



COMMENT OF ENVIRONMENTAL DEFENSE FUND

Case 20-G-0487

In the Matter of Facilitating the Availability of Gas Leak
Information to Public Safety Officials

Before the New York Public Service Commission

December 21, 2020

1. Introduction

Environmental Defense Fund (“EDF”) respectfully submits this comment on the New York Public Service Commission’s (“Commission”) proposal to consider requiring gas utilities to maintain and release lists of active leaks on their distribution infrastructure, issued October 21, 2020 in the New York State Register Vol. XLII, Issue 42 (“Proposed Rule”). EDF supports the spirit of the Commission’s proposal and recommends that the Commission issue a final rule expanding the Proposed Rule to maximize its benefits, with recognition that gas leaks present environmental and economic considerations in addition to being a matter of public safety. The Commission should require that utilities release gas leak information to safety officials *and* to the general public. The Commission should require that utilities provide the following gas leak information: an interactive, searchable map of gas leaks; the precise location of the gas leak; the leak type (1, 2, 2A, or 3); the date the leak was identified and the date the leak was addressed, if applicable; the means by which the leak was identified (i.e., public call, traditional leak survey, advanced leak detection survey); the estimated leak size; and if known, the methane leak flow rate of the leak (liters/minute).

2. Interests of EDF

EDF is a nonprofit membership organization whose mission is to preserve the natural systems on which all life depends. Guided by science and economics, EDF seeks practical solutions to resolve environmental problems. EDF uses the power of markets to speed the transition to clean energy resources, and consistent with its organizational purpose is engaged in activities to facilitate cost-effective and efficient energy market designs that encourage investment to modernize the energy grid so that it can support the ongoing deployment of renewable energy resources and energy efficiency.

Over the past several years, EDF has engaged in a focused set of scientific, technical and policy-oriented projects to develop, demonstrate and foster commercialization of advanced leak detection and leak quantification methods¹ for use by local gas distribution utilities. In collaboration with Google Earth Outreach, Colorado State University, and various natural gas utilities, EDF has managed a project that uses Google Street View cars equipped with methane concentration analyzers to quantify methane leaks from distribution pipelines. The goals of this project are to demonstrate the benefits of state-of-the-art technological solutions, create pathways for the integration of leak quantification and advanced leak detection technology into utility operations, and to commercialize tools for use by utilities in planning and implementing leak abatement and leak-prone infrastructure replacement projects. EDF has contributed to scientific

¹ Advanced leak detection technology refers to high sensitivity (i.e., measuring methane concentrations in parts per billion and collecting data points at a rate of at least twice per second) methane detectors mounted on vehicles equipped with Global Positioning Systems that collect latitude and longitude coordinates at the same time as methane concentration data is being collected. “Leak quantification methods” refers to the advanced analytics or algorithms that utilize data acquired from advanced leak detection technology to estimate the methane flow rate (e.g., in liters per minute) that can be attributed to a leak indication.

research to demonstrate the efficacy of advanced leak detection and data analysis (“ALD+”) and advocates before Commissions across the country for the expanded use of ALD+.²

3. Gas Leaks Pose Overlapping Safety, Environmental, and Economic Concerns

The Proposed Rule contemplates the importance of utilities disclosing gas leak information in the context of safety, which is paramount because gas leaks can pose a safety risk and can result in serious harm if unaddressed. In addition to public safety implications, gas leaks also have environmental and economic consequences.

Methane is the primary constituent of natural gas, meaning that every gas leak is a direct source of methane pollution. Methane is a potent greenhouse gas that traps 84 times more heat than carbon dioxide over the first 20 years it is released; and is therefore a significant contributor to climate change.³ Natural gas leakage from distribution pipelines is widespread in U.S. cities, including in the state of New York, and recent academic findings have demonstrated that observed methane emissions from cities are about twice that reported in the Environmental Protection Agency inventory.⁴ Additional peer-reviewed research calculated a national methane

² See, e.g., Weller, et al., A National Estimate of Methane Leakage from Pipeline Mains in Natural Gas Local Distribution Systems, *Environmental Science & Technology* (June 2020), <https://pubs.acs.org/doi/10.1021/acs.est.0c00437>; NYPSC Case Nos. 19-G-0309 & 19-G-0310, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules, and Regulations of The Brooklyn Union Gas Company d/b/a National Grid NY for Gas Service, and of KeySpan Gas East Corp. d/b/a National Grid for Gas Service*, Post-Hearing Brief of Environmental Defense Fund (Apr. 6, 2020), <http://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=244048&MatterSeq=59676>.

