DRAFT STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
AIR POLLUTION CONTROL DIVISION
TELEPHONE: (303) 692-3150

CONSTRUCTION PERMIT

PERMIT NO: **12WE2039**

Issuance 1

DATE ISSUED:

ISSUED TO: **DCP Midstream, LP**

THE SOURCE TO WHICH THIS PERMIT APPLIES IS DESCRIBED AND LOCATED AS FOLLOWS:

Natural gas compression facility, known as the Wells Ranch Compressor Station, located in Section 27, Township 6N, Range 63W, in Weld County, Colorado.

THE SPECIFIC EQUIPMENT OR ACTIVITY SUBJECT TO THIS PERMIT INCLUDES THE FOLLOWING:

Facility Equipment ID	AIRS Point	Description
C-193	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 non-selective catalytic reduction (NSCR) system and air-fuel ratio control. This emission unit will be used for natural gas compression
C-194	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 non-selective catalytic reduction (NSCR) system and air-fuel ratio control. This emission unit will be used for natural gas compression.
C-195	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 non-selective catalytic reduction (NSCR) system and air-fuel ratio control. This emission unit will be used for natural gas compression.

Facility Equipment ID	AIRS Point	Description
C-196	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 non-selective catalytic reduction (NSCR) system and air-fuel ratio control. This emission unit will be used for natural gas compression.
D-1	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.
FUG	006	Equipment leaks (fugitive VOCs) from a natural gas compression facility.
C-197	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. 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.

The engines addressed under AIRS Points 001, 002, 003, 004, and 007 may be replaced with another engine in accordance with the temporary engine replacement provision or with another Waukesha L7044GSI engine in accordance with the permanent replacement provision of the Alternate Operating Scenario (AOS), included in this permit as Attachment A.

THIS PERMIT IS GRANTED SUBJECT TO ALL RULES AND REGULATIONS OF THE COLORADO AIR QUALITY CONTROL COMMISSION AND THE COLORADO AIR POLLUTION PREVENTION AND CONTROL ACT C.R.S. (25-7-101 et seq), TO THOSE GENERAL TERMS AND CONDITIONS INCLUDED IN THIS DOCUMENT AND THE FOLLOWING SPECIFIC TERMS AND CONDITIONS:

REQUIREMENTS TO SELF-CERTIFY FOR FINAL AUTHORIZATION

1. **YOU MUST notify the APCD no later than fifteen days after commencement of the permitted operation or activity by submitting a Notice of Startup (NOS) form to the**

APCD. The Notice of Startup (NOS) form may be downloaded online at www.cdphe.state.co.us/ap/downloadforms.html. Failure to notify the APCD of startup of the permitted source is a violation of AQCC Regulation No. 3, Part B, Section III.G.1 and can result in the revocation of the permit.

2. Within one hundred and eighty days (180) after commencement of operation, compliance with the conditions contained on this permit shall be demonstrated to the Division. It is the permittee's responsibility to self-certify compliance with the conditions. Failure to demonstrate compliance within 180 days may result in revocation of the permit. (Reference: Regulation No. 3, Part B, III.G.2).

3. This permit shall expire if the owner or operator of the source for which this permit was issued: (i) does not commence construction/modification or operation of this source within 18 months after either, the date of issuance of this construction permit or the date on which such construction or activity was scheduled to commence as set forth in the permit application associated with this permit; (ii) discontinues construction for a period of eighteen months or more; (iii) does not complete construction within a reasonable time of the estimated completion date. The Division may grant extensions of the deadline per Regulation No. 3, Part B, III.F.4.b. (Reference: Regulation No. 3, Part B, III.F.4.)

4. The operator shall complete all initial compliance testing and sampling as required in this permit and submit the results to the Division as part of the self-certification process. (Reference: Regulation No. 3, Part B, Section III.E.)

5. The manufacturer, model number, and serial number of the subject equipment shall be provided to the Division within fifteen days (15) after commencement of operation. This information shall be included on the Notice of Startup (NOS) submitted for the equipment. (Reference: Regulation No. 3, Part B, III.E.)

6. The operator shall retain the permit final authorization letter issued by the Division after completion of self-certification, with the most current construction permit. This construction permit alone does not provide final authority for the operation of this source.

EMISSION LIMITATIONS AND RECORDS

7. Emissions of air pollutants shall not exceed the following limitations (as calculated in the Division's preliminary analysis). (Reference: Regulation No. 3, Part B, Section II.A.4)

Monthly Limits:

Facility Equipment ID	AIRS Point	Pounds per Month			Emission Type
		NO_x	VOC	CO	
C-193	**001**	5,512	7,720	11,024	Point
C-194	**002**				Point
C-195	**003**				Point
C-196	**004**				Point
C-197	**007**				Point
D-1	**005**	102	3,012	510	Point
FUG	**006**	---	1,359	---	Fugitive

Monthly limits are based on a 31-day month.

Facility-wide emissions of each individual hazardous air pollutant shall be less than 1,358.9 lb/month.

Facility-wide emissions of total hazardous air pollutants shall be less than 3,397.3 lb/month.

Annual Limits:

Facility Equipment ID	AIRS Point	Tons per Year			Emission Type
		NO_x	VOC	CO	
C-193	**001**	32.4	45.6	64.8	Point
C-194	**002**				Point
C-195	**003**				Point
C-196	**004**				Point
C-197	**007**				Point
D-1	**005**	0.6	17.7	3.0	Point
FUG	**006**	---	8.0	---	Fugitive

See "Notes to Permit Holder #4 for information on emission factors and methods used to calculate limits.

Facility-wide emissions of each individual hazardous air pollutant shall be less than 8.0 tpy.

Facility-wide emissions of total hazardous air pollutants shall be less than 20.0 tpy.

During the first twelve (12) months of operation, compliance with both the monthly and yearly emission limitations shall be required. After the first twelve (12) months of operation, compliance with only the yearly limitation shall be required.

Compliance with the synthetic minor status of this facility shall be determined by recording the facility's annual criteria pollutant emissions, (including all HAPs above the de-minimis reporting level) from each emission unit, on a rolling (12) month total. By the end of each month a new twelve-month total is calculated based on the previous twelve months' data. The permit holder shall calculate monthly emissions and keep a compliance record on site, or at a local field office with site responsibility, for Division review. This rolling twelve-month total shall apply to all emission units, requiring an APEN, at this facility.

8. The emission points in the table below shall be operated and maintained with the control equipment as listed in order to reduce emissions to less than or equal to the limits established in this permit (Reference: Regulation No.3, Part B, Section III.E.)

