

## STATEMENT OF BASIS

To: Reviewers  
Through: Lori Bocchino, Operating Permit Program Manager  
From: Rita Piroutek, Air Quality Engineer  
Subject: Draft Chapter 6, Section 3 Operating Permit 3-2-039-1, Tallgrass Midstream, LLC,  
Douglas Gas Plant  
Date: August 28, 2015

Attached for your review is the draft modified Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 6, Section 3 operating permit 3-2-039-1 for the Tallgrass Midstream, LLC, Douglas Gas Plant. Permit 3-2-039 was issued on August 30, 2011, and was administratively amended on December 19, 2012, to reflect the ownership change from Kinder Morgan Upstream, LLC to Tallgrass Midstream, LLC and personnel changes. The operating permit is being modified to incorporate new requirements which have become applicable to the Douglas Gas Plant since the issuance of permit 3-2-039.

WAQSR Chapter 6, Section 3(d)(vii) requires the Division of Air Quality (Division) to reopen the operating permit if additional requirements under the Act become applicable to a major source with a remaining permit term of three or more years. On October 29, 2012, Kinder Morgan Upstream, LLC was notified that the Division intended to reopen operating permit 3-2-039 to add applicable requirements from 40 CFR 63 Subparts ZZZZ, DDDDD, and HH.

In August 2012, the Environmental Protection Agency promulgated 40 CFR 60 Subpart OOOO - *Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution*, which were effective on October 15, 2012. These regulations establish emission standards and compliance schedules for the control of volatile organic compound (VOC) and sulfur dioxide (SO<sub>2</sub>) emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011. The regulations cover several types of emission units, including compressors and pneumatic controllers, which may become subject to Subpart OOOO when installed, replaced, or modified. Affected emission units at the Douglas Gas Plant may be, or become, subject to Subpart OOOO during the term of this operating permit. Therefore, the Division is also adding applicable requirements from 40 CFR 60 Subpart OOOO to the operating permit for the Douglas Gas Plant.

Since the issuance of permit 3-2-039 on August 30, 2011, the following WAQSR Chapter 6, Section 2 permits and waivers were issued. The permits and waivers listed in the first three paragraphs have no remaining applicable requirements, but are included to document the permitting history for this facility.

Waiver wy-12410 (9/9/2011): allowed the natural gasoline tank (unit F022D-TK101) to vent tank breathing vapors to the atmosphere during a period of approximately two weeks during the 2011 annual plant maintenance shutdown. Permit MD-13231 (7/6/2012): superseded permits MD-5619 and MD-5619A; authorized enhancements on eleven existing Clark engines and the installation of two 40,000 gal pressurized bullet tanks and additional piping, valves, and flanges. This permit was superseded by permit MD-14267. Division Letter AP-13757 (10/5/2012): stated that no permit modification was required to increase the gas flow piping diameter to accommodate changes in supplier gas volumes flowing into the plant because it did not change emissions from permit MD-13231.

Permit MD-14267 (4/29/2013): authorized the Residue Compression Modification Project with the disconnection and removal of seven White Superior 8G 825 engines (units E1-E4, E6, E16, E21) and four Clark RA-6 engines (units E8, E9, E15, E18) from service and the installation of six Waukesha 5794GSI engines (units E24-E29). Compressor blowdown emissions and rod packing vent emissions were

incorporated into the facility total emission estimate, and revised emission limits for the remaining Clark engines (units E5, E7, E10-E14, E17, E19, and E20) were established. This permit was superseded by permit MD-14267A.

Waiver wv-15591 (11/27/2013): was issued for the addition of a 3,550 gallon inlet separator and reconfiguration of piping to three other existing inlet receivers. This waiver was superseded by waiver wv-16872. Division Letter AP-16101 (4/25/2014): concluded that no permit modification was required to increase the gas flow piping diameter because it did not change emission estimates represented in permits MD-13231 or MD-14267. Division Letter AP-16316 (5/22/2014): determined that no permit modification as necessary as the inlet piping changes would not change the design throughput capacity of the facility, increase utilization of the plant, or debottleneck any facility emission units. Waiver wv-16872 (11/27/2013): was issued for the removal of a 3,550 gallon inlet separator, one electric compressor, and associated piping authorized by waiver wv-15591.

