

**ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM**

March 22, 2024

SUBJECT: **Range Resources – Appalachia, LLC**
3000 Town Center Boulevard
Canonsburg, PA 15317
Allegheny County

Installation Permit No. 0994-I002
Gulick Unit 10029

TO: JoAnn Truchan, P.E.
Program Manager, Engineering

FROM: Michael Dorman
Air Quality Engineer

FACILITY DESCRIPTION

The Gulick Unit 10029 well pad is located at 191 Fairfield Road, Frazer Township, Allegheny County, PA 15084. There are twelve (12) existing horizontal wells at the site. Additionally, Range Resources currently operates a natural gas driven, reciprocating compressor under Installation Permit #0994-I001, issued February 13, 2023. A COMM Engineering – Combustor Model 4 is being added to capture the emissions from the Produced Water Tank Battery, on site, to comply with the recently promulgated regulations under 40 CFR Part 60 Subpart OOOOb.

The facility is a minor source of particulate matter (PM), particulate matter < 10 microns in diameter (PM₁₀), particulate matter < 2.5 microns in diameter (PM_{2.5}), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic Compounds (VOCs) and hazardous air pollutants (HAPs) as defined in section 2101.20 of Article XXI.

INSTALLATION DESCRIPTION

This permit is for the installation of a COMM Engineering – Combustor Model 4 enclosed combustor to control GHG (methane) emissions from the produced water tank battery. The combustor shall reduce methane emissions from the produced water tank battery by at least 95% as required for compliance with the standards set forth by: *40 CFR 60, Subpart OOOOb, Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, and Reconstruction Commenced After December 6, 2022.*

The emissions associated with the permit are the calculated potential emissions generated by the enclosed combustor during normal operations.

The installation will result in the following potential emissions changes, in tons per year:

PM	PM ₁₀	PM _{2.5}	SO _x	NO _x	CO	VOCs	HAPs
+0.43	+0.43	+0.43	+0.031	+5.15	+4.33	+0.28	+0.10

PERMIT APPLICATION COMPONENTS:

1. Installation Permit Application No. 0994-I002, received March 13, 2024.

EMISSION SOURCE(S):

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
P001	Enclosed Combustor	Enclosed Combustion Unit: Combustor Model 4	12.2 MMBtu/hr	Natural Gas	S001

METHOD OF DEMONSTRATING COMPLIANCE:

Compliance with the short-term (lb/hr) limits must be maintained at all times, including startup and shutdown. Any emissions due to startup, shutdown, or malfunction are included in the facility's total annual emissions. See Installation Permit No. 0994-I002 for the specific conditions for determining compliance with the applicable requirements.

REGULATORY APPLICABILITY:

1. **Article XXI Requirements for Issuance:**

See Permit Application No. 0994-I002, Section 5: Applicable Requirements. The requirements of Article XXI, Parts B and C for the issuance of minor modification installation permits have been met for this facility. Article XXI, Part D, Part E & Part H will have the necessary sections addressed individually.

The facility is subject to the requirements of §2105.110, Notification System for Unconventional Wells.

2. **BACT Analysis:**

The Department considers BACT to be compliance with the emission reduction regulations promulgated under 40 CFR Part 60 Subpart OOOOb. Specifically, VOC emissions that exceed 6 tpy or methane emissions that exceed the 20 tons per year threshold level, from the produced water tanks, are required to be reduced by 95%. The permittee meets this requirement with the installation of the COMM Model 4 Enclosed Combustion Unit. The Department accepts the use of the enclosed combustion unit which reduces methane emissions by 95% as BACT.

3. **Testing Requirements:**

A performance test is not required at this time. However, the Department reserves the right to require testing, if necessary, in the future to assure compliance with the terms and conditions of Installation Permit No. 0994-I002. The enclosed combustion unit is exempt from testing per 40 CFR §60.5413b(a)(1).

Notwithstanding the performance test exemption, the permittee shall conduct a compliance determination using Method 22 of appendix A-7.

4. **New Source Review/Prevention of Significant Deterioration (NSR/PSD):**

NSR and PSD do not apply. The facility is a minor source for all criterial pollutants.

5. **New Source Performance Standards (NSPS):**

40 CFR 60, Subpart OOOOb: *Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After December 6, 2022*: This facility is subject to this regulation because the facility was modified after December 6, 2022.

6. **NESHAP and MACT Standards:**

This source is a minor source of hazardous air pollutants, as defined in 40 CFR §63.2 and Article XXI, §2101.20. There are no area source rules that apply to the facilities at this source.

7. **Risk Management Plan; CAA Section 112(r):**

The facility is not required to have a risk management plan at this time because none of the regulated chemicals exceed the thresholds for CAA §112(r).

8. **Greenhouse Gas Reporting (40 CFR Part 98):**

The Gulick Unit 10029 well pad is located in hydrocarbon basin 160A and is part of the facility as defined under 40 CFR, § 98.238. Greenhouse gas emissions are required to be reported under § 98.231 since GHG emissions from the facility exceed 25,000 metric tons of CO₂ equivalent or more per year.

EMISSIONS CALCULATIONS:

See attached spreadsheet.

EMISSIONS SUMMARY:

Emission Limitations Summary

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
PM	0.43
PM ₁₀	0.43
PM _{2.5}	0.43
Sulfur Oxides (SO _x)	0.031
Nitrogen Oxides (NO _x)	5.15
Carbon Monoxide (CO)	4.33
Volatile Organic Compounds (VOC)	0.28
HAPs	0.10

* A year is defined as any consecutive 12-month period.

RECOMMENDATION:

All applicable Federal, State, and County regulations have been addressed in the permit application. The facility is not subject to the restrictions of §2102.04.k of Article XXI because there have been no Notices of Violation issued for this or any other Range Resources facility in Allegheny County during the last 18 months. The installation permit for the Range Resources – Appalachia, LLC, Gulick Unit 10029 Well Site should be approved with the emission limitations and terms & conditions in Installation Permit No. 0994-I002.