Facility Equipment ID	AIRS Point	Control Device	Pollutants Controlled
C-193	**001**	Non-selective catalytic reduction system and air/fuel ratio controller	NO_X, VOC, and CO

C-194	**002**	Non-selective catalytic reduction system and air/fuel ratio controller	NO_X, VOC, and CO
C-195	**003**	Non-selective catalytic reduction system and air/fuel ratio controller	NO_X, VOC, and CO
C-196	**004**	Non-selective catalytic reduction system and air/fuel ratio controller	NO_X, VOC, and CO
D-1	**005**	Vapor recovery unit, Condenser, and Combustion device (detailed in condition 16)	VOC
C-197	**007**	Non-selective catalytic reduction system and air/fuel ratio controller	NO_X, VOC, and CO

PROCESS LIMITATIONS AND RECORDS

9. This source shall be limited to the following maximum processing rates as listed below. Monthly records of the actual processing rate shall be maintained by the applicant and made available to the Division for inspection upon request. (Reference: Regulation 3, Part B, II.A.4)

Process/Consumption Limits

Facility Equipment ID	AIRS Point	Process Parameter	Annual Limit	Monthly Limit (31 days)
C-193	**001**	Consumption of natural gas as fuel for all 5 compressor engines. Total run time shall not exceed 35, 040 compressor engine-hours per year.	463.64 MMscf/yr total	39.4 MMscf/month total
C-194	**002**			
C-195	**003**			
C-196	**004**			
C-197	**007**			
D-1	**005**	Natural gas throughput	18,250 MMscf/yr	1,550 MMscf/month
FUG	**006**	Not applicable		

During the first twelve (12) months of operation, compliance with both the monthly and yearly consumption limitations shall be required. After the first twelve (12) months of operation, compliance with only the yearly limitation shall be required.

Compliance with the yearly consumption limits shall be determined on a rolling twelve (12) month total. By the end of each month a new twelve-month total is calculated based on the previous twelve months' data. The permit holder shall calculate monthly consumption of natural gas and keep a compliance record on site or at a local field office with site responsibility, for Division review.

STATE AND FEDERAL REGULATORY REQUIREMENTS

10. The permit number and AIRS ID number shall be marked on the subject equipment for ease of identification. (Reference: Regulation Number 3, Part B, III.E.) (State only enforceable).

11. 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. Emission control devices subject to Regulation 7, Sections XII.C.1.d or XVII.B.1.c shall have no visible emissions. (Reference: Regulation No. 1, Section II.A.1. & 4.)

12. This source is subject to the odor requirements of Regulation No. 2. (State only enforceable)

13. **Points 001-004, 007:** This equipment is subject to the control requirements for stationary and portable engines in the 8-hour ozone control area under Regulation No. 7, Section XVI.B.1. For rich burn reciprocating internal combustion engines, a non-selective catalyst reduction system and an air fuel controller shall be required.

14. **Points 001-004, 007:** This equipment is subject to the control requirements for natural gas-fired reciprocating internal combustion engines under Regulation No. 7, Section XVII.E (State only enforceable). The owner or operator of any natural gas-fired reciprocating internal combustion engine that is either constructed or relocated to the state of Colorado from another state after the date listed in the table below shall operate and maintain each engine according to the manufacturer's written instructions or procedures to the extent practicable and consistent with technological limitations and good engineering and maintenance practices over the entire life of the engine so that it achieves the emission standards required in the table below:

Maximum Engine HP	Construction or Relocation Date	Emission Standard in g/hp-hr		
		NOx	CO	VOC
≥500HP	July 1, 2007 July 1, 2010	2.0 1.0	4.0 2.0	1.0 0.7

Note: Per Regulation No. 7, Section XVII.B.4, internal combustion engines that are subject to an emissions control requirement in a federal maximum achievable control technology ("MACT") standard under 40 CFR Part 63, a Best Available Control Technology ("BACT") limit, or a New Source Performance Standard under 40 CFR Part 60 are not subject to this Section XVII.

15. **Point 005:** Compliance with the emission limits in this permit shall be demonstrated by running the GRI GlyCalc model version 4.0 or higher on a monthly basis using the most recent wet gas analysis and recorded operational values (including gas throughput, lean glycol recirculation rate, VRU downtime and other operational values specified in the O&M Plan). Recorded operational values, except for gas throughput, shall be averaged on a monthly basis for input into GRI GlyCalc.

16. **Point 005:** This unit shall be configured such that the flash tank vapors are routed to the VRU to be recycled to the compressor station inlet and still vent vapors are routed to an enclosed combustor via a condenser. The control system shall reduce uncontrolled emissions of VOC from the TEG dehydration unit to the emission levels listed in Condition 7, above. Operating parameters of the control equipment are identified in the operation and maintenance plan. (Reference: Regulation No.3, Part B, Section III.E.)

17. **Point 005:** 100% of emissions that result from the flash tank associated with this dehydrator shall be recycled to the compressor station inlet and recompressed.

18. **Point 005:** This source shall be limited to a maximum lean glycol recirculation pump rate as calculated per 40 CFR, Part 63, Subpart HH, §63.764 (d)(2)(i). If the owner or

operator requests an alternate circulation rate per §63.764(d)(2)(ii), then maximum recirculation rate shall not exceed 24.0 gallons per minute. The owner or operator shall maintain monthly records of the actual lean glycol recirculation rate and make them available to the Division for inspection upon request.

19. **Point 005:** This equipment is subject to the control requirements for glycol natural gas dehydrators under Regulation No. 7, Section XII.H. Beginning May 1, 2005, uncontrolled actual emissions of volatile organic compounds from the still vent and vent from any gas-condensate-glycol (GCG) separator (flash separator or flash tank), if present, shall be reduced by at least 90 percent through the use of air pollution control equipment.

    This source shall comply with all applicable general provisions of Regulation 7, Section XII.

20. **Point 005:** The combustion device covered by this permit is subject to Regulation No. 7, Section XVII.B General Provisions (State only enforceable). If a flare or other combustion device is used to control emissions of volatile organic compounds to comply with Section XVII, it shall be enclosed, have no visible emissions during normal operations, and be designed so that an observer can, by means of visual observation from the outside of the enclosed flare or combustion device, or by other convenient means approved by the Division, determine whether it is operating properly. The operator shall comply with all applicable requirements of Section XVII.

21. **Point 005:** This equipment is subject to the control requirements for glycol natural gas dehydrators under Regulation No. 7, Section XVII.D (State only enforceable). Beginning May 1, 2008, uncontrolled actual emissions of volatile organic compounds from the still vent and vent from any gas-condensate-glycol (GCG) separator (flash separator or flash tank), if present, shall be reduced by an average of at least 90 percent through the use of air pollution control equipment.

    This source shall comply with all applicable general provisions of Regulation 7, Section XVII.

22. **Point 005:** This source is subject to the requirements of 40 CFR, Part 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants for Source Categories from Oil and Natural Gas Production Facilities including, but not limited to, the following:

    - **§63.764 - General Standards**
        - **§63.764 (e)(1) -**The owner or operator is exempt from the requirements of paragraph (c)(1) and (d) of this section if the criteria listed in paragraph (e)(1)(i) or (ii) of this section are met, except that the records of the determination of these criteria must be maintained as required in §63.774(d)(1).
            - **§63.764 (e)(1)(i) –** The actual annual average flowrate of natural gas to the glycol dehydration unit is less than 85 thousand standard cubic meters per day (3.0 MMSCF/day), as determined by the procedures specified in §63.772(b)(1) of this subpart; or
            - **§63.764 (e)(1)(ii) –** The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less

than 0.90 megagram per year, as determined by the procedures specified in §63.772(b)(2) of this subpart.