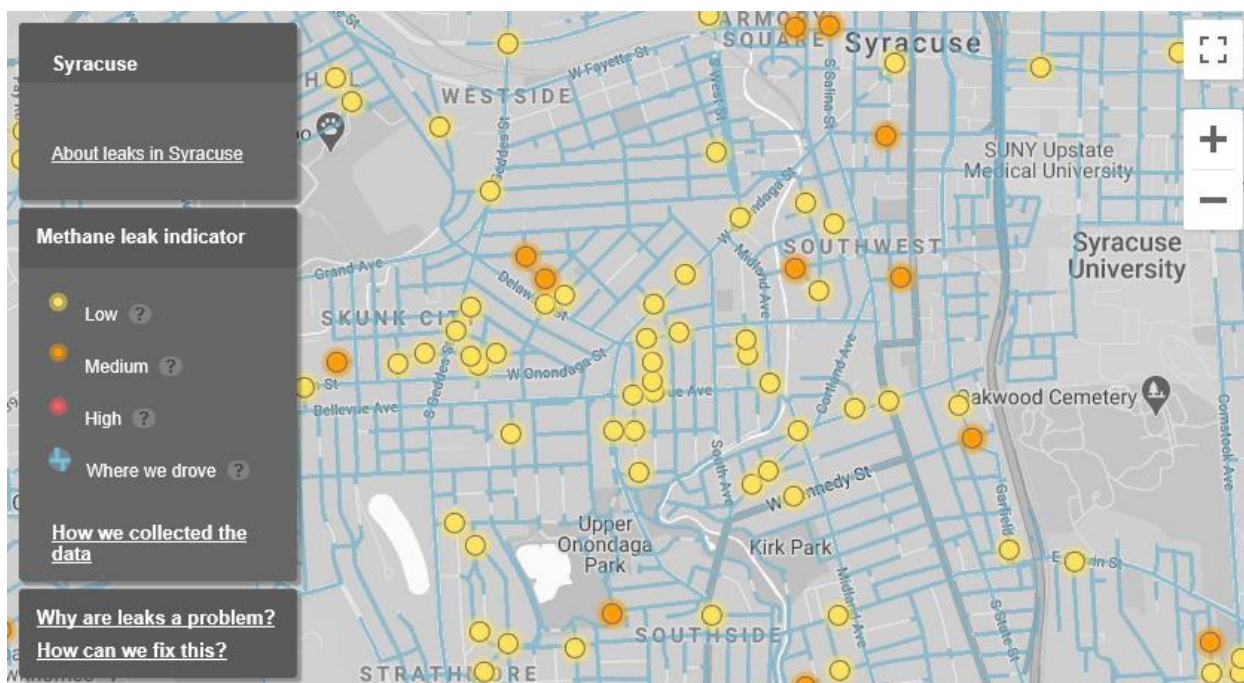
³ Myhre, G. *et al.*, In *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*; Stocker, T., Qin, D., Plattner, G., Tignor, M., Allen, S., Boschung, J., Nauels, A., Xia, Y., Bex, B., Midgley, B., Eds.; Cambridge University Press, 2013.

⁴ G. Plant *et al.*, Large Fugitive Methane Emissions from Urban Centers Along the US East Coast, *Geophysical Research Letters* Vol. 46, Issue 14 (2019), <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019GL082635>.

emissions estimate from gas distribution systems approximately five times greater than the EPA inventory.⁵

EDF has worked with scientists, technology providers, and gas utilities to gather and publish information on gas leaks through the EDF-Google-CSU methane mapping project. EDF conducted surveys in a dozen cities across the country and published maps with the results, such as the example below.⁶

Figure 1. Syracuse Gas Leak Map ([Click Here](#) for Interactive Version)



Enhancing transparency in utilities' leak management efforts is critical to the endeavor to reduce methane emissions from natural gas distribution systems. To this end, the Commission should include methane emissions reporting as part of its proposal to facilitate the availability of

⁵ Weller, Zachary *et al.*, A National Estimate of Methane Leakage from Pipeline Mains in Natural Gas Local Distribution Systems, *Environ. Sci. Technol.* 2020, 54, 8958–8967, <https://doi.org/10.1021/acs.est.0c00437>.

