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D'Lo Gas Storage, LLC

Docket No. CP18-524-000

# D'Lo Natural Gas Storage Project Amendment

## Environmental Assessment

Washington, DC 20426

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## TECHNICAL ABBREVIATIONS AND ACRONYMS

Bcf	billion cubic feet
BCR	Bird Conservation Region
BWP	Boardwalk Pipeline Company
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2e</sub>	carbon dioxide equivalents
Commission	Federal Energy Regulatory Commission
Cooperative	Cooperative Energy
dBA	decibel on the A-weighted scale
DGS	D’Lo Gas Storage, LLC
DOT	U.S. Department of Transportation
EA	environmental assessment
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FWS	U.S. Fish and Wildlife Service
GHG	greenhouse gases
gpm	gallons per minute
GWP	global warming potential
HAP	hazardous air pollutants
HP	horsepower
IPaC	Information for Planning and Consultation
L <sub>dn</sub>	day-night sound level
L <sub>eq</sub>	24-hour equivalent sound level
MDEQ	Mississippi Department of Environmental Quality
MDWFP	Mississippi Department of Wildlife, Fisheries, and Parks
MEP	Kinder Morgan Midcontinent Express Pipeline
MMcf/d	million cubic feet per day
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NLEB	Northern long-eared bat
NGA	Natural Gas Act
NOI	<i>Notice of Intent to Prepare an Environmental Assessment for the Proposed D’Lo Natural Gas Storage Project Amendment, and Request for Comments on Environmental Issues</i>
NRHP	National Register of Historic Places
NSA	noise sensitive areas
OEP	Office of Energy Projects
Plan	<i>FERC’s Upland Erosion Control, Revegetation, and Maintenance Plan</i>
PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns

PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to 10 microns
Procedures	FERC's <i>Wetland and Waterbody Construction and Mitigation Procedures</i>
Project	D'Lo Natural Gas Storage Project Amendment
SHPO	State Historic Preservation Office
SO <sub>2</sub>	sulfur dioxide
SONAT	Southern Natural Gas Pipeline Company
Southcross	Southcross Energy
SPEPA	Southern Pine Electric Power Association
SWBD	Source Water and Brine Disposal
USACE	U.S. Army Corps of Engineers
VOC	volatile organic compounds

## **A. PROPOSED ACTION**

### **1.0 Introduction**

The Federal Energy Regulatory Commission (Commission or FERC) is the lead federal agency responsible for evaluating applications filed for authorization to construct, operate, or abandon interstate natural gas pipeline facilities. The FERC staff has prepared this environmental assessment (EA) to analyze the environmental effects of the natural gas storage facilities proposed for amendment by D’Lo Gas Storage, LLC (DGS). We<sup>1</sup> prepared this EA in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA) (Title 40 of the Code of Federal Regulations, Parts 1500-1508 [40 CFR 1500-1508]), and with the Commission’s implementing regulations under 18 CFR 380.

The EA is an important and integral part of the Commission’s decision on whether to issue DGS an authorization to construct the proposed facilities. Our principal purposes in preparing this EA are to:

- identify and assess potential impacts on the natural and human environment that could result from implementation of the proposed action;
- assess reasonable alternatives to the proposed action that would avoid or minimize adverse effects on the environment; and
- identify and recommend specific mitigation measures, as necessary, to minimize environmental impacts.

### **2.0 Project Purpose and Need**

On July 13, 2018, DGS filed an application under Docket No. CP18-524-000 to amend the previously certificated D’Lo Storage Project<sup>2</sup> in Simpson and Rankin Counties, Mississippi. The proposed amendments to the D’Lo Storage Project are referred to as the D’Lo Natural Gas Storage Project Amendment (Project). In this EA, we address the proposed amendments and incorporate by reference the EA issued on May 30, 2012 for the original D’Lo Gas Storage Project under Docket No. CP12-39-000. The amended storage facilities are in the same region as the original project. The impacts from the original project have not changed since the EA issued for Docket No. CP12-39-000 unless addressed in this EA. Construction of the D’Lo Gas Storage Project has not begun.

The D’Lo Gas Storage Project would provide about 1.2 billion cubic feet (Bcf) per day of withdrawal and 0.59 Bcf per day of injection capacity. According to DGS, its project would help meet the growing demand for firm and interruptible high deliverability natural gas storage services to support deliveries of natural gas to widely variable electric power generation loads, and to provide services to growing local distribution companies and other markets that require

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<sup>1</sup> “We,” “us,” and “our” refers to environmental staff of the Commission’s Office of Energy Projects.

<sup>2</sup> The Commission approved the D’Lo Gas Storage Project on September 6, 2012 under Docket No. CP12-39-000.

highly reliable natural gas service in Mississippi, and the Northeastern, mid-Atlantic, and Southeastern regions. The Project amendments are proposed because of test information showing better locations for the two (2) freshwater and two (2) brine disposal wells than those previously approved. In addition, the Gulf South interconnection is no longer necessary due to lack of commercial interest.

Under Section 7 of the Natural Gas Act (NGA), the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions on technical competence, financing, rates, market demand, gas supply, environmental impact (as described here), long-term feasibility, and other issues concerning a proposed project.

### **3.0 Public Review and Comment**

On August 27, 2018, we issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed D’Lo Natural Gas Storage Project Amendment, and Request for Comments on Environmental Issues* (NOI). The NOI was published in the Federal Register<sup>3</sup> and issued for a 30-day comment period. We received one comment in response to the NOI from the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) in regard to state or federally listed species and species of special concern that may occur in the Project area. See section B.3 for further information on special status species.

### **4.0 Proposed Facilities**

DGS is proposing the following amendments to the originally certificated project design:

- elimination of the Gulf South Interconnect Lateral and Gulf South Meter Station facilities, which includes approximately 0.95 mile of 12-inch-diameter natural gas pipeline, 3.76-acre meter station, and 0.5 mile of road improvements;
- relocation of Primary Source Water and Brine Disposal (SWBD) Well Pads #2 and #4<sup>4</sup> approximately 0.4 mile south of their originally proposed locations;
- two 0.5-mile-long 20-inch-diameter source water and brine disposal pipelines (adding 0.6 mile of 20-inch-diameter pipeline than originally certificated); and
- 0.5 mile of new access road.

In summary, the revised scope of the D’Lo natural gas storage facility now includes:

- the solution mining of three (3) salt dome caverns having a designed individual volume of 9.76 million barrels, and total working gas volume of 8.0 Bcf per cavern;

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<sup>3</sup> 88 Federal Register 44618 (August 31, 2018)

<sup>4</sup> Each well pad includes one source water well and one brine disposal well.

- the construction of a Solution Mining Facility site having injection and withdrawal capacity of 4,000-8,000 gallons per minute (gpm);
- the construction of a Compression Facility Site with four (4) 8,000 horsepower (HP) and one (1) 4,735 HP Caterpillar gas engine driven compressors totaling 36,735 HP;
- the drilling and completion of four (4) primary and three (3) secondary source water wells each having a total production capability of 1,000 gpm (including Wells #2 and #4 referenced above);
- the drilling and completion of four (4) primary and one (1) secondary brine disposal wells each having injection capability of 1,000 gpm (including Wells #2 and #4 referenced above);
- the construction of 4.0 miles of 20-inch-diameter source water pipelines and 4.0 miles of 20-inch-diameter brine disposal pipelines;
- the construction of 0.2 mile of 24-inch-diameter natural gas pipeline for the Cavern Well Corridor;
- the construction of 0.4 mile of 30-inch-diameter natural gas pipeline with an interconnect and meter station to Boardwalk Pipeline Company (BWP) having a flow capacity of 500 million cubic feet per day (MMcf/d);
- the construction of 0.8 mile of 24-inch-diameter natural gas pipeline with an interconnect and meter station to Southern Natural Gas Pipeline Company (SONAT) having a flow capacity of 250 MMcf/d;
- the construction of 3.2 miles of 30-inch-diameter natural gas pipeline with an interconnect and meter station to Kinder Morgan Midcontinent Express Pipeline (MEP) having a flow capacity of 500 MMcf/d;
- the construction of a 12-inch-diameter tap and interconnect and meter station to Southcross Energy (Southcross) having a flow capacity of 50 MMcf/d; and
- the widening and improvement of 3.5 miles of existing access roads, and construction of 0.8 mile of new access roads for construction, operation, and maintenance of the proposed facilities.

The Project is in south-central Mississippi, in the northeast portion of Simpson County and southeast portion of Rankin County, approximately 2 miles north of the City of D'Lo, Mississippi. Figure 1 shows the D'Lo Gas Storage Project location and facilities.

