

Lake Powell Pipeline
FERC Project No. P-12966
Green House Gas Emissions Analysis
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Greenhouse Gas Emissions Analysis

The following two bullets are added to Section 5.3.17.2.2 “Potential Effects Eliminated From Further Analysis”, in Chapter 5, Exhibit E of the License Application:

- Preliminary project design and meetings with local and regional power entities indicate that additional power generating facilities would not be needed to supply electricity for the LPP Project because there is currently enough power available to meet the projected power demands. The LPP Project would not cause indirect effects from new power generation air pollutant emissions because new power generation facilities would not be needed.
- Construction activities associated with the proposed action would contribute to greenhouse gas emissions, but such emissions would be short-term and would not be discernible at a regional scale.

Section 5.3.17.2.4 in Chapter 5, Exhibit E of the License Application is retitled and revised as follows:

Section 5.3.17.2.4 Greenhouse Gas Emissions Resulting From Energy Use

Energy consumption associated with project operations would contribute to greenhouse gas (GHG) emissions. Annual CO₂ emissions were estimated for each alternative based on the energy requirements to operate pumping plants (pipeline alternatives) or reverse osmosis treatment facilities (No Lake Powell Water Alternative). For pipeline alternatives that include hydropower facilities, GHG emission estimates were based on the net change in generation. Emissions were estimated in accordance with federal agency-approved methods and assumptions. Estimated annual energy use at 2060 water demand levels was multiplied by the amount of CO₂ produced by generating 1 megawatt per hour in the generating region (950 lbs. of CO₂) (EPA 2017). Table 5-154 shows a summary of net energy use and associated GHG emissions for the alternatives. These GHG emission estimates are conservative as the carbon intensity of power production is expected to decrease over time.

Table 5-154: Net Energy Use and Estimated Greenhouse Gas Emissions of Lake Powell Pipeline Alternatives

Alternative	Net Energy Use (MWh/year)	Greenhouse Gas Emissions Avoided Through Energy Recovery (metric tons CO₂/year)	Net Greenhouse Gas Emissions (metric tons CO₂/year)
No Action¹	0	0	0
Proposed Action (South Alternative)²	221,579	290,076	95,522
Existing Highway Alternative²	220,996	290,327	95,271
Southeast Alternative²	221,579	290,076	95,522
No Lake Powell Water Alternative³	228,719	0	98,600

Notes:

¹ No new water supplies equivalent to water supplies proposed under the proposed action are included in the No Action Alternative.

² Net energy use is energy associated with conveying and treating 86,249 acre-feet/year from Lake Powell, plus energy to operate the Hurricane Cliffs pumped storage facility, minus recovered energy from hydropower generation. Treatment of Lake Powell Water is not included in the proposed action or other pipeline alternatives, but is included in this analysis to be at a similar level of finished water quality as and to be comparable to energy used in the reverse osmosis process under the No Lake Powell Water Alternative.

³ Energy use associated with operating reverse osmosis treatment facilities.

The following reference is added to Section 5.3.17.6 “References”, in Chapter 5, Exhibit E of the License Application:

Environmental Protection Agency (EPA). 2017. Power Profiler for Page, Arizona and Garkane Energy; 2017. Available at <https://www.epa.gov/energy/power-profiler>.