⁶ EDF, Methane Maps: Local leaks impact global climate, <https://www.edf.org/climate/methanemaps> (last visited Dec. 21, 2020).

gas leak information. Requiring utilities to report data on gas leaks has tangible benefits, allowing for better assessment of the associated risks and the scale of the problem, without which robust regulatory and utility responses cannot be designed. By allowing for utilities' progress in reducing leak inventories to be measured, it also represents the first step toward greater accountability.

From an economic perspective, leaks that are not classified as hazardous can and do continue unabated for years, wasting gas and imposing an additional economic burden on ratepayers. In a conservative estimate, an EDF expert estimated that the value of a New York gas utility's lost gas in 2018 was greater than \$1.2 million.⁷ Academic analysis has found that utilities spend far less on leak repairs than the commodity value of lost gas itself—suggesting that utilities could do more to abate leaks in a cost-effective manner.⁸

4. The Commission Should Require Gas Utilities to Publish Maps of Active Leaks

The Commission should, at minimum, act on its proposal to require gas utilities to share leak information with safety officials. To maximize transparency and public benefit, however, the Commission should finalize an expanded version of the Proposed Rule and require gas utilities to issue lists and maps of active gas leaks to the public—as detailed *infra*, Part 5. In the Proposed Rule, the Commission states that its objective is to “better inform public safety

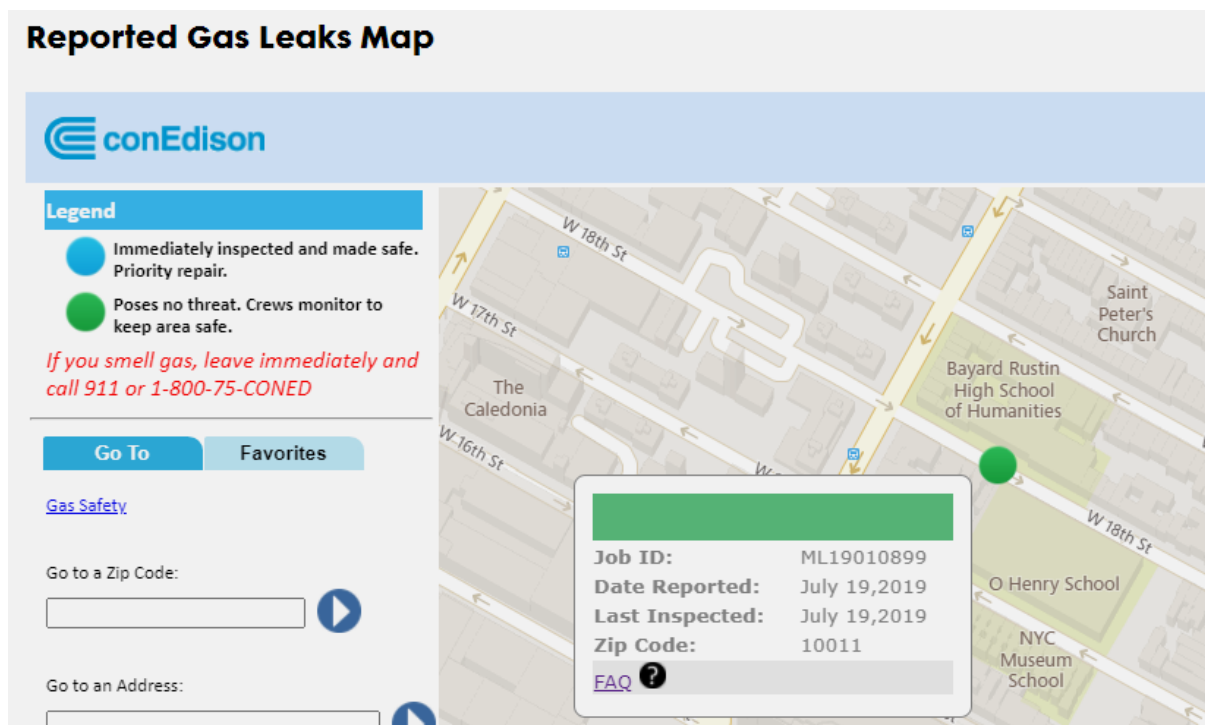
⁷ Direct Testimony of Virginia Palacios on behalf of EDF at p23, NY PSC Cases 19-E-0065 & 19-G-0066, *Proceeding on Motion of the Commission as to the Rates, Charges, Rule and Regulations of Consolidated Edison Company for Electric Service & for Gas Service* (Nov. 4, 2019), <http://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=235481&MatterSeq=58902>.