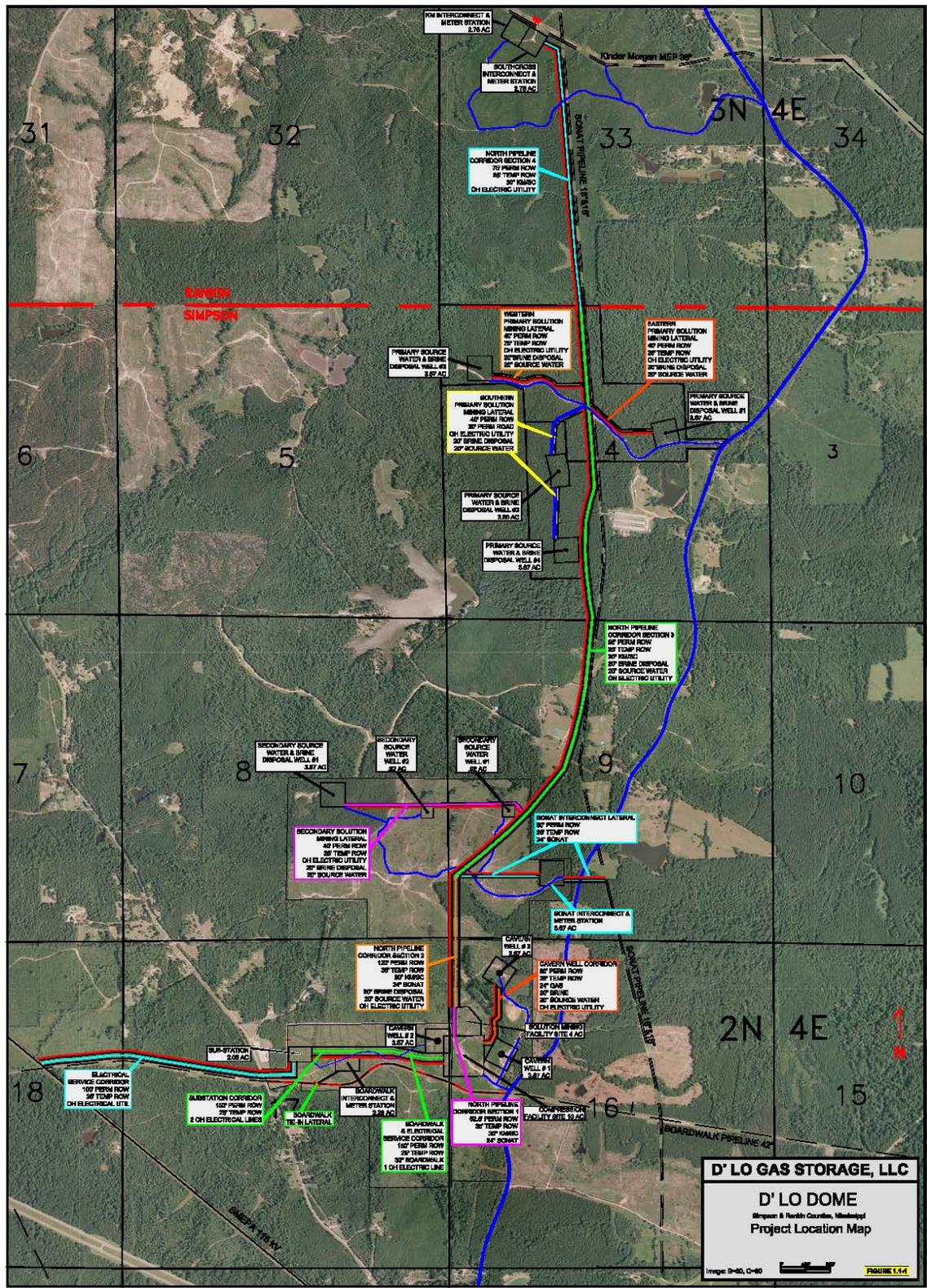


Figure 1: Project Location Map

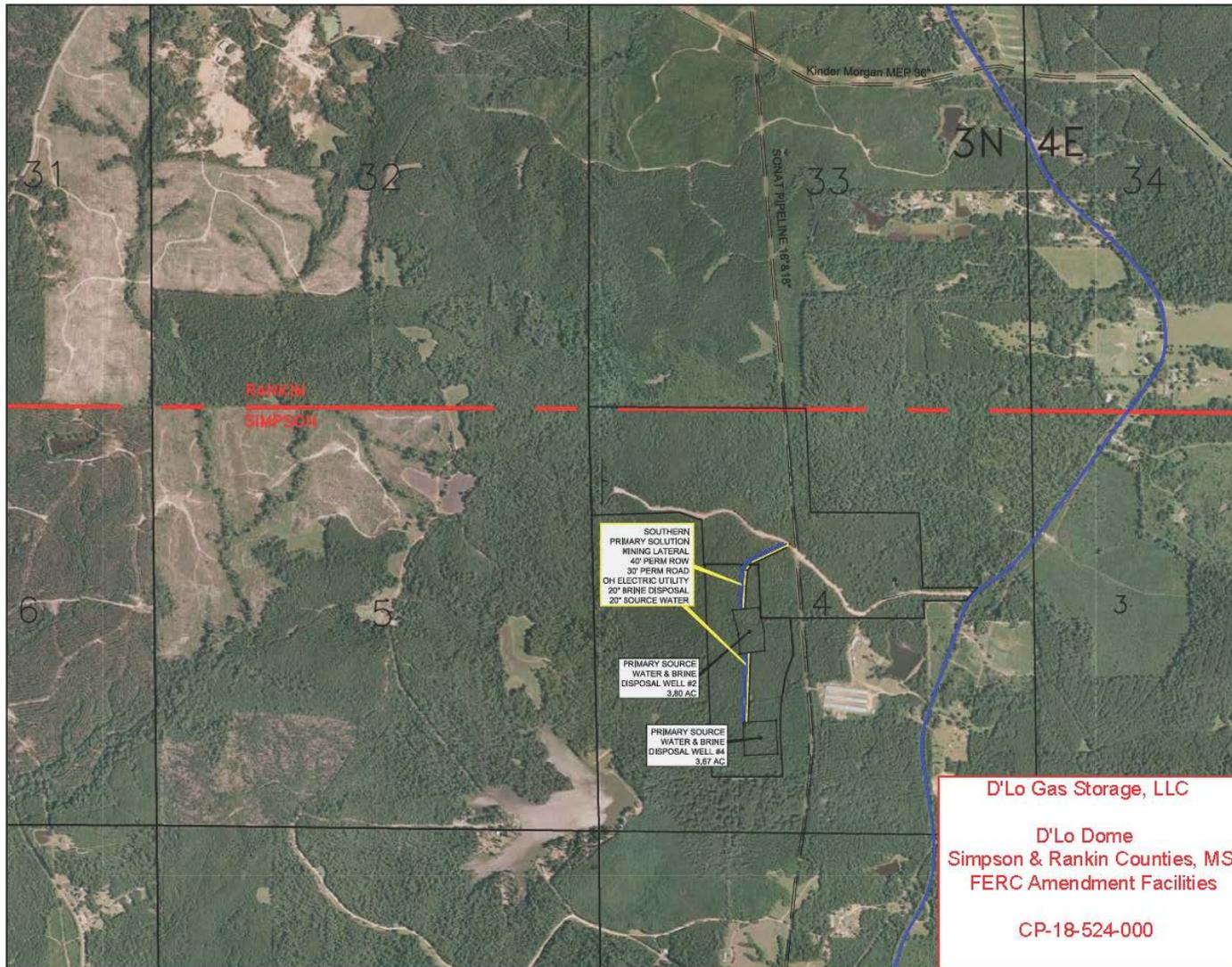


Figure 2: Amendment Facilities Location Map

## 5.0 Non-jurisdictional Facilities

Under section 7 of the NGA, and as part of its decision regarding whether or not to approve the facilities under its jurisdiction, the Commission is required to consider all factors bearing on the public convenience and necessity. Occasionally, proposed projects have associated facilities that do not come under the jurisdiction of the FERC. These “non-jurisdictional” facilities may be integral to a project (for instance, a natural gas-fueled power plant at the end of a jurisdictional pipeline), or they may be minor, non-integral components of the jurisdictional facilities that would be constructed and operated because of a project.

There are certain non-jurisdictional electric facilities associated with the Project which would be constructed by others. DGS is currently negotiating with Cooperative Energy (Cooperative) and Southern Pine Electric Power Association (SPEPA), the local electric utilities, to provide medium voltage electrical services to power the pumps and other facilities to be used for the cavern solution mining process, tie-in and meter stations, as well as to supply other construction power needs. These non-jurisdictional facilities are described below and addressed in our Cumulative Impacts analysis in section B.10.

- Permanent electrical substation, power drop, and electrical power corridor for the gas storage facility. Cooperative and SPEPA would provide a phased construction that would first consist of a temporary substation on the site of the proposed permanent substation. The temporary substation would provide the power necessary to start the solution mining process and would ultimately be developed into a full-service substation for overall Project operations.
- Six (6) permanent electrical power drops, one each for the Primary SWBD Site and Secondary SWBD Site, BWP Interconnect and Meter Station, MEP and Southcross Interconnects and Meter Stations, and the Solution Mining Facility Site. These power drops would be constructed by SPEPA.

## 6.0 Construction Procedures

DGS would clear vegetation and grade construction areas for Primary SWBD Wells #2 and #4, as necessary, to create a level surface for the movement of construction vehicles and to prepare the area for construction. After clearing is completed but prior to grading, DGS would install silt fence and/or straw bales in accordance with our *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures) to minimize soil erosion and sedimentation into any adjacent wetlands, waterbodies, roads, or other areas. Primary SWBD Wells #2 and #4 each contain a primary source water well and a primary brine disposal well. Primary SWBD #2 would be constructed on a 3.8-acre pad and Primary SWBD #4 would be constructed on a 3.67-acre pad. Once drilling operations are complete, each of the two (2) permanent well pads would be reduced to 2.07 acres in size.

The source water well would obtain water from sands of the Upper Wilcox Formation at depths of about 1,800 to 2,700 feet below ground surface. The brine disposal wells would be

completed in the Lower Wilcox Formation at about 5,700 feet below ground surface. DGS would be required to meet standard well completion requirements set by the Mississippi State Oil & Gas Board, and any additional permit stipulations.

A 20-inch-diameter brine disposal pipeline and 20-inch-diameter source water injection pipeline would be constructed to connect the respective pipelines to the Solution Mining Facility. The Southern Primary Solution Mining Lateral would connect Primary SWBD Wells #2 and #4 to the North Pipeline Corridor. The lateral includes 0.5 mile of 20-inch-diameter source water pipeline, 20-inch-diameter brine disposal pipeline, and overhead electrical utilities. All of the cavern well pipelines would be co-located within the same right-of-way.

## **7.0 Land Requirements**

Elimination of the Gulf South Interconnect 12-inch pipeline, meter station, and road improvements would reduce the Project impact by 13.7 acres. The amended Southern Solution Lateral facilities would increase impacts by 0.8 acre compared to the original Project. The summary of these impacts are as follows:

- the amended Primary SWBD Well #2 workspace is 500 feet x 325 feet versus 400 feet x 400 feet as originally proposed and would result in 0.1 acre of additional impacts;
- the two 20-inch-diameter SWBD pipelines to Primary SWBD Wells #2 and #4 would increase impacts by 0.1 acre as compared to the originally proposed pipelines; and
- the amended access roads are 806 feet longer than originally proposed and would increase impacts by 0.6 acre.

In total, the proposed amendment would reduce surface impacts from the D'Lo Gas Storage Project by approximately 12.9 acres. DGS owns and/or controls all areas of the Project that would be permanently impacted.