The following permits and waivers have applicable requirements incorporated into the modified operating permit:

Waiver wv-12916 (1/27/2012): authorized the addition of 20 valves, and a slight increase in utilization of two existing heaters. The required stack tests on the heaters were performed. The components are subject to 40 CFR 60 Subpart KKK or Subpart OOOO depending on date of installation.

Permit MD-14267A (10/22/2013): amended permit MD-14267 for the removal of heater H2 from the permit and a correction to Table 4 to remove duplicate entries of tank TK-101 and heaters H5 and H6. The amended permit was corrected on 11/7/2013 to revise potential NO<sub>x</sub> emissions in Table 4 for heaters H1 and H3. The permit establishes emission limits for all engines at the facility; engine testing and monitoring requirements; and operating conditions for the gasoline tank, VRU, truck loading, and flare. It also requires the installation and operation of an ambient NO<sub>2</sub> monitoring network for at least three years. The six authorized Waukesha 5794GSI compressor engines (units E24-E29), each equipped with AFRC and NSCR catalyst, were installed and initial performance tests were conducted.

Permit MD-16631 (11/5/2014): permitted the installation of two Caterpillar G3512B compressor engines (units E01 and E02), each equipped with an oxidation catalyst. Applicable requirements for these engines include commencement of construction and start-up notifications; NO<sub>x</sub>, CO, VOC, and formaldehyde emission limits; initial and periodic testing; and catalyst monitoring.

Waiver P0000716 (12/1/2014): authorized the addition of 100 valves, 22 connectors and 29 flanges for three projects during the plant's planned 2015 shutdown. The components are subject to LDAR requirements of 40 CFR 60 Subpart OOOO. The commencement of construction notification requirement has been fulfilled, which began 1/30/2015. This waiver requires the notification of the actual date of initial startup of the Plant 2 modifications project.

Waiver P0014933 (3/27/2015): was issued to modify an existing sump and the replacement of two 8,400 gallon and one 12,600 gallon tanks with two 16,800 gallon vertical atmospheric frac tanks and one 3,550 gallon pressure separator tank. This waiver was corrected on 4/22/2015 for the volumes of the existing tanks to be replaced. The notification of the actual date of initial startup of the two 16,800 gallon vertical atmospheric frac tanks and one 3,550 gallon pressure separator tank is required.

In summary, the permit is being modified to include new and revised federal subparts and applicable requirements from the WAQSR Chapter 6, Section 2 permits and waivers as described above. All references to and requirements for the equipment no longer authorized to operate at the facility, specifically the seven White Superior 8G 825 compressor engines (units E1-E4, E6, E16, E21) and four Clark RA-6 engines (units E8, E9, E15, E18), are removed from the permit.

Detailed operating permit revisions include the following:

- Table of Contents: updated for repagination, revised to denote that 40 CFR 60 Subparts VV and OOOO have been added to the list of applicable New Source Performance Standards (NSPS), and indicate Appendices A and C through J were reserved as the Division no longer attaches copies of the WAQSR, Federal Standards or the Portable Analyzer Monitoring Protocol to Title V permits.
- General Information: updated to include the NAICS Code, correct a typo in the latitude and longitude label, and reserve the responsible official information, as the Division no longer lists this in operating permits.
- Source Emission Points Table: removed equipment no longer authorized to operate, added newly installed and authorized equipment, and updated the fugitive emissions descriptions to be consistent with permit MD-14267A (corrected), notably, the stabilizer equipment components (formally unit F022D-FL5) are now part of the components in Area 4 (unit F022D-FL4).
- Total Facility Estimated Emissions for NO<sub>x</sub>, CO, VOC, and HAPs were updated to represent equipment currently operating and authorized at the facility.
- All appropriate Ch 6 Sec 2 permit references were updated throughout the permit.
- Condition F1 was added for the Ambient Monitoring Program requirements. All subsequent permit conditions and cross references were renumbered.
- Condition F2 was updated for the current authorized engine configuration. Engine replacement and stack height requirements were added as F2(b) and (d), respectively.
- Condition F3(a) was revised to remove the White Superior engine (unit F022D-E21) and add visible emission limits for the Waukesha and Caterpillar engines.
- Condition F3(b) was revised to reflect current WAQSR Chapter 3, Section 2 requirements for visible emissions from diesel-fired sources.
- Emission limits and requirements for the authorized engines are updated in Condition F4.
- Condition F6 was added for the commencement of construction requirements for the two Caterpillar engines and the A Sump Modification and Tank Replacement Project. All subsequent permit conditions and cross references were renumbered.
- Condition F7 was revised to reflect language currently used in operating permits issued by the Division.
- Condition F9 was updated to include formaldehyde emissions test methods, test methods consistent with Subpart JJJJ, and language currently used in operating permits issued by the Division. As there are no H<sub>2</sub>S emission limits that apply to sources at the facility, the H<sub>2</sub>S test methods were removed from condition F9(a).
- Condition F10 changes include: engine testing requirements for the Waukesha 5794GSI engines (units E24-E29); initial and periodic testing requirements for the two Caterpillar G3512B compressor engines (units E01 and E02) upon their installation, were added; and testing requirements for the seven White Superior 8G 825 compressor engines (units E1-E4, E6, E16, E21) and four Clark RA-6 engines (units E8, E9, E15, E18) were removed.
- Condition 11 was updated to indicate where the Portable Analyzer Monitoring Protocol may be located, as it is no longer attached to the permit.
- Catalyst monitoring requirements were revised in condition F13 for the removal of the White Superior engines and the addition of the newly installed Waukesha 5794GSI engines (units E24-E29). These engines are subject to Compliance Assurance Monitoring (CAM) for NO<sub>x</sub> emissions, which is addressed in this condition. The permitted CO emission limits are no more stringent than the CO emission standard established in 40 CFR 60 Subpart JJJJ that also applies to these engines, therefore CAM does not apply to CO emissions from the Waukesha engines; periodic monitoring shall consist of complying with monitoring requirements in Subpart JJJJ. Catalyst monitoring requirements are also added to condition F13 for the two Caterpillar G3512B compressor engines (units E01 and E02), which are not subject to CAM.