⁸ Catherine Hausman & Lucija Muehlenbachs, Price Regulation and Environmental Externalities: Evidence from Methane Leaks, *J. of the Ass'n of Env'tl. & Res. Economists* at 73 (Jan. 2019), <https://www.journals.uchicago.edu/doi/pdfplus/10.1086/700301>.

officials of gas leaks in their vicinity.” But all people deserve to know about gas leaks in their vicinity, and experience has shown that releasing gas leak maps to the public can be beneficial.

As the Commission acknowledges, several major utilities already maintain and publish interactive online maps of known leaks in their distribution systems. Consolidated Edison Company of New York, Inc. publishes a searchable online map of reported gas leaks that is updated every 24 hours, allowing the public to search by zip code, intersection, or address, and to see the status of the leak and the date it was first reported.⁹ National Grid New York offers a similar online map of reported gas leaks in its service territory.¹⁰

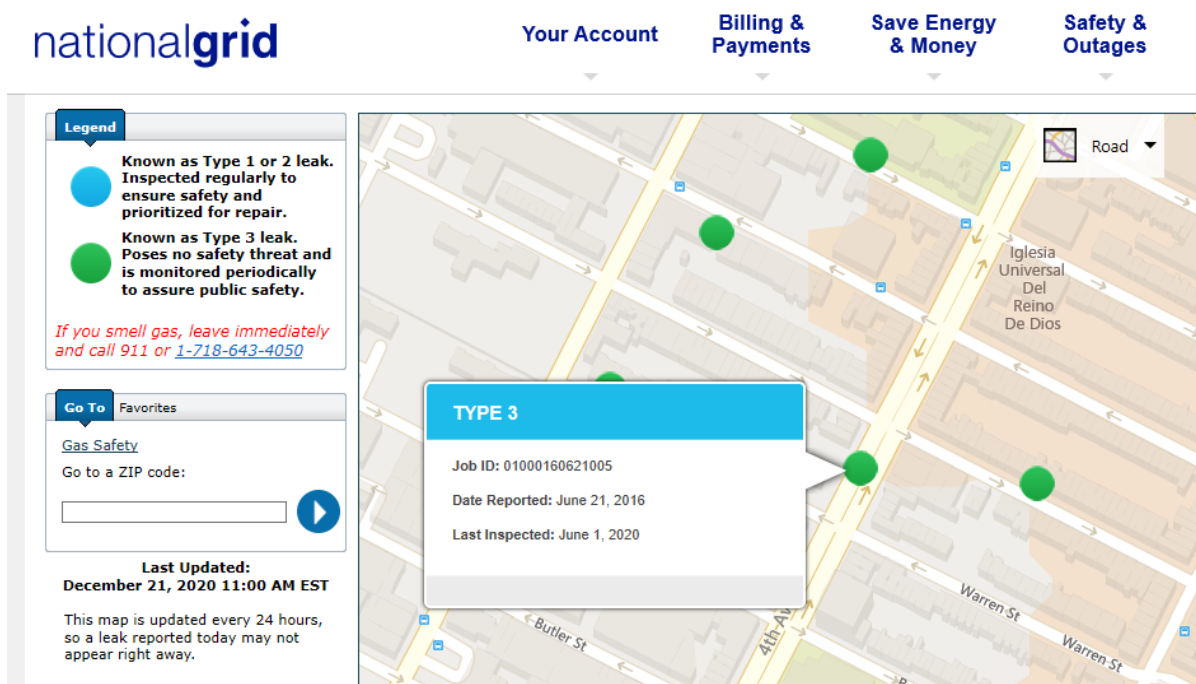
Figure 2.



⁹ Con Edison, Reported Gas Leaks, <https://www.coned.com/en/safety/safety/gas-safety/reported-gas-leaks> (last visited Dec. 16, 2020).

¹⁰ National Grid, Gas Leak Map, <https://www.nationalgridus.com/ny-Home/natural-gas-safety/gas-leak-map> (last visited Dec. 16, 2020).

Figure 3.