## **8.0 Construction Schedule**

DGS plans to commence construction by October 1, 2019. Construction of the D'Lo Gas Storage Project would be in the following four phases:

### Phase 1: Expected to begin by December 1, 2019:

- construct Cavern Well #1 Pad and associated facilities;
- construct Solution Mining Facility Site;
- construct Electrical Substation (non-jurisdictional);
- construct Primary SWBD Well Pads #1-4;
- construct 3.8 miles of medium voltage electrical transmission (non-jurisdictional);
- construct 3.8 miles of 20-inch-diameter source water pipelines;
- construct 3.8 miles of 20-inch-diameter brine pipelines;
- construct 0.8 mile of new permanent access roads;
- improve 1.9 miles of existing permanent access roads; and
- commence Solution Mining of Cavern Well #1.

Phase 2: Expected to begin by June 1, 2021:

- construct Compression Facility Site and install two of the five compressors;
- construct 3.7 miles of 30-inch-diameter natural gas pipeline;
- construct 0.7 mile of 24-inch-diameter natural gas pipeline;
- construct 3.3 miles of medium voltage electrical transmission (Non-jurisdictional);
- construct interconnect and meter stations for BWP, MEP, SONAT, and Southcross;
- construct Secondary Source Water Wells #1 and #2;
- construct Secondary Source Water Well #3 and Brine Disposal Well #1;
- construct 0.2 mile of new permanent access roads;
- improve 2.1 miles of existing permanent access roads; and
- construct Cavern Well #2 Pad and associated facilities.

Phase 3: Expected to begin by October 1, 2022:

- install two compressors
- construct Cavern Well #3 Pad and associated facilities;
- construct 0.2 mile of 24-inch-diameter natural gas pipeline;
- construct 0.2 mile of 20-inch-diameter source water pipeline;
- construct 0.2 mile of 20-inch-diameter brine pipeline; and
- construct 0.2 mile of medium voltage electrical transmission (Non-jurisdictional).

Phase 4: Expected to begin by November 1, 2024:

- install last compressor.

## **9.0 Permits and Approvals**

DGS would obtain all necessary permits, licenses, clearances, and approvals related to construction of the proposed Project. Table 4 lists the federal, state, and local permits and approvals DGS would obtain for the Project amendments. DGS would be responsible for obtaining and abiding by all permits and approvals required for abandonment of the Project regardless if they appear in this table.

**Table 1  
Permits and Approvals for the D'Lo Gas Storage Project Amendment**

<b>Administrating Agency</b>	<b>Permit/Approval/Review</b>	<b>Status</b>
<b>Federal</b>		
Federal Energy Regulatory Commission	Certificate - Section 7(c) of the NGA	Submitted in July 2018
U.S. Fish and Wildlife Service	Section 7 of the Endangered Species Act, Threatened and Endangered Species Consultation	Consultation ongoing
U.S. Army Corps of Engineers	Clean Water Act, Section 404 Authorization	Nationwide Permit 12 reverified October 22, 2018
<b>State</b>		
Mississippi Department of Environmental Quality	Section 401 Water Quality Certification	To be submitted
	National Pollutant Discharge Elimination System (NPDES) Stormwater Construction Permit	To be submitted
	Permit to Operate Minor New Source of Air Emissions	Awaiting FERC Amendment authorization
	Source Water Test Well	Received October 25, 2010
	Source Water Well No. 1-7	Awaiting FERC Amendment authorization
Mississippi State Oil and Gas Board	SWD Well No. 1	Received October 12, 2010
	SWD Wells No. 2-5	Awaiting FERC Amendment authorization
	Core Well 16-5 No. 1	Received November 24, 2010
	Cavern Wells No. 1-3	Awaiting FERC Amendment authorization
	Gas Storage Field Permit	Awaiting FERC Amendment authorization
Mississippi Department of Archives (MDAH) Historic Preservation Officer (SHPO)	Section 106 Consultation, NHPA	No cultural resources affected. No objection to project received July 2, 2018 and November 13, 2018.
Mississippi Department of Wildlife, Fisheries, and Parks Natural Heritage Program	State listed species	Consultation letter received May 27, 2018.
<b>Local</b>		
Simpson County	Permit for Construction of Utility within Road Right-of-Way	To be submitted

## **B. ENVIRONMENTAL ANALYSIS**

### **1.0 Geology, Soils, and Groundwater**

Project impacts on geologic resources, soils, and groundwater, as well as Project construction and operation impacts from geologic hazards is incorporated by reference from our EA summarized in Docket No. CP12-39-000 which concludes that the:

- water supply wells and the disposal of brine produced during the cavern leaching is not expected to have an impact on groundwater resources in the Project area;
- Project would not result in significant impacts of geologic resources;
- risk of geologic hazards is minimal in the Project area;
- a subsidence monitoring program would be implemented by DGS at the storage facility that would continue throughout the operational life of the Project; and
- Project would not significantly impact soils during construction. Soil erosion impacts would be minimized by the use of our Plan and Procedures, including where necessary installation of hay bales or silt fences to reduce erosion and sedimentation.

The Mississippi Department of Environmental Quality (MDEQ) Office of Land and Water Resources has the responsibility for managing water withdrawal permits (surface and groundwater) and controlling the appropriation of additional available water to ensure its most advantageous use for municipal, industrial, agricultural, and recreational purposes. MDEQ required that DGS drill a test hole to identify the depth and thickness of the deeper water-bearing units in the Meridian-Upper Wilcox Aquifer System containing slightly saline water that, if suitable, could be permitted to supply the water needs of the Project. DGS states that the source water test well would be drilled in December of 2019 at the Primary SWBD Site.

The amended Project wells and water pipeline are in the same general location as the original project and would not result in significant impacts on geologic resources, and the risk of geologic hazards is minimal in the Project area. Therefore, we conclude the Project amendments would not have a significant impact on groundwater.

### **2.0 Surface Water and Wetlands**

#### ***Surface Water***

The amended Project area is within the Middle Pearl and Strong River Watershed. As certificated, the Project would cross 8 un-named intermittent and 32 un-named ephemeral waterbodies. Each waterbody identified as being ephemeral or intermittent are naturally occurring streams of varying channel widths and depths that typically do not contain year-round sustained water flows under normal climatic conditions. The water sources for these waterbodies are direct precipitation, surface runoff, and discharge of percolating precipitation through the ground surface.

The proposed Project amendments (i.e., Primary SWBD Wells #2 and #4 and associated access roads) would add 0.8 acre of impact from construction of the well pads and associated

access roads. However, these facilities would not impact any surface waters. Additionally, the proposed Project amendments would eliminate construction impacts on approximately 13.7 acres from eliminating the 12-inch-diameter natural gas pipeline (0.95 mile), meter station, and road improvements (0.5 mile) from the proposal, which would result in less acreage impacts than currently certificated under Docket No. CP12-39-000. These changes would avoid impacts on one un-named intermittent stream and five un-named ephemeral waterbodies. Therefore, the D'Lo Gas Storage Project would now only cross 7 un-named intermittent and 27 un-named ephemeral waterbodies. DGS would use conventional construction methods, such as open-cut, to install pipelines beneath the waterbodies.

The elimination of 0.5 mile of access road improvements originally proposed in Docket No. CP12-39-000 would avoid permanently crossing an un-named ephemeral waterbody. As amended, the improvement and construction of new access roads would result in the filling of 30 linear feet of intermittent waters (unchanged from the certificated Project) and 90 linear feet (less than the certificated amount of 120 linear feet) of ephemeral waters. These impacts would result from the installation of culverts within the channel to allow for flows of surface water, and the placement of stabilized base material over these culverts to support the movement of equipment and materials during construction. This would also allow for permanent access for maintenance and operations.

As stated in the original EA, potential impacts on surface water from open cut crossings and in-stream construction include increased sedimentation, turbidity, and contamination from accidental spills of fuel or lubricants. DGS would implement all requirements of the FERC Procedures, which include restoring the bed of intermittent and ephemeral waterbodies to original contours and installing temporary and permanent erosion controls to minimize sediment and turbidity at waterbody crossings.

Waterbody crossings and impacts on surface water are discussed in greater detail in the previously analyzed certificated Project under FERC Docket No. CP12-39-000. Given that the proposed Project amendments would not impact any surface waters and would reduce previously certificated impacts by avoiding one un-named intermittent stream and five un-named ephemeral waterbodies, we conclude impacts on surface waters would be reduced, but no significant change in surface water impacts would occur as a result of the Project amendments.

### Sensitive Waters

No protected municipal watershed areas or specially designated surface water protection areas are crossed by the amended Project. One impaired waterbody, Dabbs Creek, occurs 1 mile west of the certificated D'Lo Gas Storage Project facilities and was analyzed in greater detail in the certificated Project under Docket No. CP12-39-000. The proposed Project amendments would not impact any sensitive waters.

### ***Fisheries***

No fisheries of any type are associated with the waterbodies in the Project area due to the lack of perennial water flow. Additionally, the Project amendments would not impact

waterbodies. Therefore, we conclude no impacts on fisheries would occur as a result of the Project amendments.

### ***Wetlands***

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of wetland vegetation adapted for life in saturated soil conditions. Wetlands can be a source of substantial biodiversity and serve a variety of functions that include providing wildlife habitat, recreational opportunities, flood control, and naturally improving water quality. The topography of the Project area consists of rolling hills with drainages within many of the low areas between the hills.

DGS conducted field surveys in September 2011 and May 2018 to delineate wetlands in the Project footprint. Wetlands were delineated according to the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and the Interim Regional Supplement to the USACE Wetland Manual: Atlantic and Gulf Coastal Plain Region, Inner Coastal Plain Subregion. The originally certificated D'Lo Gas Storage Project would impact 1.2 acres of wetlands, including 0.27 acre temporary impacts during construction and 0.93 acre of permanent impacts from proposed pipeline easements and non-jurisdictional overhead electric lines. These include seven seasonally flooded, saturated emergent wetlands; four seasonally flooded, saturated scrub-shrub wetlands; and two seasonally flooded, saturated deciduous forested wetlands. No wetlands occur within the boundaries of any of the certificated aboveground facilities; therefore, no wetlands would be filled as a result of the D'Lo Gas Storage Project.

