

**THE STATE OF NEW HAMPSHIRE  
PUBLIC UTILITIES COMMISSION**

DG 17-152

Liberty Utilities (EnergyNorth Natural Gas) Corp., dba Liberty Utilities

Least Cost Integrated Resource Plan

**PETITION TO INTERVENE OF TERRY CLARK**

Pursuant to the New Hampshire Public Utilities Commission (“PUC”)’s Order of Notice dated February 8, 2018 (“Order”) issued in the above-captioned matter, N.H. Code Admin. Rules [Puc 203.17](#) and [RSA 541-A:32](#), Terry Clark (“Clark”), by and through undersigned counsel, Richard M. Husband, Esquire, hereby respectfully petitions for leave to intervene in this proceeding as a party, with all rights as such to the full extent allowed by law. In support of his petition, Clark states:

1. Clark is a New Hampshire citizen residing at 14 Barrett Avenue, Keene, New Hampshire 03431.
2. An approximately 40-year resident of Keene, Clark is in his second term as City Councilor representing Ward 3 in Keene, but seeks intervention solely in his individual capacity and not as a Keene City Councilor.
3. Clark believes that a rapid transition to sustainable energy sources is necessary to address the climate change crisis and that the approval sought by the petitioner to expand its hydraulically-fractured (“fracked”) gas services in the City of Keene under [PUC Docket DG 17-068](#) (the “Keene case”), as possibly supported by an approval in this proceeding, if granted, will likely impede the development and availability of sustainable alternatives in the City of Keene for at least another generation; is working with many citizens from within and outside of his ward who are concerned with climate change and/or the health and safety concerns related to

fracked gas use to make solar and other sustainable energy sources available to the city; opposes the petitioner's expansion plans under the Keene case and through this proceeding as largely creating, not addressing, demand and not presenting the lowest reasonable cost option for addressing any real demand; and seeks to intervene with those substantial interests.

4. Clark has already been found to hold intervenor status in the Keene case, by [PUC Order No. 26,087](#) dated December 18, 2017, wherein the PUC unanimously found:

“Mr. Clark ... has a direct interest in the matter as a resident of Keene, as he resides in the franchise territory that was the subject of the Company's Petition for Declaratory Ruling.”

[Id. at 4.](#)

5. As the petitioner's gas expansion plans in the Keene case fall within the scope of the Least Cost Integrated Resource Plan (“IRP”) for which the petitioner seeks approval in this proceeding,<sup>1</sup> Clark has a direct interest in this matter under [PUC Order No. 26,087](#) since he resides in a franchise area (Keene) within the IRP which is the subject of this proceeding. *See id. at 4.* Moreover, an approval or non-approval in this proceeding may support, or at least be argued to support, a corresponding result in the Keene case, and *vice-versa*.<sup>2</sup> For those reasons, and the other reasons expressed above and below, Clark has a substantial direct interest in the matter, and otherwise meets the standard for intervention under [RSA 541-A:32](#).

6. Pursuant to [Puc 203.17](#), “[t]he commission shall grant one or more petitions to intervene in accordance with the standards of RSA 541-A:32..” *Id.*

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<sup>1</sup> The IRP, which is for the forecast period 2017/2018-2021/2022, specifically references the petitioner's Keene expansion plans on page 58: “EnergyNorth is in the process of converting its Keene division to trucked CNG ...” *See IRP at p. 58.*

<sup>2</sup> Clark does not agree that approval of the IRP in this proceeding would support the relief sought in the Keene case, but notes that the petitioner does rely on PUC approvals of past IRP projections in support of the relief sought in the Granite Bridge Project case, discussed below. *See, e.g., Granite Bridge Project petition in PUC Docket DG 17-198, ¶ 3.*

7. Under [RSA 541-A:32 I\(b\) and \(c\)](#), a petition to intervene *must* be granted if the petitioner states facts demonstrating how his/her rights, duties, privileges, immunities or other substantial interests may be affected by the proceeding (or the petition otherwise qualifies under the law), and the interests of justice and orderly and prompt conduct of the proceedings would not be impaired by allowing intervention. Under [RSA 541 -A:32 II](#), the PUC *may* grant a petition to intervene “at any time, upon determining that such intervention would be in the interests of justice and would not impair the orderly conduct of the proceedings.” This petition meets both standards given that Clark has substantial interests in this proceeding which will be directly affected by the outcome, justice requires intervention, and there is no reason that such intervention—particularly as it is timely and early in the matter—should impair the orderly conduct of properly conducted proceedings.