- **§63.772 - Test Methods, Compliance Procedures and Compliance Demonstration**
  - **§63.772(b) -** *Determination of glycol dehydration unit flowrate or benzene emissions.* The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate or benzene emissions to meet the criteria for an exemption from control requirements under §63.764(e)(1).
    - **§63.772(b)(1) -** The determination of actual flowrate of natural gas to a glycol dehydration unit shall be made using the procedures of either paragraph (b)(1)(i) or (b)(1)(ii) of this section.
      - **§63.772(b)(1)(i) –** The owner or operator shall install and operate a monitoring instrument that directly measures natural gas flowrate to the glycol dehydration unit with an accuracy of plus or minus 2 percent or better. The owner or operator shall convert annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.
      - **§63.772(b)(1)(ii) -** The owner or operator shall document, to the Administrator's satisfaction, that the actual annual average natural gas flowrate to the glycol dehydration unit is less than 85 thousand standard cubic meters per day.
    - **§63.772(b)(2) -** The determination of actual average benzene emissions from a glycol dehydration unit shall be made using the procedures of either paragraph (b)(2)(i) or (b)(2)(ii) of this section. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.
      - **§63.772(b)(2)(i) –** The owner or operator shall determine actual average benzene emissions using the model GRI-GLYCalc ™ , Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc ™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled “Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions” (GRI–95/0368.1); or
      - **§63.772(b)(2)(ii) -** The owner or operator shall determine an average mass rate of benzene emissions in kilograms per hour through direct measurement using the methods in §63.772(a)(1)(i) or (ii), or an alternative method according to §63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of

hours the unit is operated per year. This result shall be converted to megagrams per year.

- **§63.774 - Recordkeeping Requirements**
  - **§63.774 (d)(1) -** An owner or operator of a glycol dehydration unit that meets the exemption criteria in §63.764(e)(1)(i) or §63.764(e)(1)(ii) shall maintain the records specified in paragraph (d)(1)(i) or paragraph (d)(1)(ii) of this section, as appropriate, for that glycol dehydration unit.
    - **§63.774 (d)(1)(i) –** The actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) as determined in accordance with §63.772(b)(1), or
    - **§63.774 (d)(1)(ii) -** The actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with §63.772(b)(2).

23. **Point 005:** If this source is unable meet the criteria listed in paragraph (e)(1)(i) or (ii) of **§63.764** as listed in Condition 22, then this source shall be subject to the TEG dehydrator area source requirements of 40 CFR, Part 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants for Source Categories from Oil and Natural Gas Production Facilities including, but not limited to, the following:

- **§63.760 – Applicability and designation of affected source**
  - **§63.760 (f) -** The owner or operator of an affected major source shall achieve compliance with the provisions of this subpart by the dates specified in paragraphs (f)(1) and (f)(2) of this section. The owner or operator of an affected area source shall achieve compliance with the provisions of this subpart by the dates specified in paragraphs (f)(3) through (f)(6) of this section.
    - **§63.760 (f)(6)** - The owner or operator of an affected area source that is not located in an Urban-1 county, as defined in §63.761, the construction or reconstruction of which commences on or after July 8, 2005, shall achieve compliance with the provisions of this subpart immediately upon initial startup or January 3, 2007, whichever date is later.
- **§63.764 - General Standards**
  - **§63.764 (d)(2) –**Each owner or operator of an area source not located in a UA plus offset and UC boundary (as defined in §63.761) shall comply with the provisions specified in paragraphs (d)(2(i) through (iii) of this section.
    - **§63.764 (d)(2)(i)** – Determine the optimum glycol circulation rate using the following equation:

$$L_{OPT} = 1.15 * 3.0 \frac{\text{gal TEG}}{\text{lb H}_2\text{O}} * \left(\frac{F * (I - O)}{24 hr / day} \right)$$

Where:
L_{OPT} = Optimal circulation rate, gal/hr.
F = Gas Flowrate (MMSCF/D)

I = Inlet water content (lb/MMSCF)
O = Outlet water content (lb/MMSCF)
3.0 = The industry accepted rule of thumb for a TEG-to water ratio (gal TEG/lbH_2O)
1.15 = Adjustment factor included for a margin of safety.

- **§63.764 (d)(2)(ii)** – Operate the TEG dehydration unit such that the actual glycol circulation rate does not exceed the optimum glycol circulation rate determined in accordance with paragraph (d)(2)(i) of this section. If the TEG dehydration unit is unable to meet the sales gas specification for moisture content using the glycol circulation rate determined in accordance with paragraph (d)(2)(i), the owner or operator must calculate an alternate circulation rate using GRI–GLYCalcTM, Version 3.0 or higher. The owner or operator must document why the TEG dehydration unit must be operated using the alternate circulation rate and submit this documentation with the initial notification in accordance with §63.775(c)(7).
- **§63.764 (d)(2)(iii)** – Maintain a record of the determination specified in paragraph (d)(2)(ii) in accordance with the requirements in §63.774(f) and submit the Initial Notification in accordance with the requirements in §63.775(c)(7). If operating conditions change and a modification to the optimum glycol circulation rate is required, the owner or operator shall prepare a new determination in accordance with paragraph (d)(2)(i) or (ii) of this section and submit the information specified under §63.775(c)(7)(ii) through (v).

- **§63.774 - Recordkeeping Requirements**
  - **§63.774 (b) -** Except as specified in paragraphs (c), (d), and (f) of this section, each owner or operator of a facility subject to this subpart shall maintain the records specified in paragraphs (b)(1) through (11) of this section:
    - **§63.774 (b)(1) -** The owner or operator of an affected source subject to the provisions of this subpart shall maintain files of all information (including all reports and notifications) required by this subpart. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or period.
      - **§63.774 (b)(1)(i) –** All applicable records shall be maintained in such a manner that they can be readily accessed.
      - **§63.774 (b)(1)(ii) –** The most recent 12 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request.
      - **§63.774 (b)(1)(iii) –** The remaining 4 years of records may be retained offsite.

- **§63.774 (b)(1)(iv) –** Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

- **§63.774 (f) -** The owner or operator of an area source not located within a UA plus offset and UC boundary must keep a record of the calculation used to determine the optimum glycol circulation rate in accordance with §63.764(d)(2)(i) or §63.764(d)(2)(ii), as applicable.

