7.04E-05