MEMO TO : File
ONEOK Rockies Midstream, L.L.C.
Arnegard Compressor Station
McKenzie County, North Dakota

FROM : Raina Cardwell
Environmental Scientist
Division of Air Quality

RE : August 29, 2024, application for a Permit to Construct Modification

DATE : [Reserved]

ONEOK Rockies Midstream, L.L.C. (ONEOK) submitted a permit to construct modification application to the North Dakota Department of Environmental Quality – Division of Air Quality (Department) on August 29, 2024. ONEOK requested changes at the existing natural gas compressor station (Arnegard Compressor Station or facility) located in McKenzie, North Dakota.

The Arnegard Compressor Station currently operates under Air Permit to Construct No. ACP-18178 v1.0. The facility will be issued an operating permit post construction, contingent on issuance of this permit action, ACP-18178 v1.1.

The application requested (Project) a different natural gas-fired compressor engine permitted for EU C-5. The previously permitted engine (EU C-5) was never installed or operated. The proposed Caterpillar natural gas-fired compressor engine (EU C-5) is rated at 2,500 horsepower (hp) and was manufactured in 2024. This addition triggers regulatory applicability under NSPS Subpart OOOOb for the facility fugitive components.

Additionally, the emission limit for the stationary tanks, considered affected facilities under NSPS Subpart OOOOa established in the previous Air Quality Effects Analysis (AQEA)[1], has been incorporated into this permit, Air Permit to Construct No. ACP-18178 v1.1.

There are no other changes proposed and the facility will remain a synthetic minor source with this permit action. As shown in Table 1, there are no significant changes in the potential emissions from the facility with the Project.

[1] See page 9 of "ACP18178v1_0_AQEA.pdf"

Table 1 – Facility-wide PTE (tons per year) [A]

Emission Unit Description	EU	CO	NO_X	SO_2	VOCs	Total PM	PM_{10}	$PM_{2.5}$	Total HAPs	Formaldehyde (Largest HAP)
Natural gas-fired compressor engine	C-1	15.2	19.1	0.0	2.4	1.5	1.5	1.5	0.8	0.4
	C-2	15.2	19.1	0.0	2.4	1.5	1.5	1.5	0.8	0.4
	C-3	15.2	19.1	0.0	2.4	1.5	1.5	1.5	0.8	0.4
	C-4	15.2	19.1	0.0	2.4	1.5	1.5	1.5	0.8	0.4
	C-5	27.3	19.3	0.0	16.9	0.8	0.8	0.8	2.4	1.9
400-barrel condensate storage tank [B]	TK-1 [C]	-	-	-	5.4	-	-	-	0.3	-
	TK-2	-	-	-	0.8	-	-	-	0.0	-
	TK-3	-	-	-	0.8	-	-	-	0.0	-
	TK-4 [C]	-	-	-	5.4	-	-	-	0.3	-
	TK-5	-	-	-	0.8	-	-	-	0.0	-
	TK-6	-	-	-	0.8	-	-	-	0.0	-
400-barrel produced water storage tank [B]	WTK-1	-	-	-	0.0	-	-	-	--	-
	WTK-2	-	-	-	0.0	-	-	-	--	-
400-barrel methanol storage tank	MTK-1	-	-	-	0.2	-	-	-	0.2	-
Flare [D]	FL-1	3.6	1.3	0.0	0.3	0.1	0.1	0.1	0.0	-
Condensate truck loading [E]	TL-1	-	-	-	20.0	-	-	-	1.1	-
Venting and blowdown	BD	-	-	-	5.8	-	-	-	0.1	-
Fugitives	FUG	-	-	-	11.7	-	-	-	1.2	-
Total (without Fugitives):		**91.5**	**97.2**	**0.2**	**60.8**	**7.0**	**6.9**	**6.9**	**7.8**	**3.4**
Total (with Fugitives):		**91.5**	**97.2**	**0.2**	**78.3**	**7.0**	**6.9**	**6.9**	**9.0**	**3.4**

Emission Unit Description	EU	CO	NO_X	SO_2	VOCs	Total PM	PM_{10}	$PM_{2.5}$	Total HAPs	Formaldehyde (Largest HAP)

[A] Abbreviations:
Total PM: filterable and condensable particulate matter
PM_{10}: filterable particulate matter with an aerodynamic diameter less than or equal to 10 microns (≤10 μm) including $PM_{2.5}$
$PM_{2.5}$: filterable particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (≤2.5 μm)
SO_2: sulfur dioxide
NO_X: oxides of nitrogen
CO: carbon monoxide
VOCs: volatile organic compounds
HAPs: hazardous air pollutants as defined in Section 112(b) of the Clean Air Act

[B] Potential emissions are calculated post-control (i.e. post-flare).

[C] Flash tank

[D] Potential emissions exclude the emissions contributed by tank emissions. These potentials are covered under each individual tank PTE.

[E] Using a loadout rate of 250,000 bbl/year at an emission factor of 0.16 lb-VOC/bbl of condensate as approved by the Department in a letter dated February 25, 2020, Re: ORM Condensate VOC Emission Factor Approval.

The facility PTE is based on the enforceable emission restriction put in place on the condensate truck loading, tanks, and engines, limiting the allowable amount of NO_X, CO, and VOC. These restrictions mean the facility is a synthetic minor source of air pollution, as the emissions are limited to below major source thresholds for the Title V program.

A complete review of the proposed project indicates that the facility is expected to comply with the applicable federal and state air pollution rules and regulations. The Department will make a final recommendation on the issuance of a Permit to Construct for the Arnegard Compressor Station following completion of a 30-day public comment period. The public comment period will run from March 26, 2025, through April 25, 2025.

RLC:er