- **§63.775 – Reporting Requirements**
  - **§63.775 (c)** - Except as provided in paragraph (c)(8), each owner or operator of an area source subject to this subpart shall submit the information listed in paragraph (c)(1) of this section. If the source is located within a UA plus offset and UC boundary, the owner or operator shall also submit the information listed in paragraphs (c)(2) through (6) of this section. If the source is not located within any UA plus offset and UC boundaries, the owner or operator shall also submit the information listed within paragraph (c)(7).
    - **§63.775 (c)(1)** - The initial notifications required under §63.9(b)(2) not later than January 3, 2008. In addition to submitting your initial notification to the addressees specified under §63.9(a), you must also submit a copy of the initial notification to EPA's Office of Air Quality Planning and Standards. Send your notification via e-mail to CCG–ONG@EPA.GOV or via U.S. mail or other mail delivery service to U.S. EPA, Sector Policies and Programs Division/Coatings and Chemicals Group (E143–01), Attn: Oil and Gas Project Leader, Research Triangle Park, NC 27711.
    - **§63.775 (c)(7)** - The information listed in paragraphs (c)(1)(i) through (v) of this section. This information shall be submitted with the initial notification.
      - **§63.775 (c)(7)(i)** - Documentation of the source's location relative to the nearest UA plus offset and UC boundaries. This information shall include the latitude and longitude of the affected source; whether the source is located in an urban cluster with 10,000 people or more; the distance in miles to the nearest urbanized area boundary if the source is not located in an urban cluster with 10,000 people or more; and the names of the nearest urban cluster with 10,000 people or more and nearest urbanized area.
      - **§63.775 (c)(7)(ii)** - Calculation of the optimum glycol circulation rate determined in accordance with §63.764(d)(2)(i).
      - **§63.775 (c)(7)(iii)** - If applicable, documentation of the alternate glycol circulation rate calculated using GRI-GLYCalcTM, Version 3.0 or higher and documentation stating why the TEG dehydration unit must operate using the alternate glycol circulation rate.

- **§63.775 (c)(7)(iv)** - The name of the manufacturer and the model number of the glycol circulation pump(s) in operation.
- **§63.775 (c)(7)(v)** - Statement by a responsible official, with that official's name, title, and signature, certifying that the facility will always operate the glycol dehydration unit using the optimum circulation rate determined in accordance with §63.764(d)(2)(i) or §63.764(d)(2)(ii), as applicable.

- **§63.775 (f)** - Notification of process change. Whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report within 180 days after the process change is made or as a part of the next Periodic Report as required under paragraph (e) of this section, whichever is sooner. The report shall include:
  - **§63.775 (f)(1) -** A brief description of the process change;
  - **§63.775 (f)(2) -** A description of any modification to standard procedures or quality assurance procedures
  - **§63.775 (f)(3) –** Revisions to any of the information reported in the original Notification of Compliance Status Report under paragraph (d) of this section; and
  - **§63.775 (f)(4) -** Information required by the Notification of Compliance Status Report under paragraph (d) of this section for changes involving the addition of processes or equipment.

24. **Point 006:** The operator shall calculate actual emissions from this emissions point based on representative component counts for the facility with the most recent gas analysis, as required in the Compliance Testing and Sampling section of this permit. The operator shall maintain records of the results of component counts and sampling events used to calculate actual emissions and the dates that these counts and events were completed. These records shall be provided to the Division upon request.

25. **Point 006:** Minor sources in designated nonattainment or attainment/maintenance areas that are otherwise not exempt pursuant to Section II.D. of Regulation No. 3, Part B, shall apply Reasonably Available Control Technology for the pollutants for which the area is nonattainment or attainment/maintenance (Reference: Regulation No. 3, Part B, III.D.2.a). Compliance with the requirements of an inspection and repair program, as required by Condition 26, shall satisfy the requirement to apply RACT.

26. **Point 006:** The operator shall use optical gas imaging (i.e. IR camera) to screen all pumps, valves, connectors, and pressure relief devices that contain or contact a process stream that is at least 10 percent VOC by weight. The operator shall perform screening on a semi-annual basis. The IR camera shall be maintained per the manufacturer's recommendations. In addition, the source shall follow procedures for implementing an alternative work practice for monitoring equipment for leaks as specified below:

    - Any emissions imaged by the optical gas instrument (i.e. IR camera) at the required detection sensitivity level qualify as a leak. Additionally, any indications of liquids dripping shall qualify as a leak.

- The detection sensitivity level shall be 60 grams per hour which correlates to the least frequent monitoring schedule listed in Table 1 of 40 CFR 60 Subpart A.
- The operator shall comply with the instrument specifications in 40 CFR 60.18(i)(1).
- The operator shall comply with the daily instrument checks in 40 CFR 60.18(i)(2).
- The operator shall perform screening in accordance with 40 CFR 60.18 (i)(3).
- The operator shall tag all leaking components with date of leak detected, date of repair and date of rescreening to confirm repair. Once a leak is repaired, the leaker tag may be removed.
- Component leaks detected shall be repaired as set forth below:
    - The leak will be repaired within 15 days. Repaired components shall be re-screened within five days of repair to determine if the leak is repaired. If the rescreening shows a leak, then the leak shall be repaired as soon as practicable, but no later than 15 days after the rescreening. Repeat the process until the rescreening shows no leak.
    - As an alternative to using the IR camera, re-screening may be performed in accordance with the Alternative Screening Procedure as specified in 40 CFR 60 Appendix 7, Method 21, Section 8.3.3.
    - If a leak is detected but it is technically infeasible to make the repair without a process unit shutdown, repair of this equipment shall occur before the end of the next process unit shutdown. Facility records shall be maintained documenting the rationale for placing a leaking component on the Delay of Repair list, identifying the repair methods applied in each attempt to repair the leak, identifying the leaking component ID number, and listing an estimated date for repairing the component. Monitoring to verify the repair must occur within 15 days after startup of the process unit.
- The following records shall be maintained and kept onsite for two years and shall be made available to the Division upon request:
    - A video record must be used to document leak survey results. The video record must include a time and date stamp for each monitoring event.
    - A video record must be used to document leaks that are found and to confirm repairs showing the date/time of screening for each event. The video record must include a time and date stamp for each monitoring event. If the Alternative Screening Procedure per 40 CFR 60 Appendix 7, Method 21, Section 8.3.3 is used for re-screening, then records of re-screening dates, re-screening method, and re-screening results must be maintained in lieu of a video record.
    - List of components screened and associated dates.
    - List of currently leaking components.
    - List of repaired components along with the repair method and associated repair dates.
    - List of successful repairs, repair delays, and post-repair screenings and associated dates.

- Records of daily instrument check including the distance and flow meter reading at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a time and date stamp for each daily instrument check. The video record must be kept for two years.

OPERATING & MAINTENANCE REQUIREMENTS

27. **Points 001-005, 007**: Upon startup of these points, the applicant shall follow the operating and maintenance (O&M) plan and record keeping format approved by the Division, in order to demonstrate compliance on an ongoing basis with the requirements of this permit. Revisions to your O&M plan are subject to Division approval prior to implementation. (Reference: Regulation No. 3, Part B, Section III.G.7.)

28. **Point 005**: The condenser outlet temperature shall be recorded as per the frequency required in the approved O&M Plan. This information shall be maintained in a log on site and made available to the Division for inspection upon request. The condenser outlet temperature shall not exceed 160 °F on a monthly average basis.

