



United States Department of the Interior

NATIONAL PARK SERVICE
INDEPENDENCE NATIONAL HISTORICAL PARK
143 S. 3rd Street
Philadelphia, PA 19106



IN REPLY REFER TO:

10.D (INDE-SUPT)

7 July 2021

Joseph Otis Minott, Esq.
Executive Director and Chief Counsel
Clean Air Council
135 S. 19th Street, Suite 300
Philadelphia, PA 19103

Dear Mr. Minott:

Your letter of June 23, 2021 to Secretary of the Interior Deb Haaland concerning Independence National Historical Park (the park) was referred to me for a reply. The utility project has been planned for more than 4 years and will take many of the park's buildings off Philadelphia's district steam system. The National Park Service is committed to promoting clean and efficient energy solutions that complement the administration's goals of reducing reliance on fossil fuel and fighting climate change.

In 2016 the National Park Service (NPS) conducted a campus-wide energy audit that identified several opportunities that will be addressed by the present project. In 2017 all of the park's publicly regulated servicing utilities were approached about participating in an energy saving project. Philadelphia Gas Works (PGW) was the only utility that was interested and eligible. The NPS subsequently hired PGW to conduct an engineering study to determine the most efficient and cost-effective method to reduce energy consumption and protect the park's historic buildings in an environmentally friendly and sustainable way. The decision to convert to consolidated onsite gas boilers in lieu of continued reliance on city-wide commercial steam was a direct result of that analysis. By pursuing the identified conservation measures, Independence NHP expects to reduce its contribution to CO₂ emissions by 1,685 tons per year; a substantial savings over emissions generated to produce the amount of steam currently used to heat most of the park's buildings.

PGW's engineering study recognized that, in Philadelphia, natural gas and other carbon-based fuels are burned to create steam, which is then piped throughout the city to end users. The energy required to generate high-pressure steam and transport it 2.5 miles to the park is substantially higher than the park will use to self-generate heating hot water and pump it through closed loop systems serving multiple buildings. The park's updated infrastructure will provide the ability to recover and reheat hot water. Philadelphia's district steam distribution network provides only one-way flow which results in un-used energy being wasted; multiple steam vents on city sidewalks provide exit paths for excess steam. The future park system, because it will not consume the amount of fuel needed to convert water to steam and will recirculate the heating medium, will use much less fuel than steam heat. The engineering study also highlighted that, based on an analysis of utility bills, steam service costs 190% of an equivalent thermal unit of gas.

The NPS is hopeful that new and greener heating technologies will soon be more readily available and economically feasible within the park's fixed budget. In anticipation of that, the Independence NHP project will achieve the benefits described above regardless of the energy source used to heat the water.

Should a greener thermal energy source be identified, it will be possible to incorporate it into the system. Currently, natural gas is the cleanest and most economical thermal energy source available.

The NPS believes that this project is in line with EO 14008 and is a key component of Independence NHP's efforts to reduce its carbon footprint and fight climate change.

Thank you for your inquiry.

Sincerely,

Cynthia MacLeod
Cynthia MacLeod
Superintendent