The proposed Project amendments would result in a fractional reduction (less than 0.1 acre) of emergent wetland impacts. The reduction to wetland impacts would result from an adjacent stream crossing of an access road that was removed from the project scope, as discussed further above (Surface Water). With this change, the amended Project would now temporarily impact 1.1 acres of wetlands during construction and permanently impact 0.9 acre of wetlands.

As described in the original EA, during construction DGS would implement best management practices and measures in the FERC Plan and Procedures, which include the use of sediment controls to avoid off-site migration of sediments and erosion into nearby wetlands. Following construction, DGS would restore contours to as nearly as practicable to pre-existing conditions and allow wetlands to revegetate naturally unless otherwise required by applicable permits.

Given that the proposed Project amendments would reduce impacts on wetlands by less than 0.1 acre, we conclude there would be no additional wetlands impacts as a result from the proposed Project amendments. Further, we conclude that no significant change in surface water impacts would occur as a result of the Project amendments.

DGS consulted with USACE to revivify their coverage under the USACE Nationwide Permit 12 for surface water and wetlands temporarily impacted by the certificated Project CP12-39-000. On October 22, 2018, USACE approved reverification of the Nationwide Permit 12. To

mitigate for the permanent and temporary effects on surface waters and wetlands, DGS proposes to utilize a USACE approved mitigation bank.

### ***Hydrostatic Testing***

There would be no changes to hydrostatic testing from the proposed Project amendments to the certificated D'Lo Gas Storage Project. DGS would hydrostatically test the newly installed pipelines in accordance with the federal safety standards of the U.S. Department of Transportation (DOT) as listed in 49 CFR 192. DGS would use 3,606,835 gallons of water from a nearby public or private water supply to conduct hydrostatic testing. DGS would also obtain a National Pollutant Discharge Elimination System Permit to discharge the hydrostatic test water in upland areas using a dewatering structure and energy dissipating devices in accordance with our Plan and Procedures and would comply with any additional requirements of the National Pollutant Discharge Elimination System Permit. Given that the amendment would not change hydrostatic testing that has been already analyzed, we conclude that the proposed Project amendments would not have additional impacts from this activity.

## **3.0 Vegetation and Wildlife**

### ***Vegetation***

The amended Project would impact two main vegetative types, forest and open land. Forest land in the Project area consists of pine silviculture and mixed woods. The pine silviculture consists predominately of juvenile to intermediate aged row-planted loblolly pine with various hardwood sparsely intermixed, in various stages of growth after tree harvesting. The mixed woods in the Project area typically have an overstory comprised of loblolly pine, oak species, sweetgum, red maple, hickories, and American hollies with an understory of American and yaupon hollies, Chinese privet, muscadine grapes, greenbrier, and woodoats. Mixed woods in lower elevations are typically characterized by American beach, American elm, white oak, red maple, and grapes. Clear cut residual scrub-shrub transected by the Project were harvested for timber and are now typified by sweet gum, winged sumac, dog fennel, loblolly pine, Brazilian vervain, Canada goldenrod, dewberry, wooly croton, and various grass species.

The Project amendment changes to the originally certificated D'Lo Gas Storage Project design would reduce surface impacts by 12.9 acres. The proposed Project amendments result in the following vegetation impact changes:

- reduces pine silviculture impacts by 11.3 acres by the elimination of the Gulf South components (pipelines, meter site, and 10-foot-wide expansion of the existing roads);
- reduces mixed wood vegetaiton impacts by 0.4 acre. The elimination of the Gulf South components results in 1.2 acres less impacts on mixed woods habitats. However, the amended design of the Southern Solution Lateral, roads, and Primary SWBD Wells #2 and #4 would impact an additional 0.8 acre of mixed woods habitat; therefore, resulting in a net reduction of 0.4 acre of impacts on mixed woods habitats;

- reduces open pasture vegetation impacts by 0.2 acre by the elimination of the Gulf South components; and
- reduces 1.0 acre of impacts disturbed roadside vegetation by the elimination of the improvements of the existing 20-foot-wide access roads to the Gulf South facilities.

With these changes, the amended D’Lo Gas Storage Project would now temporarily impact 160 acres during construction and permanently impact 114 acres during operation. Table 2 summarizes impacts on vegetative communities from the amended Project.

Table 2 Vegetative Communities Potentially Affected by the Amended Project									
Facility	Clear Cut Scrub-shrub (Acres)		Mixed Woods (Acres)		Pine Silviculture (Acres)		Open Pasture (Acres)		Existing Road Use (Acres)
	Con	Opr	Con	Opr	Con	Opr	Con	Opr	
Pipeline	6.0	12.4	6.0	11.1	5.5	9.0	1.3	2.4	0.0
Access Roads	0	1.1	0	3.4	0	2.3	0	0	8.7
Facilities	11	19.5	8.15	10.3	5.3	3.9	0	0	0
Overhead Electrical (non-jurisdictional)	1.4	12.7	1.25	10.7	0	5.6	0	1.1	0
<b>Total Impacts<sup>a</sup></b>	<b>18.4</b>	<b>45.7</b>	<b>15.4</b>	<b>35.5</b>	<b>10.8</b>	<b>20.8</b>	<b>1.3</b>	<b>3.4</b>	<b>8.7</b>
a/ The Project amendment temporary impact of 160 acres is calculated by adding all construction and operation impact acreages. Con = Construction (temporary) Opr = Operation (permanent)									

Of the impacts described in table 2, only 0.8 acre of mixed woods impacts are from the proposed Project amendments. Following construction, DGS would restore the grade at temporarily disturbed areas, as practicable, to their original conditions, install temporary and permanent erosion control measures, and implement revegetation measures in accordance with the FERC Plan and Procedures. DGS would control the spread of noxious weeds by bringing clean equipment into the work areas and removing soil and vegetation from equipment prior to removing the equipment from each work area. The management of exotic non-native species would be in accordance with the post-construction monitoring procedures outlined in the FERC Plan.

The majority of the amended Project is in land harvested for pine at various stages and the pipeline right-of-way and would be revegetated with herbaceous vegetation, in accordance with our Plan. Additionally, no areas of unique, sensitive, or protected vegetation would be affected by the amended Project.

Although the proposed Project amendments would have minimal additional impacts on vegetation (0.8 acre), the overall changes from the proposed Project amendments would result in

a net reduction of surface impacts (12.9 acres). Thus, we conclude the proposed Project amendments would not result in significant impacts on vegetation or a significant change from the originally certificated D’Lo Gas Storage Project.

**Wildlife**

The most common wildlife habitat that would be affected by the D’Lo Gas Storage Project is forested and open herbaceous land that has been clear cut of scrub-shrub. The open habitat type may provide foraging habitat for a variety of wildlife species. Representative wildlife within the D’Lo Gas Storage Project area includes common mammal, bird, reptile, amphibian, and invertebrate species. DGS conducted field assessments for the proposed pipeline routes and surface facility locations between September 13-16, 2011 and May 2-3, 2018. Table 3 lists observed wildlife species during the field assessments.

<b>Table 3 List of Observed Wildlife Species</b>	
<b>Common Name</b>	<b>Scientific Name</b>
<b>Birds</b>	
blue-jay	<i>Cyanocitta cristata</i>
mourning dove	<i>Zenaida macroura</i>
American crow	<i>Corvus brachyrhynchos</i>
red-headed woodpecker	<i>Melanerpes erythrocephalus</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
Carolina chickadee	<i>Parus carolinensis</i>
black vulture	<i>Corgyps atratus</i>
Eastern wild turkey	<i>Meleagris gallopavo silvestris</i>
<b>Mammals</b>	
white-tailed deer	<i>Odocoileus virginiana</i>
Coyote	<i>Canis latrans</i>
Raccoon	<i>Procyon lotor</i>
gray squirrel	<i>Sciurus carolinensis</i>
<b>Amphibians</b>	
American toad	<i>Bufo americanus</i>

Potential direct and indirect impacts on wildlife may occur primarily due to vegetative clearing and grading and increases in turbidity and disturbance to wetlands, from construction activities. These impacts could include the mortality of less mobile species. Large, more mobile species such as birds and most mammals would likely be temporarily displaced during the proposed construction activities to nearby available habitat. Construction noise and increased activity in the amended D’Lo Gas Storage Project work areas would result in temporary indirect wildlife impacts, such as displacement and disruption of daily routines. While construction noise can result in behavioral changes, they are not anticipated to cause physical injury or mortality.

Some impacts from the amended D'Lo Gas Storage Project would be temporary as the cleared habitat would be allowed to revegetate or converted to maintained right-of-way after construction. About 33.7 acres would be converted to permanent aboveground facilities upon completion of amended Project construction. Wildlife in the area disturbed by the pipeline corridors would return to the area once construction is complete and revegetation starts.

The amended Project area (0.8 acre) is routinely disturbed currently by maintaining of the existing rights-of-way, some pasture, and periodic timber harvesting. The amended design of the certificated Project would reduce habitat impacts by 12.9 acres, thus, reducing impacts on wildlife habitat in this area.

Although individuals of some wildlife species would be affected by the proposed Project amendments, due to minimal vegetation clearing during construction, most of the impacts on wildlife would be short-term and not likely to have long-term population level impacts on wildlife species. Thus, we conclude that construction and operation of the proposed Project amendments would not have a significant impact on local wildlife populations or habitat. Additionally, we conclude that wildlife impacts from the Project amendments would not be significantly different than those previously approved.

### ***Special Status Species***

Special status species are those species for which state or federal agencies provide an additional level of protection by law, regulation, or policy. Included in this category are federally listed and federally proposed species and their critical habitat that are protected under the Endangered Species Act (ESA), or are considered as candidates for such listing by the U.S. Fish and Wildlife Service (FWS), and those species that are state-listed as threatened or endangered.