COMPLIANCE TESTING AND SAMPLING

Initial Testing Requirements

29. **Points 001-004, 007:** A source initial compliance test shall be conducted on emissions point 001, 002, 003, 004, and 007 to measure the emission rate(s) for the pollutants listed below in order to demonstrate compliance with the emissions limits contained in this permit. The test protocol must be in accordance with the requirements of the Air Pollution Control Division Compliance Test Manual and shall be submitted to the Division for review and approval at least thirty (30) days prior to testing. No compliance test shall be conducted without prior approval from the Division. Any compliance test conducted to show compliance with a monthly or annual emission limitation shall have the results projected up to the monthly or annual averaging time by multiplying the test results by the allowable number of operating hours for that averaging time (Reference: Regulation No. 3, Part B., Section III.G.3)

    Oxides of Nitrogen
    Carbon Monoxide
    Volatile Organic Compounds
    Formaldehyde

30. **Point 005**: The owner or operator shall complete the initial annual extended wet gas analysis testing required by this permit and submit the results to the Division as part of the self-certification process to ensure compliance with emissions limits. (Reference: Regulation No. 3, Part B, Section III.E.)

31. **Point 005**: The owner or operator shall demonstrate compliance with Condition 11, using EPA Method 22 to measure opacity from the flare.

32. **Point 006**: Within one hundred and eighty days (180) after commencement of operation, the permittee shall complete the initial extended gas analysis of gas samples

that are representative of volatile organic compound (VOC) and hazardous air pollutants (HAP) that may be released as fugitive emissions. This extended gas analysis shall be used in the compliance demonstration as required in the Emission Limits and Records section of this permit. The operator shall submit the results of the gas analysis and emission calculations to the Division as part of the self-certification process to ensure compliance with emissions limits.

33. **Point 006**: Within one hundred and eighty days (180) after commencement of operation, the operator shall complete a hard count of components at the source and establish the number of components that are operated in “heavy liquid service”, “light liquid service”, "water/oil service" and “gas service”. The operator shall submit the results to the Division as part of the self-certification process to ensure compliance with emissions limits

Periodic Testing Requirements

34. **Points 001-004, 007:** Each engine is subject to the periodic testing requirements as specified in the operating and maintenance (O&M) plan as approved by the Division. Revisions to your O&M plan are subject to Division approval. Replacements of this unit completed as Alternative Operating Scenarios may be subject to additional testing requirements as specified in Attachment A.

35. **Point 005**: The owner or operator shall complete an extended wet gas analysis prior to the inlet of the TEG dehydrator on an annual basis. Results of the wet gas analysis shall be used to calculate emissions of criteria pollutants and hazardous air pollutants per this permit.

36. **Point 006**: On an annual basis, the permittee shall complete an extended gas analysis of gas samples that are representative of VOC and HAP that may be released as fugitive emissions. This extended gas analysis shall be used in the compliance demonstration as required in the Emission Limits and Records section of this permit.

ADDITIONAL REQUIREMENTS

37. A revised Air Pollutant Emission Notice (APEN) shall be filed: (Reference: Regulation No. 3, Part A, II.C)

    a. Annually whenever a significant increase in emissions occurs as follows:

    For any criteria pollutant:

    For sources emitting **less than 100 tons per year**, a change in actual emissions of five (5) tons per year or more, above the level reported on the last APEN; or

    For volatile organic compounds (VOC) and nitrogen oxides sources (NO_x) in ozone nonattainment areas emitting **less than 100 tons of VOC or NO_x per year**, a change in annual actual emissions of one (1) ton per year or more or five percent, whichever is greater, above the level reported on the last APEN; or

    For any non-criteria reportable pollutant:

    If the emissions increase by 50% or five (5) tons per year, whichever is less, above the level reported on the last APEN submitted to the Division.

    b. Whenever there is a change in the owner or operator of any facility, process, or activity; or

c. Whenever new control equipment is installed, or whenever a different type of control equipment replaces an existing type of control equipment; or

d. Whenever a permit limitation must be modified; or

e. No later than 30 days before the existing APEN expires.

f. Within 14 calendar days of commencing operation of a permanent replacement engine under the alternative operating scenario outlined in this permit as Attachment A. The APEN shall include the specific manufacturer, model and serial number and horsepower of the permanent replacement engine, the appropriate APEN filing fee and a cover letter explaining that the permittee is exercising an alternative-operating scenario and is installing a permanent replacement engine.

38. Federal regulatory program requirements (i.e. PSD, NANSR or Title V Operating Permit) shall apply to this source at any such time that this source becomes major solely by virtue of a relaxation in any permit condition. Any relaxation that increases the potential to emit above the applicable Federal program threshold will require a full review of the source as though construction had not yet commenced on the source. The source shall not exceed the Federal program threshold until a permit is granted. (Regulation No. 3 Part D).

39. MACT Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities major stationary source requirements shall apply to this source at any such time that this source becomes major solely by virtue of a relaxation in any permit limitation and shall be subject to all appropriate applicable requirements of Subpart HH. (Reference: Regulation No. 8, Part E)

40. MACT Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines requirements shall apply to this source at any such time that this source becomes major solely by virtue of a relaxation in any permit limitation and shall be subject to all appropriate applicable requirements of that Subpart on the date as stated in the rule as published in the Federal Register. (Reference: Regulation No. 8, Part E)

GENERAL TERMS AND CONDITIONS:

41. This permit and any attachments must be retained and made available for inspection upon request. The permit may be reissued to a new owner by the APCD as provided in AQCC Regulation No. 3, Part B, Section II.B upon a request for transfer of ownership and the submittal of a revised APEN and the required fee.

42. If this permit specifically states that final authorization has been granted, then the remainder of this condition is not applicable. Otherwise, the issuance of this construction permit does not provide "final" authority for this activity or operation of this source. Final authorization of the permit must be secured from the APCD in writing in accordance with the provisions of 25-7-114.5(12)(a) C.R.S. and AQCC Regulation No. 3, Part B, Section III.G. Final authorization cannot be granted until the operation or activity commences and has been verified by the APCD as conforming in all respects with the conditions of the permit. Once self-certification of all points has been reviewed and approved by the Division, it will provide written documentation of such final authorization. **Details for**

obtaining final authorization to operate are located in the Requirements to Self-Certify for Final Authorization section of this permit.

43. This permit is issued in reliance upon the accuracy and completeness of information supplied by the applicant and is conditioned upon conduct of the activity, or construction, installation and operation of the source, in accordance with this information and with representations made by the applicant or applicant's agents. It is valid only for the equipment and operations or activity specifically identified on the permit.

44. Unless specifically stated otherwise, the general and specific conditions contained in this permit have been determined by the APCD to be necessary to assure compliance with the provisions of Section 25-7-114.5(7)(a), C.R.S.

45. Each and every condition of this permit is a material part hereof and is not severable. Any challenge to or appeal of a condition hereof shall constitute a rejection of the entire permit and upon such occurrence, this permit shall be deemed denied *ab initio*. This permit may be revoked at any time prior to self-certification and final authorization by the Air Pollution Control Division (APCD) on grounds set forth in the Colorado Air Quality Control Act and regulations of the Air Quality Control Commission (AQCC), including failure to meet any express term or condition of the permit. If the Division denies a permit, conditions imposed upon a permit are contested by the applicant, or the Division revokes a permit, the applicant or owner or operator of a source may request a hearing before the AQCC for review of the Division's action.

46. Section 25-7-114.7(2)(a), C.R.S. requires that all sources required to file an Air Pollution Emission Notice (APEN) must **pay an annual fee** to cover the costs of inspections and administration. If a source or activity is to be discontinued, the owner must notify the Division in writing requesting a cancellation of the permit. Upon notification, annual fee billing will terminate.