These voluntary efforts are noteworthy and appreciated, but to improve transparency in utility leak management efforts at scale it is not enough to rely on the efforts of a few utilities. Standards are needed that create a level playing field for all. For example, a 2014 Massachusetts law required all gas utilities to report leak locations and other data to the Massachusetts Department of Public Utilities.¹¹ The data has been released to the public, prompting analysis and engagement from communities, local governments, and gas utilities themselves about options to more effectively reduce gas leaks.¹²

Furthermore, economic and infrastructure patterns in the United States place marginalized populations at risk. The poor, people of color, and linguistically isolated people are

¹¹ Mass. Laws Ch. 149, An Act Relative to Natural Gas Leaks (approved June 26, 2014), <https://malegislature.gov/laws/sessionlaws/acts/2014/chapter149>.

¹² See, e.g., David Abel, *Project reveals 20,000 leaks in Mass. gas lines*, Boston Globe (Aug. 20, 2015), <https://www.bostonglobe.com/metro/2015/08/20/new-law-casts-light-state-natural-gas-leaks/qJJPCjRZITc5ai0JeHNOqO/story.html>.

more likely to live in areas where infrastructure is older.¹³ For natural gas systems, older infrastructure can mean pipes that are more prone to leaks. By requiring that gas leak locations be made available to the public, the Commission can support data-driven decision-making, allowing public advocates and others to review whether patterns of leakage and leak management correlate with demographic factors and take appropriate action as warranted.

The Commission should specifically require that utilities provide online maps that are easily accessible and navigable for members of the public as well as public safety officials. The Commission could consult with Con Edison and National Grid to better understand their experience providing this service and inform best practices. New Yorkers would benefit from having access to information about the location of gas leaks in their communities.

5. The Commission Should Require Leak Reporting that Maximizes Transparency and Accountability

As the Commission develops its proposal to facilitate the availability of gas leak information, it should consider what information could be practically reported by utilities along with the location of gas leaks on their distribution systems. This comment has explained that gas leaks pose both safety and environmental concerns. To ensure that the information reported by utilities is useful for maximum public benefit and multiple purposes, the Commission should require that utilities report the following information to the public—or at minimum, to safety officials:

¹³ Fournier, E.D. et al., On energy sufficiency and the need for new policies to combat growing inequities in the residential energy sector, *Elem Sci Anth*, 8: 24 at p2 (2020), <https://doi.org/10.1525/elementa.419> (citing Barbose et al. 2018); *see also* Center on Budget and Policy Priorities, Any Federal Infrastructure Package Should Boost Investment in Low-Income Communities (June 28, 2019), <https://www.cbpp.org/sites/default/files/atoms/files/4-4-19bud.pdf>.

Figure 4.

Proposed Gas Leak Information to be Made Available	Already published by a NY gas utility?
Interactive, searchable map of gas leaks	Con Edison, National Grid
Precise location of gas leak	Con Edison, National Grid
Leak Type (1, 2, 2A, 3)	National Grid
Date Leak was Identified Date Leak was Addressed, if applicable	Con Edison, National Grid
Means by which leak was identified (i.e., public call, traditional survey, advanced leak detection survey)	
Methane leak flow rate (liters/minute), if possible	
Estimated leak size, and explanation of the utility’s basis for its leak size estimates	

This information is useful because it will allow the public to understand where leaks may be resulting in significant methane emissions. Type 3 leaks are not considered urgent safety issues and utilities will often allow them to remain on the system for an extended period of time, which is economically problematic due to wasted gas, and environmentally problematic because these leaks can emit significant methane pollution.¹⁴ For example, an informal review of the National Grid leak map recently included a Type 3 leak that was reported in October 2015 and last inspected in March 2020—National Grid has concluded that the leak “pose[s] no safety threat,” but it has been releasing methane for at least 5 years and it could continue to do so for

¹⁴ See EDF, Why are natural gas leaks a problem?, <https://www.edf.org/climate/methanemaps/leaks-problem> (last visited Dec. 21, 2020), <https://www.edf.org/climate/methanemaps/leaks-problem>; Weller et al., Vehicle-Based Methane Surveys for Finding Natural Gas Leaks and Estimating Their Size: Validation and Uncertainty, *Environ. Sci. Technol.* 2018, 52, 11922–11930 (Sept. 2018).

months or years to come.¹⁵ It will be helpful for the public to be able to access this information and understand when and where utilities are leaving Type 3 leaks on their system for an extended period.