### **Federally listed Species**

Under Section 7 of the ESA, federal agencies are required to ensure that any actions authorized, funded, or carried out by the agency would not jeopardize the continued existence of a federally listed or candidate threatened or endangered species, or result in the destruction or adverse modification of designated critical habitat of a federally listed or candidate species. As the lead federal agency authorizing the Project amendments, FERC is responsible for consulting with the FWS to determine whether federally listed threatened or endangered species or designated critical habitat are found in the vicinity of the Project amendments, and determining the proposed action's potential effects on those species or critical habitats. In accordance with the Commission's regulations contained in 18 CFR 380.13(b), DGS was designated as the Commission's non-federal representative for purposes of consultation with the FWS.

DGS conducted an Information for Planning and Consultation (IPaC) review of the amended Project area. A total of four federally listed threatened and endangered species were identified through the IPaC review, including two fish species (Atlantic and Gulf sturgeon) and two mammal species (Northern long-eared bat and wood stork).

As suitable habitat for fish species is not present within the amended Project area, we conclude that the Project amendment would have *no effect* on fish species. The amended Project area has suitable habitat for the northern long-eared bat (threatened) and the wood stork (threatened) in Rankin and Simpson Counties, Mississippi.

#### *Wood stork*

The wood stork is the only stork species found in North America and is known to breed in fresh and brackish forested wetlands, as well as, forage in wetlands, swamps, ponds, and marshes with water depths of around 4 to 12 inches. Wood storks occur seasonally in Mississippi during the non-breeding season (May-October). They tend to use open wetlands more frequently for foraging than closed canopy wetlands, and roost in trees along the water's edge. While the Project amendments would not impact any wood stork habitat, the amended D'Lo Gas Storage Project would impact approximately 1.1 acres of wetland habitat, of which 0.9 acre would be permanently impacted for operation of the D'Lo Storage Project facilities. These impacts were previously analyzed under the certificated Project (Docket No. CP12-39) and the amended changes have decreased impacts on wetlands by less than 0.1 acre (discussed further in section B.2). Loss of suitable wetlands within foraging areas may reduce foraging opportunities for the wood stork. Temporary workspace would be restored after construction activities. No individuals of these species or evidence of habitat utilization by these species were observed during DGS field surveys.

DGS has avoided wetland impacts to the greatest extent practicable for the amended D'Lo Gas Storage Project and would use best management practices to minimize or avoid impacts on wood storks. Wood storks may be temporarily displaced from foraging habitat for a short time (typically a few hours). Given the limited disturbance to wood stork potential habitat and because non-breeding adults would be expected to avoid the amended D'Lo Gas Storage Project area during construction, we have determined that the amended Project is *not likely to adversely affect* wood stork species. In May 25, 2018 correspondence, the FWS also concluded that the amended Project is not likely to adversely affect this listed species. No further consultation for the wood stork is required under section 7 of the ESA.

#### *Northern long-eared bat*

The northern long-eared bat (NLEB) spends winter hibernating in caves and mines that have constant temperatures, high humidity, and no air currents. During the summer, they roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. The NLEB was listed as threatened under the ESA on April 2, 2015; therefore, consultation for this species has not previously occurred for the originally certificated project. The amended D'Lo Gas Storage Project is within the known range of the listed bat species and within bat habitat. The amended D'Lo Gas Storage Project area would consist of mixed woods and pine silviculture. The amended D'Lo Gas Storage Project would require about 82.5 acres of tree clearing as a whole, of which 0.8 acre is from the amendment. Approximately 56.3 acres would be permanently removed for operation and 26.2 acres would be allowed to revegetate. Based

upon DGS' assessment, the habitats within the amended D'Lo Gas Storage Project area lack the optimal habitat requirements for roosting or hibernating NLEB.

A final 4(d) rule was published in 2016 exempting incidental take of otherwise legal actions related to tree clearing, except when tree removal occurs within a hibernacula site or when tree removal activities occur within a quarter-mile of a known hibernacula; or cut or destroy known occupied maternity roost trees, or any other trees within 150 feet of that maternity roost tree during the pup-rearing season (June 1- July 31). Currently, there are no known maternity roost trees in the state of Mississippi and one known hibernaculum in Tishomingo County near Pickwhick Lake (approximately 275 miles from amended project area). To ensure avoidance of impacts on the NLEB, DGS has committed to not clearing trees associated with the amended D'Lo Gas Storage Project construction in Rankin County during the pup season (June 1-July 31). Given this, we have determined that the amended D'Lo Gas Storage Project is *not likely to adversely affect* the NLEB species.

In May 25, 2018 correspondence, the FWS stated if tree clearing is proposed for the amended D'Lo Gas Storage Project, than the Project may affect the NLEB. Incidental take of NLEB as a result of Project tree clearing is not prohibited under Section 7 of ESA because the amended Project design meets the conservation requirements of the final rule under Section 4(d) of ESA for the species (81 FR 1900). Specifically, the amended D'Lo Gas Storage Project is not within 150 feet of any known, occupied maternity roosts or within 0.25 mile of any known, occupied hibernacula. DGS submitted the streamlined consultation form for the NLEB on November 12, 2018. If the FWS does not respond within 30 days from submittal of this form, it is presumed that responsibilities under ESA section 7(a)(2) with respect to the NLEB are fulfilled through the FWS' January 5, 2016, Programmatic Biological Opinion. The FWS did not respond by December 12, 2018, thus consultation under section 7 of the ESA is complete.

#### State-listed Species

DGS consulted with the MDWFP regarding state-listed species of special concern. In correspondence dated May 29, 2018 to DGS and September 21, 2018 in response to our NOI, MDWFP indicated the occurrence of four state-listed species within 2 miles of the amended D'Lo Gas Storage Project area, including the Project amendments, including two dragonfly species (slender spreadwing and laura's clubtail) and two plant species (Carolina anglepod and needle palm). These species are considered rare or uncommon in Mississippi. The MDWFP recommends that DGS implement, monitor, and maintain for compliance best management practices for the construction of the amended Project, specifically measures that would prevent suspended silt contaminants from leaving the site in stormwater run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies.

Given the limited area of disturbance from the amended Project facilities and DGS' commitment to follow our Plan and Procedures to minimize impacts on waterbodies, we conclude that any impacts from the Project amendments, and the amended D'Lo Gas Storage Project as a whole on the four species listed would be negligible and not significant.

## Migratory Birds

On March 30, 2011, the FERC and the U.S. Fish and Wildlife Service (USFWS) entered into a Memorandum of Understanding that focuses on migratory birds and strengthening conservation through enhanced collaboration between the agencies. Migratory birds are protected under the *Migratory Bird Treaty Act of 1918*<sup>5</sup> and bald and golden eagles are protected under the *Bald and Golden Eagle Protection Act of 1940*.<sup>6</sup> The *Migratory Bird Treaty Act of 1918*, as amended, prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, or nests unless authorized by the FWS. Executive Order 13186 directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the FWS.<sup>7</sup> Executive Order 13186 emphasizes species of concern, priority habitats, and key risk factors, and that particular focus should be given to population-level impacts. Part of FERC's commitment includes evaluating amended Project-related impacts on species deemed most important or sensitive in a particular amended Project area.

The amended D'Lo Gas Storage Project is in Bird Conservation Region 27 (BCR 27): Southern Coastal Plain Region. As published in the Birds of Conservation Concern (2008) by the FWS, the Birds of Conservation Concern in this region include 16 species listed in table 4 below.

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<sup>5</sup> See [16 U.S. Code 703-711](#).

<sup>6</sup> See [16 U.S. Code 668-668d](#).

<sup>7</sup> See the [Federal Register, Volume 66, Number 11, January 17, 2001](#).

Bird Species	Preferred Habitat	Breeding
Least bittern ( <i>Ixobrychus exilis</i> )	Found in fresh or brackish water marsh habitat.	Unlikely to breed on or near the Project amendments sites due to lack of sufficient open water resources and preferred foraging habitat.
Swallow-tailed kite ( <i>Elanoides forficatus</i> )	Nests are constructed in mature deciduous trees found within bottomland and riverine forests, likely close to open waters.	Unlikely to breed on or near the Project amendments sites due to lack of sufficient open water resources and preferred foraging habitat.
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Coniferous or hardwood trees.	The species may occur in the Project amendments area but would not nest on or near the project site due to lack of sufficient water resources for foraging.
American kestrel ( <i>Falco sparverius</i> )	Habitats include desert, urban areas, agricultural fields, grasslands, and pine savannas.	No individuals were observed; however, this species is likely to occur on or near the Project amendments site due to the high diversity of available habitats.
Chuck-will's-widow ( <i>Caprimulgus carolinensis</i> )	Habitats include mixed wood forests.	Short term construction could cause displacement of individuals that could be feeding in suitable habitat immediately adjacent to the Project amendments footprint.
Whip-poor-will ( <i>Caprimulgus vociferous</i> )	Riparian uplands, open mixed forests with adjacent large clearings.	Prefers riparian open understory woodlands which is not in the Project amendments area; however, it has been known to occasionally occupy mixed wood forests.
Red-headed woodpecker ( <i>Melanerpes erythrocephalus</i> );	Open woodlands, forest edges, clearings, river bottoms, orchards, parks, scattered trees, and grasslands.	Observed in the amended D'Lo Gas Storage Project vicinity during field surveys in September 14-16, 2011. DGS is not aware of any suitable nesting trees or snags that would be directly affected or are immediately adjacent to the Project amendments proposed construction areas. Short-term Project amendments (and the amended D'Lo Gas Storage Project as a whole) construction could cause displacement of individuals that are feeding in suitable habitat immediately adjacent to the D'Lo Gas Storage Project footprint.
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	Predominantly non-migratory in this area and prefers grassland habitats that include occasional patches of bare ground and scattered or small clumps of preferably thorny trees for perching, caching food, and nesting.	Likely occupant of the open grassland and shrub-scrub habitats within existing utility right-of-ways and clear cuts. Short-term impacts from Project amendments construction would be moderated by techniques that minimize ground disturbance to habitats and the availability of habitat adjacent to the D'Lo Gas Storage Project.
Brown-headed nuthatch ( <i>Sitta pusilla</i> )	Open mature loblolly, shortleaf, and longleaf pine forests and mature pine-mixed hardwood forests.	Possible occupant of mature pine forests near the Project amendments. Short-term, Project amendments construction could cause a dispersion of individuals that could forage in suitable habitat immediate to the amended D'Lo Gas Storage Project footprint.