- Condition F14 was updated to reflect only the Clark engines currently installed at the facility.
- Condition F17 was revised to include recordkeeping requirements for the Caterpillar G3512B compressor engines (units E01 and E02) and to include language currently used in operating permits issued by the Division. Condition F17(g) was added to maintain records of the data generated by the ambient NO<sub>2</sub> monitoring network.
- CAM recordkeeping requirements in condition F18 were updated to be consistent with the Waukesha CAM plan.
- Condition F20 was added for the startup, testing and engine shutdown notifications. It includes the initial startup and initial performance testing notifications for the Caterpillar G3512B compressor engines (units E01 and E02); testing notifications for installed engines; the notification of the actual date of initial startup of the Plant 2 modifications project; the notification of the actual date of initial startup of two 16,800 gallon vertical atmospheric frac tanks and one 3,550 gallon pressure separator tank; and shutdown notifications for engines at the facility. All subsequent permit conditions and cross references were renumbered.
- Condition F21 was updated for the Division notification if an engine operates out of compliance; and reporting the evaluation of the CAM plan ranges.
- Reporting requirements were updated in condition F22(a) to reference CAM results for the Waukesha engines and to include the catalyst monitoring for the Caterpillar engines, and to clarify references to the 10,000 bbl storage tank.
- Condition F25 was added to include requirements for ambient monitoring notifications and reports. All subsequent permit conditions and cross references were renumbered.
- Condition CAM-1 was updated to reference the Waukesha 5794GSI engines (units E24-E29).
- NSPS and NESHAP lists: Language was updated to reference equipment authorized at the facility and be consistent with that is currently used in permits issued by the Division. 40 CFR 60 Subpart OOOO requirements were added.
- Condition C1 was updated to include the new requirements for the NO<sub>2</sub> monitoring network and compliance with 40 CFR 60 Subpart OOOO, and be consistent with Title V permits currently being issued by the Division.
- Conditions G4 and G9 of the General Permit Conditions were updated to reflect language currently used in permits issued by the Division.
- Condition S1 was updated to reflect current ambient standards and language used in permits issued by the Division.
- The Summary Tables were updated to reflect the current engine configuration and revised condition references. Source tables for the Waukesha 5794GSI engines (units E24-E29), Caterpillar G3512B compressor engines (units E01 and E02) and tanks TNK014 through TNK016 were added.
- The Abbreviations list is updated to include language currently used in permits issued by the Division.
- The CAM plan for the White Superior 8G 825 compressor engines (units E1-E4, E6, E16, E21) engines was replaced with the CAM plan for the Waukesha 5794GSI engines (units E24-E29) in Appendix B.
- Appendices A and C through J were reserved.