8. While Clark is entitled to intervene with all intervention rights allowed under the law, and requests the granting of such intervention rights, he particularly wishes to intervene to contest the petitioner’s gas expansion plans under its IRP as being inconsistent with the public interest,<sup>3</sup>

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<sup>3</sup> The PUC must act in the public interest. *See, e.g., Waste Control Systems, Inc. v. State*, 114 N.H. 21, 24 (1974); *Boston & Maine R.R. v. State*, 102 N.H. 9, 10 (1959); *Browning-Ferris Industries of New Hampshire, Inc. v. State*, 115 N.H. 190, 191 (1975). The “public interest” must be construed broadly to require consideration of not only the needs of the persons and utility directly involved, but also “the needs of the public at large.” *See Waste Control Systems, Inc. v. State, supra*, 114 N.H. at 24)(citing *Boston & Maine R.R. v. State, supra*, 102 N.H. at 10). Asserted public benefits must be weighed against actual costs, including environmental costs. *See Public Service Company of New Hampshire d/b/a Eversource Energy, PUC Docket DE 16-241, Order of Notice, at 3-4*. Should the PUC determine that this obligation does not compel denial of the petition in this matter, it will be Clark’s position on appeal that the PUC improperly narrowly construed the scope of its jurisdiction and obligations and/or misread the needs of the public at large: polls show that [most American voters want to see more done to address the climate crisis](#) and [there is strong support in New Hampshire for environmental protections](#); both of which were made clear more than a decade ago when, [by a more than two-thirds majority of cities and towns \(more than 160 out of 234\), New Hampshire citizens voted for strong climate action initiatives](#). For readers of a non-pdf version of this petition, please see: <http://climatecommunication.yale.edu/visualizations-data/majority-registered-voters-want-done-global-warming/>, <http://nhpr.org/post/unh-poll-theres-strong-public-support-environmental-protections-new-hampshire#stream/0>, <http://www.newhampshirelakesandmountains.com/Articles-c-2010-04-15-151000.113119 Plymouth leads the way to new energy future.html>; and [http://www.nytimes.com/2007/03/19/us/19climate.html?\\_r=1](http://www.nytimes.com/2007/03/19/us/19climate.html?_r=1).

[RSA 378:37](#) and New Hampshire’s commitments and obligations to act responsibly in the face of climate change, including:

- the State’s commitment to reduce greenhouse gas emissions to near net-zero by 2050 as a member of the [Under2Coalition](#);
- the State’s obligation to meet the public need and demand for climate action, as evidenced, *inter alia*, by the polls referenced in Footnote 3 above and the 2017 Annual Report from the Governor’s Millennial Advisory Council, which concludes, in relevant part, that:

“It is overwhelmingly clear through polls and studies that a progressive and proactive stance on Climate Change and Climate Policy is important to members of the Millennial Generation. Regardless of background, political affiliation, or other personally-held beliefs, a large majority of Millennials believe that climate change is happening and that the earth's warming is due to human activity.

Millennials are particularly in favor of sustainable energy generation. Approximately 71% of Millennials believe we should prioritize alternative energy generation over oil, gas, and coal exploration, and 82% favor increased funding for wind, solar, and hydrogen technologies

...

**The State of New Hampshire should demonstrate its leadership and dedication to a healthy and viable climate by ... committing to meeting the emissions targets agreed upon in the Paris Climate Accord ...”**

See p. 14 (emphasis added) at

[http://mediad.publicbroadcasting.net/p/nhpr/files/201712/governor\\_s\\_millennial\\_advisory\\_council\\_2017\\_annual\\_report\\_0.pdf](http://mediad.publicbroadcasting.net/p/nhpr/files/201712/governor_s_millennial_advisory_council_2017_annual_report_0.pdf);

- the world view of the commitment needed to responsibly address climate change, which, as evidenced by the [Paris Climate Accord](#), is to substantially *reduce* greenhouse gas emissions over the coming decades;
- the State’s commitments and obligations to protect its citizens from the economic, health and safety costs associated with climate change which are enumerated below.