Encouraging utilities to report on methane leak flow rate when possible is consistent with Governor Cuomo’s May 2017 Methane Reduction Plan, which directs state agencies to develop policies to inventory emissions and identify strategies for methane capture and elimination.¹⁶ As more New York utilities incorporate advanced leak detection or other sensitive methane-detecting technologies into their operations and gain a better understanding of methane emissions on their system, it is valuable for the public to have access to that information.

EDF recognizes that New York gas utilities already report significant information to the Commission regarding leaks on their system, which the Commission in turn shares with the public by issuing an annual Gas Safety Performance Measures Report.¹⁷ The Commission should strive to align the reporting requirements of the Proposed Rule with existing utility reporting, to avoid duplicative filing burdens for gas utilities and to maximize efficiency.

¹⁵ National Grid, Gas Leak Map, Leak Job ID: 01000151024008, <https://www.nationalgridus.com/ny-Home/natural-gas-safety/gas-leak-map> (last visited Dec. 21, 2020).

¹⁶ New York State Agencies, Methane Reduction Plan at 6 (May 2017), https://www.dec.ny.gov/docs/administration_pdf/mrpfinal.pdf. The Plan is described as a “living document that can be revised as our understanding of the sources of methane emissions improves.” *Id.* at 13.

¹⁷ New York State Department of Public Service, Gas Safety Performance Measures Reports, <https://www3.dps.ny.gov/W/PSCWeb.nsf/All/9DBA66C148A1310985257B2600750639?OpenDocument>.

6. Advanced Leak Detection is a Key Tool in Addressing Methane Leaks, and the Commission Should Act to Facilitate Use of ALD+

Commission action in this proceeding is a necessary but not sufficient step to placing New York gas utilities on a pathway to demonstrate significant methane emission reductions from their distribution systems. A growing number of gas utilities, including Consolidated Edison and National Grid, have recognized methane emission reductions as a core strategy to decarbonization:

LDCs can use advanced leak detection technologies including enhanced imaging and increasingly sensitive detection devices to discover unknown leaks and prioritize Grade 3 leaks for repair based on their size. One method to do this involves driving a vehicle outfitted with advanced methane detection equipment through a utility's service territory. Detected leaks can be flagged for more detailed follow up and emerging technologies are even allowing for increasingly accurate quantification using algorithms that convert the detector's methane concentration reading into a leak rate. Other survey methods include the use of drones with detection equipment and aircraft utilizing enhanced imaging. The more frequently surveys are made, the sooner unreported leaks are detected and repaired, minimizing methane emissions. Quantifying Grade 3 leaks allows utilities to identify those with the greatest climate impact and place them sooner in the repair queue schedule. A number of leading utilities have integrated advanced leak detection surveys into their operations and participated in initiatives to develop and test new technologies.¹⁸

The Commission should take action to capitalize on the benefits ALD+ provides and remove any regulatory barriers that may hinder its deployment—such as incentive structures that solely reward a utility for reducing the number of leaks in their backlog.¹⁹

¹⁸ MJ Bradley and Associates, *The Role of Gas Networks in a Low-Carbon Future* (Dec. 2020), https://www.mjbradley.com/sites/default/files/MJBA_Long-term-Vision-of-Gas%20Networks-in-a-Low-Carbon-Future_December2020.pdf.

¹⁹ See Direct Testimony of Joseph von Fischer on behalf of EDF at p34, NY PSC Cases 20-E-0380 & 20-G-0381, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric Service and for Gas Service* (Nov. 25, 2020), <http://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=256482&MatterSeq=63187>.

7. Conclusion

EDF supports the spirit of the Commission's proposal and recommends expanding the Proposed Rule to maximize its benefits, with recognition that gas leaks present environmental and economic considerations in addition to being a matter of public safety. The Commission should require that gas utilities release lists and maps of active leaks to the general public—not just to safety officials. The Commission should require that utilities provide the following gas leak information: an interactive, searchable map of gas leaks; the precise location of the gas leak; the leak type (1, 2, 2A, or 3); the date the leak was identified and the date the leak was addressed, if applicable; the means by which the leak was identified (i.e., public call, traditional leak survey, advanced leak detection survey); the estimated leak size; and if known, the methane leak flow rate of the leak (liters/minute).

Respectfully submitted,

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