



United States Department of the Interior
NATIONAL PARK SERVICE
Alaska Region
240 West 5th Avenue, Room 114
Anchorage, Alaska 99501

IN REPLY REFER TO:

Dave Jones
Environmental Engineering Assistant II
Alaska Department of Environmental Conservation
PO Box 111800
Juneau, AK 99811

Dear Mr. Jones:

The National Park Service (NPS) has reviewed Alaska Department of Environmental Conservation's (ADEC's) preliminary decision to approve Alaska Gasline Development Corporation's (AGDC's) application for Air Quality Control Construction Permit AQ1539CPT01. AGDC is proposing to construct a new natural gas liquefaction facility located near Nikiski, Alaska. In summary, we recommend that ADEC reconsider the control technology analysis for nitrogen oxide emissions from the turbines. Cost-effective, more efficient nitrogen oxide emission controls than those proposed for this facility are widely available and would address nitrogen deposition concerns in Denali National Park. Our detailed comments and analysis are provided below and in the attachments.

The liquefaction facility is one component of a much larger overall project and is the proposed terminus of an approximately 807-mile natural gas pipeline. The liquefaction facility will process an average of 2.7 billion standard cubic feet per day of feed gas. The liquefaction facility also includes a 20-acre offshore Marine Terminal where natural gas from Alaska's North Slope will be shipped to outside markets. The primary emission sources at the facility include ten natural gas-fired combustion turbines and seven flares.

Under the permitting provisions of the Clean Air Act, the NPS has evaluated potential visibility and other air quality related value (AQRV) impacts to Denali National Park (NP), a designated Class I area under the Act. While we determined that emissions from the facility would not cause significant visibility impacts in the park, we have concluded that those emissions would contribute to nitrogen deposition that may already be causing harm to park resources; in particular, to pollution-sensitive lichen species. Lichens are a critical component of Denali NP's plant communities, aiding in nutrient cycling in nutrient-poor systems and providing food, forage, and habitat for many species. Recently published research indicates that some lichen species could potentially decline by 50% of their natural cover at current estimated levels of background deposition. Based on modeling analyses, additional nitrogen deposition from the AK LNG liquefaction facility (as well as other AK LNG-related emissions) will potentially exacerbate these concerns. Implementing better nitrogen oxide (NO_x) controls at the liquefaction facility would ameliorate the potential nitrogen deposition impacts of this proposal. (See Attachment A for our detailed analysis.)

One purpose of Denali NP is to “preserve extensive, unaltered natural ecosystems” within the park (Denali NP Foundation Statement, 2014). Currently, visitors to Denali NP can enjoy some of the cleanest air in the country. Continued preservation of these pristine ecosystems and the prevention of further deterioration for present and future generations is fundamental to the park’s establishment as a unit of the National Park System. It is with this management direction in mind that we offer the following recommendations.

We recommend that ADEC reconsider the nitrogen oxide (NOx) Best Available Control Technology (BACT) determination for the ten combustion turbines located at the facility and implement Selective Catalytic Reduction (SCR) technology to reduce potential nitrogen deposition impacts in Denali NP. SCR is a commonly applied and cost-effective control technology for turbines and can reduce flue gas NOx concentrations to as low as 2.0 ppmvd. Requiring SCR at a 2.0 ppmvd NOx limit would ensure a level of NOx control at the liquefaction facility that is requisite with other similar sources in Alaska and elsewhere in the lower 48 states (see examples in Attachment B).

We also recommend that the draft permit be revised to include annual emission limitations for all criteria pollutants and that any best practices identified in the “flaring minimization plan” (which is to be completed prior to operation) are made enforceable by ADEC through the permit conditions. (See Attachment B and attached spreadsheets for our detailed BACT analyses.)

Finally, we encourage ADEC to continue ongoing discussions with us towards the goal of improving notification procedures for future permits. Supporting documentation for our nitrogen deposition impact assessment, our BACT evaluation and our authorities and obligations to comment on PSD permitting actions that may affect Class I areas is provided in the attachments.

Thank you for the opportunity to comment on this permitting action. We appreciate ADEC’s willingness to work with us to address AQRV impact concerns in one of Alaska’s iconic parks and the only Class I area administered by the NPS within the State of Alaska. We look forward to discussing the NOx BACT determination for this source and ongoing opportunities to resolve notification issues with respect to Class I analyses.

Please contact Paul Burger (907-644-3577) with the NPS Alaska Regional Office or Andrea Stacy (303-969-2816) with the NPS Air Resources Division if you have questions regarding the supplemental technical information.

Regards,

Grant Hilderbrand

Natural Resources Team Lead, Alaska Region
Acting for Deb Cooper, Associate Regional Director, Resources

Cc: Deb Cooper, AKRO
Paul Burger, AKRO
Peter Christian, AKRO
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Attachments:

- A: AQRV Impact Assessment—Nitrogen Deposition in Denali National Park
- B: BACT Evaluation—SCR for the Combustion Turbines, Annual Emission Limits and Flares
- C: NPS Authorities and Obligation to Comment on PSD Permits that May Affect Class I Areas