47. Violation of the terms of a permit or of the provisions of the Colorado Air Pollution Prevention and Control Act or the regulations of the AQCC may result in administrative, civil or criminal enforcement actions under Sections 25-7-115 (enforcement), -121 (injunctions), -122 (civil penalties), -122.1 (criminal penalties), C.R.S.

By:

Oluwaseun Ogungbenle
Permit Engineer
Air Pollution Control Division

Permit History

Issuance	Date	Description
Issuance 1	This Issuance	Issued to DCP Midstream, LP.

Notes to Permit Holder:

1) The production or raw material processing limits and emission limits contained in this permit are based on the consumption rates requested in the permit application. These limits may be revised upon request of the permittee providing there is no exceedance of any specific emission control regulation or any ambient air quality standard. A revised air pollution emission notice (APEN) and application form must be submitted with a request for a permit revision.

2) This source is subject to the Common Provisions Regulation Part II, Subpart E, Affirmative Defense Provision for Excess Emissions During Malfunctions. The permittee shall notify the Division of any malfunction condition which causes a violation of any emission limit or limits stated in this permit as soon as possible, but no later than noon of the next working day, followed by written notice to the Division addressing all of the criteria set forth in Part II.E.1. of the Common Provisions Regulation. See: http://www.cdphe.state.co.us/regulations/airregs/100102aqcccommonprovisionsreg.pdf.

3) The following emissions of non-criteria reportable air pollutants are estimated based upon the process limits as indicated in this permit. This information is listed to inform the operator of the Division's analysis of the specific compounds emitted if the source(s) operate at the permitted limitations.

AIRS Point	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	32	No	NA
	Xylenes	1330207	C	11	No	NA
	n-Hexane	110543	C	566	No	NA

4) The emission levels contained in this permit are based on the following emission factors:

Points 001-004, 007:

		Emission Factors - Uncontrolled		Emission Factors – Controlled	
CAS	**Pollutant**	**lb/MMBtu**	**g/bhp-hr**	**lb/MMBtu**	**g/bhp-hr**
	NOx	3.6669	13.1000	0.1400	0.5000
	CO	3.2750	11.7000	0.2799	1.0000
	VOC	0.4199	1.5000	0.1959	0.7000
5000	Formaldehyde	0.0140	0.0500	0.0034	0.0120
67561	Methanol	0.0031	0.0109	0.0015	0.0055
75070	Acetaldehyde	0.0028	0.0100	0.0014	0.0050
107028	Acrolein	0.0026	0.0094	0.0013	0.0047
71432	Benzene	0.0016	0.0056	0.0008	0.0028
106990	1,3-Butadiene	0.0007	0.0024	0.0003	0.0012
108883	Toluene	0.0006	0.0020	0.0003	0.0010

Emission factors are based on a Brake-Specific Fuel Consumption Factor of 7876 Btu/hp-hr, a site-rated horsepower value of 1680, and a fuel heat value of 1000 Btu/scf.

Emission Factor Sources:

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
	NOx	Manufacturer's specifications	Manufacturer's specifications
	CO	Manufacturer's specifications	Manufacturer's specifications
	VOC	Manufacturer's specifications	Manufacturer's specifications
5000	Formaldehyde	Manufacturer's specifications	Manufacturer's specifications

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
67561	Methanol	AP-42; Table 3.2-3 (7/2000); Natural Gas	Manufacturer's specifications
75070	Acetaldehyde	AP-42; Table 3.2-3 (7/2000); Natural Gas	Manufacturer's specifications
107028	Acrolein	AP-42; Table 3.2-3 (7/2000); Natural Gas	Manufacturer's specifications
71432	Benzene	AP-42; Table 3.2-3 (7/2000); Natural Gas	Manufacturer's specifications
106990	1,3-Butadiene	AP-42; Table 3.2-3 (7/2000); Natural Gas	Manufacturer's specifications
108883	Toluene	AP-42; Table 3.2-3 (7/2000); Natural Gas	Manufacturer's specifications

Point 005:

The emission levels contained in this permit are based on information provided in the application and the GRI GlyCalc 4.0 model. Controlled emissions are based on 100% recycle of the flash tank emissions and 95% control of the still vent vapors using an enclosed combustor. Additional control of still vent emissions is achieved by routing the vapors to a condenser prior to sending them to the enclosed combustor. Optimal recirculation rate per MACT HH (63.74(d)(2)(i)) is based on the following information submitted with the application: F = 50MMscfd; I = 121.8 lb/MMscf; and O = 6.7 lb/MMscf.

Point 006:

Component	Gas Service	Heavy Oil	Light Oil	Water/Oil Service
Connectors	1422	0	217	0
Flanges	231	0	89	0
Open-ended Lines	51	0	8	0
Pump Seals	0	0	2	0
Valves	306	0	72	0
Other*	31	0	4	0
VOC Content (wt%)	*24.74%*	*100%*	*100%*	*100%*

*Other equipment type includes compressors, pressure relief valves, relief valves, diaphragms, drains, dump arms, hatches, instrument meters, polish rods and vents

TOC Emission Factors (kg/hr-component):

Component	Gas Service	Heavy Oil	Light Oil	Water/Oil Service
Connectors	2.0E-04	7.5E-06	2.1E-04	1.1E-04
Flanges	3.9E-04	3.9E-07	1.1E-04	2.9E-06
Open-ended Lines	2.0E-03	1.4E-04	1.4E-03	2.5E-04
Pump Seals	2.4E-03	NA	1.3E-02	2.4E-05
Valves	4.5E-03	8.4E-06	2.5E-03	9.8E-05
Other	8.8E-03	3.2E-05	7.5E-03	1.4E-02

Source: EPA-453/R95-017

Compliance with emissions limits in this permit will be demonstrated by using the TOC emission factors listed in the table above with representative component counts, multiplied by the VOC content from the most recent gas analysis.

5) In accordance with C.R.S. 25-7-114.1, each Air Pollutant Emission Notice (APEN) associated with this permit is valid for a term of five years from the date it was received by the Division. A revised APEN shall be submitted no later than 30 days before the five-year term expires. Please refer to the most recent annual fee invoice to determine the APEN expiration date for each emissions point associated with this permit. For any questions regarding a specific expiration date call the Division at (303)-692-3150.

6) The following equipment is currently exempt from construction permitting requirements and/or APEN reporting requirements based on information provided by the operator for the Division's analysis:

AIRS ID	Facility ID	Description	Notes
NA	TEG Reboiler	TEG Dehy unit reboiler, rated at 2.86 MMBtu/hr	This unit is exempt from APEN reporting requirements because the design rate is less than 5 MMBtu/hr (Regulation No. 3, Part A, II.D.1.k), and is therefore also exempt from construction permitting requirements (Regulation no. 3, Part B, II.D.1.a).

Criteria pollutant emission levels for this unit are based on factors from AP-42, Chapter 1.4, Small Boilers < 100 MMBtu/hr (7/1998).