However, from now through 2038, just 12 years before New Hampshire has pledged to achieve near net-zero greenhouse gas emissions, and while every other nation in the world is working to substantially reduce greenhouse gas emissions under the [Paris Climate Accord](#), the petitioner’s IRP and overall expansion plans call for it to *increase* its use of methane gas use—a potent greenhouse gas, as discussed below—by nearly 50%, from a current Design Day demand of 156,822 to a Design Day demand of 229,590 for 2037/2038, as is shown by the following table presented by the petitioner in

support of the Granite Bridge Project, at [page 59 of 104 of the Pre-filed Direct Testimony of William R. Killeen and James M. Stephens, submitted in DG 17-198](#):

**Table 7: EnergyNorth Design Day Resource Shortfall (Dth)<sup>63</sup>**

Split-Year (Nov-Oct)	Design Day Demand	Design Day Resources, including Propane	Reserve / (Deficiency) including Propane	Reserve / (Deficiency) excluding Propane
2017/18	156,822	162,033	5,211	(29,389)
2018/19	160,989	155,033	(5,956)	(40,556)
2019/20	164,640	155,033	(9,607)	(44,207)
2020/21	168,934	155,033	(13,901)	(48,501)
2021/22	173,917	155,033	(18,884)	(53,484)
2022/23	179,382	155,033	(24,349)	(58,949)
2023/24	184,432	155,033	(29,399)	(63,999)
2024/25	188,856	155,033	(33,823)	(68,423)
2025/26	192,933	155,033	(37,900)	(72,500)
2026/27	196,785	155,033	(41,752)	(76,352)
2027/28	199,954	155,033	(44,921)	(79,521)
2028/29	203,491	155,033	(48,458)	(83,058)
2029/30	206,790	155,033	(51,757)	(86,357)
2030/31	210,016	155,033	(54,983)	(89,583)
2031/32	212,972	155,033	(57,939)	(92,539)
2032/33	215,843	155,033	(60,810)	(95,410)
2033/34	218,828	155,033	(63,795)	(98,395)
2034/35	221,631	155,033	(66,598)	(101,198)
2035/36	224,148	155,033	(69,115)	(103,715)
2036/37	226,863	155,033	(71,830)	(106,430)
2037/38	229,590	155,033	(74,557)	(109,157)

9. Besides bringing fracked gas to Keene, Clark is especially troubled by the petitioner’s expansion plans vis-à-vis the Granite Bridge Project, which is the subject of [PUC Docket DG 17-198](#). The Granite Bridge Project calls for the outrageously expensive<sup>4</sup> huge *future* development of, and commitment to, fracked gas infrastructure and supplies—including a 27 mile pipeline, 2 billion cubic feet LNG facility and 22 year gas supply contract—at a time when the climate crisis and our own energy policies and greenhouse gas reduction commitments compel a freeze on expansion and a

<sup>4</sup> Over \$310 million to be passed on to ratepayers. See pp. 15 and 18 of the [Pre-filed Directory Testimony of Timothy S. Lyons, submitted in the Granite Bridge Project case, PUC Docket DG 17-198](#).

reduction in emissions. The petitioner’s cost analysis for the project proposes a 55-year life span for the pipeline and 40-year life span for the LNG facility. See [Pre-filed Directory Testimony of Timothy S. Lyons submitted in the Granite Bridge Project case, PUC Docket DG 17-198, at pp. 15 and 19 of 22](#). Consequently, if approved, **the pipeline will have to be used until at least 2076 and the facility will have to be used until at least 2062 for ratepayers to avoid stranded costs,<sup>5</sup> while at least one government projection, admitted in evidence just six months ago in [PUC Docket DG 16-852](#), shows the price of gas starting to spike about the time the project first comes operational and continuing to rise into the distant future (as renewable energy prices almost certainly decrease). See [Exhibit 14 admitted in PUC Docket DG 16-852](#)**. If New Hampshire intends to abide by its commitment as a member of the [Under2Coalition](#) to reduce greenhouse gas emissions to near net-zero by 2050 and otherwise act responsibly in the face of climate change, and adhere to the requirements of [RSA 378:37](#) to make the “lowest reasonable cost” energy choices, diversify our energy portfolio and protect the environment and health and safety of citizens in the State’s energy choices, the Granite Bridge Project pipeline and LNG facility should never be built to begin with—but, if they are, they will have to be abandoned long before the end of their projected lifetimes.

10. Thus, as the Granite Bridge Project clearly should not be approved, and the petitioner itself acknowledges in its petition for approval in [PUC Docket DG 17-198](#) that a moratorium on its gas expansion plans will be required absent approval of the project, [see id. at ¶ 4](#), the IRP should be superseded by such a moratorium.