Wood thrush ( <i>Hylocichla mustelina</i> )	Cool, moist sites in the interiors and edges of deciduous, mixed deciduous, and non-deciduous forests.	Species is an occupant of mature forested wetlands in the project area. Short-term, project construction could cause a dispersion of individuals that could be foraging in suitable habitat immediately adjacent to the Project amendments and the amended D'Lo Gas Storage Project footprint.
Prairie warbler ( <i>Dendroica discolor</i> )	Shrub-scrub and regenerating forest including those of pine forest, mangroves, pine and scrub oak barrens, and early successional habitats.	Species is likely to occur on or near the Project amendments site due to the high diversity of available suitable habitats. Short-term Project amendments construction could cause a dispersion of individuals that could be foraging in suitable habitat immediate to the Project amendments and the amended D'Lo Gas Storage Project footprint.
Prothonotary warbler ( <i>Protonotaria citrea</i> )	Wooded swamps, forested river bottoms, and the edges of lakes or ponds in the eastern half of the U.S.	Species is unlikely to occur on or near the Project amendments site due to the lack of suitable wetland habitats preferred by this species.
Swainson's warbler ( <i>Limnothlypis swainsonii</i> )	Commonly found in the undergrowth of swamps and canebrake. Prefers lowland floodplains with dense tangles of woody vines and shrubs.	Unlikely to occur on or near the Project amendments site due to the lack of available low-land floodplain habitat.
Kentucky warbler ( <i>Oporornis formosus</i> )	Mesic woodlands adjacent to small intermittent and perennial waters having a healthy adjacent riparian forest with dense understory and ground layers.	Preferred habitat for this species does not occur within or adjacent to the Project amendments footprint.
Bachman's sparrow ( <i>Aimophila aestivalis</i> )	Dry open pine woods savanna in the southeastern U.S. and occasionally oak-palmetto scrub or open spaces that are transitioning to forest (replanted clearcuts and abandoned fields). They prefer a dense layer of ground vegetation, especially native bunch grasses, and open mid-stories with scattered shrubs and saplings.	Breeding season may begin as early as mid-April and last through mid-August. This species may occur on or near the Project amendments vicinity due to the diversity of suitable foraging habitats; however, it prefers higher densities of grasses for nesting with lower densities of shrub-scrub than what is primarily available on the Project amendments sites.
Painted Bunting ( <i>Passerina ciris</i> )	Low thickets, woodland borders or streamside brush habitats.	This species is likely to occur in the Project amendments vicinity in and around forest edges, wooded borders of clear cut or right-of-way areas, and within the shrub-scrub regrowth of clear cuts.

As a result of the diversity of habitat types available within the amended D'Lo Gas Storage Project area, there is potential for seasonal avian species diversity and numbers, particularly during the spring and fall migrations. Of this, only six would have a preference for the types of habitats that would be affected during construction of the amended Project. The six

species are the American kestrel, chuck-will's-widdow, red-headed woodpecker, loggerhead shrike, Bachman's sparrow, and the painted bunting.

The majority of the amended D'Lo Gas Storage Project area is in land harvested for pine at various stages of growth and the pipeline right-of-way. Additionally, the proposed Project amendments would reduce habitat impacts by a net total of 12.9 acres. A limited amount of mixed woods habitat clearing (0.8 acre) would occur from the proposed Project amendments. Migratory birds not already nesting would be able to avoid these activities and move to abundant habitat adjacent to the amended D'Lo Gas Storage Project workspaces. Although individuals of bird species would be affected by the Project amendments, most of the impacts on migratory birds would be short-term and not likely to have long-term population level impacts on bird species. During amended Project operation, adherence to the FERC Plan and Procedures would prohibit routine vegetation maintenance clearing from occurring between April 15 and August 1 of any year, unless otherwise approved by the FWS, to minimize potential impacts on migratory birds.

Given the high proportion of adjacent similar habitat, the reduction of impacts associated with the Project amendments, and implementation of mitigation measures mentioned previously, we conclude that population impacts on migratory birds from construction and operation of the Project amendments would not be significant and would not be significantly different from the impacts associated with the original Project.

#### **4.0 Land Use, Recreation, and Visual Resources**

##### ***Land Use and Recreation***

Land use in the Project amendments area is primarily managed and unmanaged pine silviculture in the various stages between harvesting and regrowth, scattered rural residential locations, and agricultural pasture land. Land uses directly affected by the proposed Project amendments include pine silviculture and agricultural pasture.

There are no existing or planned business development areas crossed by or adjacent to the Project amendments area. Rural residences occur sporadically in the vicinity of the Project amendments facilities, with the nearest residence approximately 1,250 feet from Primary SWBD Well #2.

There are no public lands or designated recreational areas in the vicinity of the proposed Project amendments. No special use lands occur near the Project amendments. Therefore, we conclude that no impacts on public land or recreation would occur as a result of the Project amendments.

##### ***Visual Resources***

As described in the EA for the original D'Lo Storage Project under Docket No. CP12-39-000, visual impacts would involve the clearing of trees and the placement of aboveground facilities. Visual impacts associated with construction of the pipeline segments would be temporary, while visual impacts associated with the proposed aboveground facilities would be

permanent. Because of the distances of the Project amendments to residences, the presence of existing natural gas pipelines, and the existence of natural forest and pine plantation to screen the well pads, we do not believe that the Project amendments would have a significant visual impact on the surrounding area. In addition, the visual impacts would not be significantly different from the original Project.

## **5.0 Cultural Resources**

Section 106 of the National Historic Preservation Act, as amended, requires the FERC to take into account the effects of its undertakings on properties listed in or eligible for listing in the National Register of Historic Places (NRHP) and afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking. DGS, as a non-federal party, is assisting the Commission in meeting these obligations under Section 106 and the implementing regulations at 36 CFR 800 by preparing the necessary information, analyses, and recommendations, as authorized by 36 CFR 800.2(a)(3).

DGS conducted a cultural resources survey of the two Primary SWBD well pads (400 feet by 400 feet) and the 65-foot-wide connecting pipeline right-of-way. No archeological sites or historic structures were identified. On July 2, 2018, the Mississippi State Historic Preservation Officer (SHPO) concurred that no historic properties would be affected by the proposed Project amendments. We concur. DGS also surveyed 5 access roads with a survey width of 40 feet. One isolated find was identified which DGS recommended as not eligible for listing in the NRHP. In a November 13, 2018 letter, the SHPO concurred with that recommendation. We also concur.

On June 1, 2018, DGS wrote to the Choctaw Nation of Oklahoma, the Chickasaw Nation, the Jena Band of Choctaw Indians, the Mississippi Band of Choctaw Indians, the Quapaw Tribe of Oklahoma, and the Tunica-Biloxi Tribe of Louisiana to request their comments on the proposed amended Project. On August 27, 2018, we sent our NOI to the same tribes. The Quapaw nation responded that the amended Project is outside their area of interest. No other responses have been received to date.

DGS has prepared a plan in the event any unanticipated historic properties or human remains are encountered during construction. We requested revisions to the plan which DGS made. We find the revised plan to be acceptable.

The original project would not have affected any historic properties, but consultation regarding access roads was not complete; therefore, a condition was included in the original EA under Docket No. CP12-39-000. Consultation regarding the access roads is now complete. Therefore, we have determined, in consultation with the SHPO and Indian Tribes, that the Project amendments as proposed would have no effect on any properties listed in or eligible for listing in the NRHP.

## 6.0 Air Quality, Noise, and Polychlorinated Biphenyl Contamination

### *Air Quality*

The term air quality refers to relative concentrations of pollutants in the ambient air. Project amendments construction would impact air quality in the Project amendments area during the duration of construction activities. However, the Project amendments would not result in any new sources of operational air emissions and would therefore not impact air quality during Project amendments operation.

### Existing Environment

Ambient air quality is protected by the Clean Air Act (CAA) of 1970, as amended in 1977 and 1990. The U.S. Environmental Protection Agency (EPA) oversees the implementation of the CAA and establishes National Ambient Air Quality Standards (NAAQS) to protect human health and welfare.<sup>8</sup> NAAQS have been developed for seven “criteria air pollutants”, including nitrogen dioxide, carbon monoxide (CO), ozone, sulfur dioxide (SO<sub>2</sub>), particulate matter less than or equal to 2.5 microns in aerodynamic diameter (PM<sub>2.5</sub>), particulate matter less than or equal to 10 microns in aerodynamic diameter (PM<sub>10</sub>), and lead, and include levels for short-term (acute) and long-term (chronic) exposures. The NAAQS include two standards, primary and secondary. Primary standards establish limits that are considered to be protective of human health and welfare, including sensitive populations such as children, the elderly, and asthmatics. Secondary standards set limits to protect public welfare, including protection against reduced visibility and damage to crops, vegetation, animals, and buildings (EPA 2017). Additional pollutants, such as volatile organic compounds (VOC) and hazardous air pollutants (HAP), are emitted during fossil fuel combustion and are regulated through various components of the CAA. At the state level, the MDEQ has adopted the NAAQS, as promulgated by the EPA, and does not have any additional standards.

The EPA, and state and local agencies have established a network of ambient air quality monitoring stations to measure concentrations of criteria pollutants across the U.S. The data are then averaged over a specific time period and used by regulatory agencies to determine compliance with the NAAQS and to determine if an area is in attainment (criteria pollutant concentrations are below the NAAQS), nonattainment (criteria pollutant concentrations exceed the NAAQS), or maintenance (area was formerly nonattainment and is currently in attainment). The Project amendments area is in Rankin and Simpson Counties, Mississippi, which are designated as attainment or unclassifiable for all criteria pollutants.

Greenhouse gases (GHG) occur in the atmosphere both naturally and as a result of human activities, such as the burning of fossil fuels. Carbon dioxide, methane, and nitrous oxide are GHGs that are emitted during fossil-fuel combustion. GHGs are non-toxic and non-hazardous at normal ambient concentrations, and there are no applicable ambient standards or emission limits for GHGs under the CAA. GHG emissions due to human activity are the primary cause of increased atmospheric concentration of GHGs since the industrial age and are the primary

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<sup>8</sup> The current NAAQS are listed on EPA's website at <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.

contributor to climate change. The primary GHG that would be emitted during the amended D'Lo Gas Storage Project construction is carbon dioxide (CO<sub>2</sub>), which would be emitted due to the operation of construction equipment and support vessels.