7) **Points 001 through 004, 007:** Each engine is subject to 40 CFR, Part 60, **Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines** (See January 18, 2008 Federal Register posting – effective March 18, 2008). This rule has not yet been incorporated into Colorado Air Quality Control Commission's Regulation No. 6. A copy of the complete subpart is available on the EPA website at: http://www.epa.gov/ttn/atw/area/fr18ja08.pdf

8) **Points 001 through 004, 007:** Each engine is subject to 40 CFR, Part 63, Subpart ZZZZ - **National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines**. (See January 18, 2008 Federal Register posting - effective March 18, 2008). The January 18, 2008 amendments to include requirements for area sources and engines ≤ 500 hp located at major sources have not yet been incorporated into Colorado Air Quality Control Commission's Regulation No. 8. A copy of the complete subpart is available on the EPA website at: http://www.epa.gov/ttn/atw/area/fr18ja08.pdf Additional information regarding area source standards can be found on the EPA website at: http://www.epa.gov/ttn/atw/area/arearules.html

9) This facility is classified as follows:

Applicable Requirement	**Status**
Operating Permit	Synthetic Minor Source CO, VOC, NOx, Benzene, Toluene, Xylenes, n-Hexane, and Total HAPs
PSD	Synthetic Minor Source CO
NANSR	Synthetic Minor Source VOC, NOx
MACT HH	Area Source Requirements

MACT ZZZZ	Area Source Requirements

10) Full text of the Title 40, Protection of Environment Electronic Code of Federal Regulations can be found at the website listed below:

http://ecfr.gpoaccess.gov/

Part 60: Standards of Performance for New Stationary Sources		
NSPS	60.1-End	Subpart A – Subpart KKKK
NSPS	Part 60, Appendixes	Appendix A – Appendix I
Part 63: National Emission Standards for Hazardous Air Pollutants for Source Categories		
MACT	63.1-63.599	Subpart A – Subpart Z
MACT	63.600-63.1199	Subpart AA – Subpart DDD
MACT	63.1200-63.1439	Subpart EEE – Subpart PPP
MACT	63.1440-63.6175	Subpart QQQ – Subpart YYYY
MACT	63.6580-63.8830	Subpart ZZZZ – Subpart MMMMM
MACT	63.8980-End	Subpart NNNNN – Subpart XXXXXX

11) An Oil and Gas Industry Construction Permit Self-Certification Form is included with this permit packet. Please use this form to complete the self-certification requirements as specified in the permit conditions. Further guidance on self-certification can be found on our website at:

http://www.colorado.gov/cdphe/OilandGas

ATTACHMENT A:
ALTERNATIVE OPERATING SCENARIOS
RECIPROCATING INTERNAL COMBUSTION ENGINES

October 12, 2012

2. Alternative Operating Scenarios

The following Alternative Operating Scenario (AOS) for the temporary and permanent replacement of natural gas fired reciprocating internal combustion engines has been reviewed in accordance with the requirements of Regulation No. 3., Part A, Section IV.A, Operational Flexibility-Alternative Operating Scenarios, Regulation No. 3, Part B, Construction Permits, and Regulation No. 3, Part D, Major Stationary Source New Source Review and Prevention of Significant Deterioration, and it has been found to meet all applicable substantive and procedural requirements. This permit incorporates and shall be considered a Construction Permit for any engine replacement performed in accordance with this AOS, and the owner or operator shall be allowed to perform such engine replacement without applying for a revision to this permit or obtaining a new Construction Permit.

2.1 Engine Replacement

The following AOS is incorporated into this permit in order to deal with a compressor engine breakdown or periodic routine maintenance and repair of an existing onsite engine that requires the use of either a temporary or permanent replacement engine. "Temporary" is defined as in the same service for 90 operating days or less in any 12 month period. "Permanent" is defined as in the same service for more than 90 operating days in any 12 month period. The 90 days is the total number of days that the engine is in operation. If the engine operates only part of a day, that day shall count as a single day towards the 90 day total. The compliance demonstrations and any periodic monitoring required by this AOS are in addition to any compliance demonstrations or periodic monitoring required by this permit.

All replacement engines are subject to all federally applicable and state-only requirements set forth in this permit (including monitoring and record keeping).

The results of all tests and the associated calculations required by this AOS shall be submitted to the Division within 30 calendar days of the test or within 60 days of the test if such testing is required to demonstrate compliance with NSPS or MACT requirements.
Results of all tests shall be kept on site for five (5) years and made available to the Division upon request.

The owner or operator shall maintain a log on-site and contemporaneously record the start and stop date of any engine replacement, the manufacturer, date of manufacture, model number, horsepower, and serial number of the engine(s) that are replaced during the term of this permit, and the manufacturer, model number, horsepower, and serial number of the replacement engine. In addition to the log, the owner or operator shall maintain a copy of all Applicability Reports required under section 2.1.2 and make them available to the Division upon request.

2.1.1 The owner or operator may **temporarily** replace an existing compressor engine that is subject to the emission limits set forth in this permit with an engine that is of the same manufacturer, model, and horsepower or a different manufacturer, model, or horsepower as the existing engine without modifying this permit, so long as the temporary replacement engine complies with all permit limitations and other requirements applicable to the existing engine. Measurement of emissions from the temporary replacement engine shall be made as set forth in section 2.2.

2.1.2 The owner or operator may **permanently** replace the existing compressor engine with another engine with the same manufacturer, model, and horsepower engines without modifying this permit so long as the permanent replacement engine complies with all permit limitations and other requirements applicable to the existing engine as well as any new applicable requirements for the replacement engine. Measurement of emissions from the permanent replacement engine and compliance with the applicable emission limitations shall be made as set forth in section 2.2.

An Air Pollutant Emissions Notice (APEN) that includes the specific manufacturer, model and serial number and horsepower of the permanent replacement engine shall be filed with the Division for the permanent replacement engine within 14 calendar days of commencing operation of the replacement engine. The APEN shall be accompanied by the appropriate APEN filing fee, a cover letter explaining that the owner or operator is exercising an alternative operating scenario and is installing a permanent replacement engine, and a copy of the relevant Applicability Reports for the replacement engine. Example Applicability
Reports can be found at http://www.cdphe.state.co.us/ap/oilgaspermitting.html. This submittal shall be accompanied by a certification from the Responsible Official indicating that "based on the information and belief formed after reasonable inquiry, the statements and information included in the submittal are true, accurate and complete".

This AOS cannot be used for permanent engine replacement of a grandfathered or permit exempt engine or an engine that is not subject to emission limits.

The owner or operator shall agree to pay fees based on the normal permit processing rate for review of information submitted to the Division in regard to any permanent engine replacement.

2.2 Portable Analyzer Testing

Note: In some cases there may be conflicting and/or duplicative testing requirements due to overlapping Applicable Requirements. In those instances, please contact the Division Field Services Unit to discuss streamlining the testing requirements.

Note that the testing required by this Condition may be used to satisfy the periodic testing requirements specified by the permit for the relevant time period (i.e. if the permit requires quarterly portable analyzer testing, this test conducted under the AOS will serve as the quarterly test and an additional portable analyzer test is not required for another three months).

