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February 6, 2014

**VIA HAND DELIVERY**

Ms. Jami Bailey, Director  
Oil Conservation Division  
New Mexico Department of Energy,  
Minerals and Natural Resources  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

2014 FEB -6 P 4: 11  
RECEIVED OGD

**Re: Case No. 15073. Application of DCP Midstream, LP for Authority to Inject Treated Acid Gas into the Lower Cherry Canyon and Upper Brushy Canyon Formations through its Proposed Zia AGI #1 and Zia AGI #2, Lea County, New Mexico.**

Dear Ms. Bailey:

DCP Midstream, LP submits the enclosed pre-hearing statement, exhibits, and corrected page 7 of the C-108 application for the Oil Conservation Commission hearing scheduled February 13, 2014.

Your attention to this request is appreciated.

Sincerely,

Adam G. Rankin  
ATTORNEY FOR DCP MIDSTREAM, LP

cc: Phil Goetze, Engineering Bureau, w/o encls via email.  
Gabriel Wade, Esq., Oil Conservation Division, w/o encls via email.

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**Table 1 – Reservoir Injection Pressure and Volume Calculations**

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**PROPOSED INJECTION STREAM CHARACTERISTICS**

TAG	H <sub>2</sub> S	CO <sub>2</sub>	H <sub>2</sub> S	CO <sub>2</sub>	TAG
Gas vol	conc.	conc.	inject rate	inject rate	inject rate
MMSCFD	mol %	mol %	lb/day	lb/day	lb/day
15	11	89	156622	1636394	1793016

**CONDITIONS AT WELL HEAD**

Well Head Conditions		TAG							
Temp	Pressure	Gas vol	Comp	Inject Rate	Density <sup>1</sup>	SG <sup>2</sup>	density	volume	volume
F	psi	MMSCFD	CO <sub>2</sub> :H <sub>2</sub> S	lb/day	kg/m <sup>3</sup>		lb/gal	ft <sup>3</sup>	bbl
100	1200	15	89:11	1793016	484.00	0.48	4.04	59313	10564

**CONDITIONS AT BOTTOM OF WELL**

Injection Zone Conditions					TAG				
Temp	Pressure <sup>3</sup>	Depth <sub>top</sub>	Depth <sub>bottom</sub>	Thickness <sup>4</sup>	Density <sup>1</sup>	SG <sup>2</sup>	density	volume	volume
F	psi	ft	ft	ft	kg/m <sup>3</sup>		lb/gal	ft <sup>3</sup>	bbl
120	2400	5750	6170	420	726.00	0.73	6.06	39542	7043

**CONDITIONS IN RESERVOIR AT EQUILIBRIUM**

Injection Reservoir Conditions					TAG				
Temp <sup>5</sup>	Pressure <sup>3</sup>	Ave. Porosity <sup>6</sup>	Swr	Porosity	Density <sup>1</sup>	SG <sup>2</sup>	density	volume	volume
F	psi	%		ft	kg/m <sup>3</sup>		lb/gal	ft <sup>3</sup>	bbl
120	2400	15.0	0.41	37.17	726.00	0.73	6.06	39542	7043

**CONSTANTS**

	SCF/mol	
Molar volume at STD	0.7915	
	g/mol	lb/mol
Molar weight of H <sub>2</sub> S	34.0809	0.0751
Molar weight of CO <sub>2</sub>	44.0096	0.0970
Molar weight of H <sub>2</sub> O	18.015	0.0397

**CALCULATION OF MAXIMUM INJECTION PRESSURE LIMITATION**

SG <sub>TAG</sub>	0.6050
PG = 0.2 + 0.433 (1.04-SG <sub>TAG</sub> )	0.388 psi/ft
IP <sub>max</sub> = PG * Depth	2233 psi

Where: SG<sub>TAG</sub> is specific gravity of TAG; PG is calculated pressure gradient; and IP<sub>max</sub> is calculated maximum injection pressure.

**CALCULATION OF 30 YEAR AREA OF INJECTION**

Cubic Feet/day (5.6146 ft <sup>3</sup> /bbl)	39542 ft <sup>3</sup> /day
Cubic Feet/30 years	433282411 ft <sup>3</sup> /30 years
Area = V/Net Porosity (ft)	11656777 ft <sup>2</sup> /30 years
Area = V/Net Porosity (ft) (43560 ft <sup>2</sup> /ac)	267.6 acres/30 years
Radius =	1926 ft
Radius =	0.36 miles

<sup>1</sup> Density calculated using AQUAlibrium software

<sup>2</sup> Specific gravity calculated assuming a constant density for water

<sup>3</sup> PP is extrapolated using successful Drill Stem Tests at nearby wells

<sup>4</sup> Thickness is the average total thickness of coarse sand units in the reservoir zone

<sup>5</sup> Reservoir temp. is extrapolated from bottomhole temp. measured at nearby wells

<sup>6</sup> Porosity is estimated using geophysical logs from nearby wells

**3.3 WELL DESIGN**

The AGI facilities and wells are integrated components of the proposed Zia Gas Plant design. The schematic of the AGI facilities and tie-in to the proposed Zia Gas Plant are shown in Figure 5, and the preliminary well designs for the injection wells are shown on Figure 6. Both of the wells (AGI #1) and (AGI #2) will be constructed using the same materials as shown in Figure 6. The intermediate casing of each well will be advanced to approximately 4,600 feet to assure the protection of the Capitan Aquifer and the upper Delaware Group.

The two proposed wells will be essentially identical in drilling, casing and completion, and will differ only in their locations and the direction and location of their bottom hole points.

The final design for the compression facilities and associated piping and layout of H<sub>2</sub>S alarms and other safety equipment will be submitted for NMOC review prior to commencement of injection operations as part of a complete Rule 11 Plan.