Emissions of GHGs are typically quantified and regulated in units of carbon dioxide equivalents (CO<sub>2</sub>e). The CO<sub>2</sub>e takes into account the global warming potential (GWP) of each GHG. The GWP is the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere. The GWP allows comparison of global warming impacts between different gases; the higher the GWP, the more that gas contributes to climate change in comparison to CO<sub>2</sub>. Thus, CO<sub>2</sub> has a GWP of 1, methane has a GWP of 25, and nitrous oxide has a GWP of 298.<sup>9</sup>

### Regulatory Requirements

Due to the temporary nature of Project amendment activities in an area classified as attainment, and because there are no proposed stationary sources associated with the Project amendment, there are no applicable federal or state air quality permits required. The compressor station associated with the previously certificated project would be considered a stationary source of air emissions and would be required to obtain any applicable state air quality permitting, as previously reviewed in the D'Lo Gas Storage Project EA under Docket No. CP12-39-000.

### Construction Emissions Impacts and Mitigation

Project construction (including the previously certificated project and the proposed Project amendments) would result in temporary, localized emissions that would last the duration of construction activities (i.e., up to 5 years). DGS would utilize heavy equipment and trucks for drilling and construction activities. Heavy equipment, trucks, and commuting vehicles would generate exhaust emissions through the use of diesel or gasoline engines in order to complete the drilling and construction activities.

Construction activities would also result in the temporary generation of fugitive dust due to clearing and grading, ground excavation, and driving on unpaved roads. The amount of dust generated would be a function of construction activity, soil type, soil moisture content, wind speed, precipitation, vehicle traffic and types, and roadway characteristics. Emissions would be greater during dry periods and in areas of fine-textured soils subject to surface activity.

Although the scope of the proposed amendment is smaller than the previously certificated project, DGS only provided the estimated construction emissions for the previously certificated project, which are larger than those for the proposed Project amendment and the amended D'Lo Gas Storage Project as a whole. However, because the provided emissions represent an overly conservative estimate of emission from the proposed amendment, we evaluate these emissions below and are shown in table 5. These emissions were estimated based on the fuel type and

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<sup>9</sup> These GWPs are based on a 100-year time period. We have selected their use over other published GWPs for other timeframes because these are the GWPs the EPA has established for reporting of GHG emissions and air permitting requirements. This allows for a consistent comparison with these regulatory requirements.

anticipated frequency, duration, capacity, and levels of use of various types of construction equipment and vessel engines. Table 5 below provides the total original project construction emissions. Construction emissions shown in table 5 are not expected to result in a violation or degradation of ambient air quality standards. Therefore, because the amended D’Lo Storage Project would have fewer emissions, it would also not result in a violation or degradation of ambient air quality standards.

<b>Year</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>VOC</b>	<b>CO<sub>2e</sub></b>
2019	4.21	3.13	0.00	0.61	0.19	0.56	270.27
2020	31.9	26.71	0.03	3.57	1.59	4.47	2,353.85
2021	54.53	42.91	0.05	4.40	2.34	7.22	4,267.24
2022	54.53	42.91	0.05	4.40	2.34	7.22	4,267.24
2023	13.82	6.70	0.01	2.41	0.53	1.62	698.19

DGS would minimize fugitive dust emissions through the application of water to disturbed areas as necessary. DGS would also use gasoline and diesel engines that would comply with applicable EPA mobile source emission regulations. Construction emissions would occur over the duration of construction activity and would be emitted at different times throughout the Project amendment area. Construction emissions would be relatively minor and would result in short-term, localized impacts in the immediate vicinity of construction work areas. Given the temporary nature of the Project amendments, we conclude air quality impacts from the Project amendments would not result in significant impacts on local or regional air quality.

Operation of the previously certificated project would result in air emissions, primarily due to the operation of the compressor station. Air quality impacts due to the previously certificated project are analyzed in the original D’Lo Gas Storage Project EA under Docket No. CP12-39-000. Because the proposed amendment would not result in increases to the emissions presented in the original EA, they are not discussed further here.

**Noise**

Noise is generally defined as sound with intensity greater than the ambient or background sound pressure level. Construction and operation of the Project amendments would affect overall noise levels in the Project amendments area. The magnitude and frequency of environmental noise may vary considerably over the course of the day, throughout the week, and

across seasons, in part due to changing weather conditions and the effects of seasonal vegetative cover. Two measures that relate the time-varying quality of environmental noise to its known effect on people are the 24-hour equivalent sound level ( $L_{eq}$ ) and day-night sound level ( $L_{dn}$ ). The  $L_{eq}$  is an A-weighted sound level containing the same energy as the instantaneous sound levels measured over a specific time period. Noise levels are perceived differently, depending on length of exposure and time of day. The  $L_{dn}$  takes into account the duration and time the noise is encountered. Specifically, the  $L_{dn}$  is the  $L_{eq}$  plus a 10 decibel on the A-weighted scale (dBA) penalty added to account for people's greater sensitivity to nighttime sound levels (typically considered between the hours of 10:00 p.m. and 7:00 a.m.). The A-weighted scale is used to assess noise impacts because human hearing is less sensitive to low and high frequencies than mid-range frequencies. The human ear's threshold of perception for noise change is considered to be 3 dBA; 6 dBA is clearly noticeable to the human ear, and 10 dBA is perceived as a doubling of noise (Bies and Hansen 1988).

### Federal Noise Regulations

In 1974, the EPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA 1974). This document provides information for state and local governments to use in developing their own ambient noise standards. The EPA has indicated that an  $L_{dn}$  of 55 dBA protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impacts from the proposed amendment Project at noise sensitive areas (NSAs). NSAs are defined as homes, schools, churches, or any location where people reside or gather. FERC requires that the noise attributable to any new compressor engine or modifications during full load operation not exceed an  $L_{dn}$  of 55 dBA at any NSAs. Due to the 10 dBA nighttime penalty added prior to the logarithmic calculation of the  $L_{dn}$ , for a facility to meet the 55 dBA  $L_{dn}$  limit, it must be designed such that actual constant noise levels on a 24-hour basis do not exceed 48.6 dBA  $L_{eq}$  at any NSA.

No other applicable state or local noise regulations were identified for the Project amendment.

### Construction Noise Impacts and Mitigation

Project construction would affect overall noise levels in the amended Project area. Construction activities in any one area could last from several weeks to several months on an intermittent basis. While individuals in the immediate vicinity of the drilling and construction activities would experience an increase in noise, this effect would be temporary and local. With the exception of the Primary SWBD Wells #2 and #4 drilling, all other Project amendment construction activities would occur only between the hours of 7 am to 7 pm, Monday through Friday. DGS anticipates that drilling of the Primary Source Water Wells #2 and #4 would not occur 24 hours a day, but did not specify the hours that the well drilling would be restricted to. Additionally, DGS stated that drilling of the Primary Brine Disposal Wells #2 and #4 would occur 24 hours per day. The drilling of the source water wells would take about 90 days and the brine disposal wells about 30 days each. There are numerous NSAs within 0.5 mile of the Primary SWBD Wells #2 and #4. The distance and direction to the closets NSAs in each direction to the Primary SWBD Wells #2 and #4 are shown in table 6 below, along with the

estimates of noise impacts due to drilling activities at these wells. DGS would install one well at a time; therefore, the noise impacts at NSAs were evaluated separately, as shown below, and not cumulatively.

Table 6 Noise Analysis for the Primary SWBD Wells #2 and #4						
NSA	Type	Distance and Direction from Drill Site	Ambient Background Sound Levels (L <sub>dn</sub> dBA)	Predicted Sound Level Contribution from Drilling (L <sub>dn</sub> dBA)	Predicted Total Sound Level (L <sub>dn</sub> dBA)	Predicted Change in L <sub>dn</sub> from Existing Ambient (dBA)
<b>Primary SWBD Well #2</b>						
NSA 18	residence	1,253 feet east	47.7 <sup>a</sup>	57.0	57.0	9.3
NSA 19	residence	1,287 feet southeast	47.7 <sup>a</sup>	56.8	56.8	9.1
NSA 17	residence	2,557 feet west	47.7 <sup>a</sup>	50.9	50.9	3.2
<b>Primary SWBD Well #4</b>						
NSA 19	residence	1,427 feet northeast	47.7 <sup>a</sup>	55.9	55.9	8.2
NSA 18	residence	1,616 feet northeast	47.7 <sup>a</sup>	54.8	54.8	7.1
NSA 17	residence	1,783 feet southwest	47.7 <sup>a</sup>	54.0	54.0	6.3
NSA 24	residence	1,844 feet south	47.7 <sup>a</sup>	53.7	53.7	6
<sup>a</sup> Ambient background noise level is based on previous noise readings conducted in amended Project vicinity and is assumed to be similar at NSAs represented in table.						

Well drilling activities would result in perceptible noise impacts at the NSAs in table 6; however, only NSAs 18 and 19 would result in noise impacts greater than our 55 dBA L<sub>dn</sub> criterion. DGS would mitigate noise impacts of nighttime construction through installation of a noise wall to reduce impacts at NSAs 18 and 19 to less than 55 dBA L<sub>dn</sub>; however, DGS did not provide noise wall specifications, nor state where the noise wall would be installed and the noise reduction it would provide. To ensure that NSAs are not exposed to excessive noise impacts during the extended drilling activities, **we recommend that:**

- Prior to drilling activities at Primary SWBD Wells #2 and #4, DGS should file with the Secretary of the Commission (Secretary) a noise mitigation plan for review and written approval by the Director of OEP. During any drilling operations, DGS should implement the approved plan, monitor noise levels, file bi-weekly noise reports, and make all reasonable efforts to reduce the noise attributable to the drilling operations at NSAs with a predicted noise level above 55 L<sub>dn</sub> dBA.**

Given DGS' proposed mitigation measures, our recommendation, and the temporary nature of construction activities, we conclude noise impacts from construction of the Project amendments would not result in significant impacts on nearby NSAs. Operation of the proposed Project amendments would not result in any sources of operational noise. With the exception of the project facilities that would no longer be constructed (as part of this Project amendment) Noise from construction and operation of the previously approved project would not be affected.