The owner or operator may conduct a reference method test, in lieu of the portable analyzer test required by this Condition, if approved in advance by the Division.

The owner or operator shall measure nitrogen oxide (NO_X) and carbon monoxide (CO) emissions in the exhaust from the replacement engine using a portable flue gas analyzer *within seven (7) calendar days of commencing operation of the replacement engine*.

All portable analyzer testing required by this permit shall be conducted using the Division's Portable Analyzer Monitoring Protocol (ver March 2006 or newer) as found on the Division's web site at: http://www.colorado.gov/cs/Satellite/CDPHE-AP/CBON/1251596520270.

Results of the portable analyzer tests shall be used to monitor the compliance status of this unit.

For comparison with an annual (tons/year) or short term (lbs/unit of time) emission limit, the results of the tests shall be converted to a lb/hr basis and multiplied by the allowable operating hours in the month or year (whichever applies) in order to monitor compliance. If a source is not limited in its hours of operation the test results will be multiplied by the maximum number of hours in the month or year (8760), whichever applies.

For comparison with a short-term limit that is either input based (lb/MMBtu), output based (g/hp-hr) or concentration based (ppmvd @ 15% O_2) that the existing unit is currently subject to or the replacement engine will be subject to, the results of the test shall be converted to the appropriate units as described in the above-mentioned Portable Analyzer Monitoring Protocol document.

If the portable analyzer results indicate compliance with both the NO_X and CO emission limitations, in the absence of credible evidence to the contrary, the source may certify that the engine is in compliance with both the NO_X and CO emission limitations for the relevant time period.

Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, if the portable analyzer results fail to demonstrate compliance with either the NO_X or CO emission limitations, the engine will be considered to be out of compliance from the date of the portable analyzer test until a portable analyzer test indicates compliance with both the NO_X and CO emission limitations or until the engine is taken offline.

2.3 Applicable Regulations for Permanent Engine Replacements

2.3.1 Reasonably Available Control Technology (RACT): Reg 3, Part B § II.D.2

All permanent replacement engines that are located in an area that is classified as attainment/maintenance or nonattainment must apply Reasonably Available Control Technology (RACT) for the pollutants for which the area is attainment/maintenance or nonattainment. Note that both VOC and NO_X are precursors for ozone. RACT shall be applied for any level of emissions of the pollutant for which the area is in attainment/maintenance or nonattainment, except as follows:

In the Denver Metropolitan PM_{10} attainment/maintenance area, RACT applies to PM10 at any level of emissions and to NO_X and SO_2, as precursors to PM_{10}, if the potential to emit of NO_X or SO_2 exceeds 40 tons/yr.

For purposes of this AOS, the following shall be considered RACT for natural gas fired reciprocating internal combustion engines:

VOC: The emission limitations in NSPS JJJJ
CO: The emission limitations in NSPS JJJJ
NO_X: The emission limitations in NSPS JJJJ
SO_2: Use of natural gas as fuel
PM_{10}: Use of natural gas as fuel

As defined in 40 CFR Part 60 Subparts GG (§ 60.331) and 40 CFR Part 72 (§ 72.2), natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet.

2.3.2 Control Requirements and Emission Standards: Regulation No. 7, Sections XVI. and XVII.E (State-Only conditions).

Control Requirements: Section XVI

Any permanent replacement engine located within the boundaries of an ozone nonattainment area is subject to the applicable control requirements specified in Regulation No. 7, section XVI, as specified below:

Rich burn engines with a manufacturer's design rate greater than 500 hp shall use a non-selective catalyst and air fuel controller to reduce emission.

Lean burn engines with a manufacturer's design rate greater than 500 hp shall use an oxidation catalyst to reduce emissions.

The above emission control equipment shall be appropriately sized for the engine and shall be operated and maintained according to manufacturer specifications.

The source shall submit copies of the relevant Applicability Reports required under Condition 2.1.2.

Emission Standards: Section XVII.E – State-only requirements

Any permanent engine that is either constructed or relocated to the state of Colorado from another state, after the date listed in the table below shall operate and maintain each engine according to the manufacturer's written instructions or procedures to the extent practicable and consistent with technological limitations and good engineering and maintenance practices over the entire life of the engine so that it achieves the emission standards required in the table below:

Max Engine HP	Construction or Relocation Date	Emission Standards in G/hp-hr		
		NO_X	CO	VOC
100<Hp<500	January 1, 2008	2.0	4.0	1.0
	January 1, 2011	1.0	2.0	0.7
500≤Hp	July 1, 2007	2.0	4.0	1.0
	July 1, 2010	1.0	2.0	0.7

The source shall submit copies of the relevant Applicability Reports required under Condition 2.1.2.

2.3.3 NSPS for stationary spark ignition internal combustion engines: 40 CFR Part 60, Subpart JJJJ

A permanent replacement engine that is manufactured on or after 7/1/09 for emergency engines greater than 25 hp, 7/1/2008 for engines less than 500 hp, 7/1/2007 for engines greater than or equal to 500 hp except for lean burn engines greater than or equal to 500 hp and less than 1,350 hp, and 1/1/2008 for lean burn engines greater than or equal to 500 hp and less than 1,350 hp are subject to the requirements of 40 CFR Part 60, Subpart JJJJ. An analysis of applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in the Applicability Reports required under Condition 2.1.2. Any testing required by the NSPS is in addition to that required by this AOS. Note that the initial test required by NSPS Subpart JJJJ can serve as the testing required by this AOS under Condition 2.2, if approved in advance by the Division, provided that such test is conducted within the time frame specified in Condition 2.2.

Note that under the provisions of Regulation No. 6. Part B, section I.B. that Relocation of a source from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of Regulation No. 6 (i.e., the date that the source is first relocated to Colorado becomes equivalent to the manufacture date for purposes of determining the applicability of NSPS JJJJ requirements).

However, as of October 1, 2011 the Division has not yet adopted NSPS JJJJ. Until such time as it does, any engine subject to NSPS will be subject only under Federal law. Once the Division adopts NSPS JJJJ, there will be an additional step added to the determination of the NSPS. Under the provisions of Regulation No. 6, Part B, § I.B (which is referenced in Part A), any engine relocated from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of NSPS JJJJ.

2.3.4 Reciprocating internal combustion engine (RICE) MACT: 40 CFR Part 63, Subpart ZZZZ

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A permanent replacement engine located at either an area or major source is subject to the requirements in 40 CFR Part 63, Subpart ZZZZ. An analysis of the applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in the Applicability Reports required under Condition 2.1.2. Any testing required by the MACT is in addition to that required by this AOS. Note that the initial test required by the MACT can serve as the testing required by this AOS under Condition 2.2, if approved in advance by the Division, provided that such test is conducted within the time frame specified in Condition 2.2.

2.4 Additional Sources

The replacement of an existing engine with a new engine is viewed by the Division as the installation of a new emissions unit, not “routine replacement” of an existing unit. The AOS is therefore essentially an advanced construction permit review. The AOS cannot be used for additional new emission points for any site; an engine that is being installed as an entirely new emission point and not as part of an AOS-approved replacement of an existing onsite engine has to go through the appropriate Construction/Operating permitting process prior to installation.