## **7.0 Reliability and Safety**

The transportation of natural gas by pipeline involves some incremental risk to the public due to the potential for accidental release of natural gas. The greatest hazard is a fire or explosion following a major pipeline rupture.

Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death. Methane has an auto-ignition temperature of 1,000 degrees F and is flammable at concentrations between 5.0 percent and 15.0 percent in air. An unconfined mixture of methane and air is not explosive; however, it may ignite and burn if there is an ignition source. A flammable concentration within an enclosed space in the presence of an ignition source can explode. It is buoyant at atmospheric temperatures and disperses rapidly in air.

### ***Safety Standards***

The DOT is mandated to prescribe minimum safety standards to protect against risks posed by pipeline facilities under Title 49 of the U.S. Code, Chapter 601. The DOT's Pipeline and Hazardous Materials Safety Administration administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. It develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance, and emergency response of pipeline facilities. Many of the regulations are written as performance standards which set the level of safety to be attained and allow the pipeline operator to use various technologies to achieve safety. The DOT's Pipeline and Hazardous Materials Safety Administration's safety mission is to ensure that people and the environment are protected from the risk of pipeline incidents. This work is shared with state agency partners and others at the federal, state, and local level.

The pipeline and aboveground facilities associated with the proposed Project amendment must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. The DOT specifies material selection and qualification; minimum design requirements; and protection from internal, external, and atmospheric corrosion. Part 192 of 49 CFR incorporates compressor station design, including emergency shutdowns and safety equipment.

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. The greatest hazard is a fire or explosion following a major pipeline rupture. Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight

inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death.

The DOT pipeline standards are published in 49 CFR 190-199. Part 192 of 49 CFR specifically addresses natural gas pipeline safety issues and prescribes the minimum standards for operating and maintaining pipeline facilities. Part 192 also requires a pipeline operator to establish a written emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency.

Project amendment activities would represent a minimum decrease in risk to the public during construction activities given the reduced project facilities from the originally certificated project. We are confident that Project amendment facilities would be constructed safely and in compliance with applicable DOT and Occupational Safety and Health Administration requirements.

## **8.0 Cumulative Impacts**

In accordance with NEPA, we considered the cumulative impacts of the Project amendments and other projects or actions in the Project amendments area. Cumulative impacts represent the incremental effects of the proposed action when added to other past, present, or reasonably foreseeable future actions. Cumulative impacts can result in individually minor actions becoming collectively significant impacts on environmental resources if they take place in the same general area over a given period of time.

The purpose of this analysis is to identify and describe cumulative impacts that would potentially result from implementation of the Project amendment. The cumulative impact analysis generally follows the methodology set forth in relevant guidance from the Council on Environmental Quality and the EPA. Under these guidelines, inclusion of other actions within the analysis is based on identifying commonalities of impacts from other actions to potential impacts that would result from the Project amendment. An action must meet the following criteria to be included in the cumulative impacts analysis:

- impact a resource area potentially affected by the Project amendment;
- cause this impact within all, or part, of the amended Project area; and
- cause this impact within all, or part, of the time span for the potential impact of the Project amendment.

There are five existing pipelines with which the amended D'Lo Gas Storage Project would interconnect: MEP, BWP, SONAT, Gulf South Pipeline, and Southcross. The cumulative impacts of these existing pipelines with the original project were evaluated in the original project EA under Docket No. CP12-39-000. They are now considered part of the existing environment and will not be analyzed further in this EA.

As described in section A.5 (Non-jurisdictional Facilities), Cooperative and SPEPA, the local electric utilities, would provide medium voltage electrical services to power the pumps and other facilities to be used for the cavern solution mining process, tie-in and meter stations as well as to supply other construction power needs. These facilities were evaluated in the original EA

under Docket No. CP12-39-000. The impacts of these non-jurisdictional facilities were addressed throughout the original EA in each resource section; however, they were not addressed in the Cumulative Impacts section. They were also included in the impacts analysis throughout this EA. In addition, we are providing a summary of these facilities and the associated impacts below. We did not identify any other past, present, or reasonably foreseeable future actions in the Project amendments area.

Cooperative and SPEPA would construct a permanent electrical substation, power drop, and electrical power corridor for the gas storage facility. Cooperative and SPEPA would provide a phased construction that would first consist of a temporary substation on the site of the proposed permanent substation. This temporary substation would provide the power necessary to start the solution mining process and would ultimately be developed into a full-service substation for overall Project operations. SPEPA would construct six (6) permanent electrical power drops, one each for the Primary SWBD Site and Secondary Source Water Withdrawal and Brine Disposal Site, BWP Interconnect and Meter Station, MEP and Southcross Interconnects and Meter Stations, and the Solution Mining Facility Site.

The electrical substation is approximately 625 feet west of the approved compression facility and would impact 2.05 acres and 1.37 acres during construction and operation, respectively. The new powerlines would be constructed by Cooperative and SPEPA within the originally proposed and amended Project rights-of-way; these impacts are included in the rights-of-way impacts discussed in the original EA and this EA. The electric facilities would be constructed in phases that would first consist of a temporary substation on the site of the permanent substation. This temporary substation would provide the power necessary to begin solution mining and would ultimately be developed into a full-service substation for overall project operations.

The Project amendments would reduce impacts by 12.9 acres compared to the original project; therefore, there would be a net reduction of cumulative impacts on resources in the amended D'Lo Storage Project area. We conclude there would not be a significant cumulative impact from the original proposed project, amended Project, and the non-jurisdictional electric facilities.

## C. ALTERNATIVES

In accordance with NEPA and Commission policy, we evaluated alternatives to the Project amendments to determine whether they would be reasonable and environmentally preferable to the proposed action. These alternatives included the no-action alternative. Due to the proposed Project involving the abandonment of approved facilities resulting in a reduction of overall impacts, no site alternatives or system alternatives were identified. The evaluation criteria used for developing and reviewing alternatives were:

- ability to meet the amendment Project's stated objective;
- technical and economic feasibility and practicality; and
- significant environmental advantage over the proposed action.

Under the No-Action Alternative, DGS would not modify the previously approved D'Lo Storage Project and none of the environmental impacts identified in this EA would occur. The No-Action Alternative would not accomplish the Project objective of amending the original project design based on test information by DGS showing better locations for the two fresh water and two brine disposal wells, and eliminating the Gulf South interconnection due to lack of commercial interest. DGS could still construct the original project as approved under Docket No. CP12-39-000. We have dismissed this as a reasonable alternative as it could not meet the amendment Project's objectives and would result in a greater overall D'Lo Storage Project impact.

Based on the limited environmental impact associated with this amendment Project, we did not identify any unresolved resource conflicts which would present a need to examine further alternatives. Additionally, no comments were received regarding resources that would be impacted by the Project. Therefore, because the impacts associated with the proposed Project amendments are not significant, we did not evaluate additional alternatives. We conclude that the proposed action is the preferred alternative to meet the Project amendments objectives.

## D. CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis in this EA, we have determined that if DGS constructs the proposed D'Lo Gas Storage Project Amendment facilities in accordance with its application and supplements, and the staff's recommended mitigation measures, approval of this proposal would not constitute a major federal action significantly affecting the quality of the human environment. We recommend that the Commission Order (Order) contain a finding of no significant impact and include the mitigation measures listed below as conditions to any authorization the Commission may issue.

1. DGS shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Order. DGS must:
  - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
  - b. justify each modification relative to site-specific conditions;
  - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
  - d. receive approval in writing from the Director of the OEP **before using that modification.**
2. The Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of environmental resources during construction and operation of the Project amendments. This authority shall allow:
  - a. the modification of conditions of the Order;
  - b. stop-work authority; and
  - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from project construction and operation.
3. **Prior to any construction**, DGS shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EIs), and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
4. The authorized facility locations shall be as shown in the EA, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, DGS shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-

specific clearances must be written and must reference locations designated on these alignment maps/sheets.

DGS' exercise of eminent domain authority granted under Natural Gas Act (NGA) section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. DGS' right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. DGS shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area.**

This requirement does not apply to extra workspace allowed by the Commission's Plan and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
  - b. implementation of endangered, threatened, or special concern species mitigation measures;
  - c. recommendations by state regulatory authorities; and
  - d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.
6. **At least 60 days before construction begins**, DGS shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. DGS must file revisions to the plan as schedules change. The plan shall identify:
    - a. how DGS will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;
    - b. how DGS will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and

- construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
- c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
- d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
- e. the location and dates of the environmental compliance training and instructions DGS will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change);
- f. the company personnel (if known) and specific portion of DGS' organization having responsibility for compliance;
- g. the procedures (including use of contract penalties) DGS will follow if noncompliance occurs; and
- h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
  - (1) the completion of all required surveys and reports;
  - (2) the environmental compliance training of onsite personnel;
  - (3) the start of construction; and
  - (4) the start and completion of restoration.

7. DGS shall employ at least one EI. The EI shall be:

- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
- b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
- c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
- d. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
- e. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, DGS shall file updated status reports with the Secretary on a **bi-weekly** basis until all construction and restoration activities are complete. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

- a. an update on DGS' efforts to obtain the necessary federal authorizations;
- b. the construction status of the Project amendments, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;

- c. a listing of all problems encountered and each instance of noncompliance observed by the EI(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
  - d. a description of the corrective actions implemented in response to all instances of noncompliance;
  - e. the effectiveness of all corrective actions implemented;
  - f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
  - g. copies of any correspondence received by DGS from other federal, state, or local permitting agencies concerning instances of noncompliance, and DGS' response.
9. DGS must receive written authorization from the Director of OEP **before commencing construction of any Project amendment facilities**. To obtain such authorization, DGS must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. **Prior to drilling activities at Primary SWBD Wells #2 and #4**, DGS shall file a noise mitigation plan for review and written approval by the Director of OEP. During any drilling operations, DGS shall implement the approved plan, monitor noise levels, file **bi-weekly** noise reports, and make all reasonable efforts to reduce the noise attributable to the drilling operations at NSAs with a predicted noise level above 55 L<sub>dn</sub> dBA.

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