11. The climate crisis is truly dire, with a rapidly closing window for action. Just

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<sup>5</sup> The pipeline is not projected to be operational until late 2021, while the facility will not be running before 2022, at the earliest (both likely subject to the usual delays). See [Pre-filed Direct Testimony of William R. Killeen and James M. Stephens submitted in the Granite Bridge Project Case, Commission Docket DG 17-198, at p. 11 of 104](#).

eight months ago, climate change experts, including former United Nations climate chief Christiana Figueres and Hans Joachim Schellnhuber of the Intergovernmental Panel on Climate Change, published a letter in the journal *Nature* warning that an immediate, monumental acceleration in climate change efforts is needed to prevent the worst effects of global warming. *See* <https://www.theguardian.com/environment/2017/jun/28/world-has-three-years-left-to-stop-dangerous-climate-change-warn-experts> or attached Exhibit “A.” Likewise, two different studies published in the journal *Nature Climate Change* on July 31, 2017 conclude that only a rapid escalation in climate action will prevent rising seas, mass extinctions, super droughts, increased wildfires, more intense hurricanes, decreased crops, fresh water and the melting of the Arctic. *See* <https://www.cnn.com/2017/07/31/health/climate-change-two-degrees-studies/index.html> or attached Exhibit “B.”

12. The crisis is not debatable. We cannot continue to ignore all of the warning signs: record-breaking global temperatures year after year,<sup>6</sup> New Hampshire’s own prolonged recent drought, the Santa Rosa wildfires—[the U.S was just hit by three Category 4 hurricanes in one year!](#)<sup>7</sup> In records going back to 1851, [the contiguous U.S. states had never been struck by two Category 4 hurricanes in one year before.](#)<sup>8</sup> As noted by NASA:

“... 97 percent or more of actively publishing climate scientists agree: Climate-warming trends over the past century are extremely likely due to human activities. In addition, most of the leading scientific organizations worldwide have issued public statements endorsing this position.”

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<sup>6</sup> 17 of the 18 warmest years on record have occurred since 2001. *See* <https://www.nytimes.com/interactive/2018/01/18/climate/hottest-year-2017.html>.

<sup>7</sup> For readers of a non-pdf version of this petition, please see: <https://weather.com/storms/hurricane/news/hurricane-maria-irma-harvey-three-united-states-category-4-landfalls#/>.

<sup>8</sup> For readers of a non-pdf version of this petition, please see: <https://twitter.com/bhensonweather/status/904868150298021888>.

See <https://climate.nasa.gov/scientific-consensus/> or attached Exhibit “C.” A 13-agency study recently released by the Trump Administration plainly acknowledges that climate change is real and largely caused by Man:

"This assessment concludes, based on extensive evidence, that it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th Century. For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence ..."

Please see <https://www.cnn.com/2017/11/03/politics/trump-climate-change-report/index.html> or attached Exhibit “D” concerning the release of the report and <https://www.nytimes.com/2017/08/07/climate/climate-change-drastic-warming-trump.html> or attached Exhibit “E” for more on it. If Man is causing climate change by his greenhouse gas producing activities, Man can likewise ameliorate it by cutting back on greenhouse gas emissions. These facts should be administratively noticed by the PUC under [Puc 203.17](#).

13. Of course, as emissions of methane, which comprises roughly 94% of today’s natural gas,<sup>9</sup> are a major greenhouse gas,<sup>10</sup> any sincere effort to climate change must include curtailing reliance on gas to reduce methane emissions. Indeed, as stated on page 10 of former President Obama’s Climate Action Plan from *five years ago*: [“curbing emissions of methane is critical to our overall effort to address global climate change.”](#) See relevant excerpt of Climate Action Plan attached as Exhibit “H” (emphasis added). *Increasing*, rather than reducing, methane emissions, as New Hampshire is doing by continually approving more gas use through PUC proceedings,<sup>11</sup> brings us

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<sup>9</sup> See <https://www.uniongas.com/about-us/about-natural-gas/Chemical-Composition-of-Natural-Gas> or attached Exhibit “F.”

<sup>10</sup> See <https://www.scientificamerican.com/article/how-bad-of-a-greenhouse-gas-is-methane/> or attached Exhibit “G.”

<sup>11</sup> For [Concord \(PUC Docket DG 16-770\)](#), [Pelham/Windham \(PUC Docket DG 15-362\)](#), [Hanover/Lebanon \(PUC Docket DG 16-852\)](#) and possibly [Keene \(PUC Docket DG 17-068\)](#), and all of the towns along the proposed Granite Bridge Pipeline route.

that much closer, that much faster, to the edge. Gas is not the “bridge fuel” to get us to clean, sustainable energy that everyone had hoped. [Original EPA estimates drastically underestimated the impact of the use of gas on climate change](#)<sup>12</sup> and it is not better than using oil or coal, despite cutting back on their greenhouse gas (CO2) emissions: “[w]hile CO2 persists in the atmosphere for centuries, or even millennia, methane warms the planet on steroids for a decade or two before decaying to CO2”—indeed, [86 times as much as CO2](#). See attached Exhibit “G” or <https://www.scientificamerican.com/article/how-bad-of-a-greenhouse-gas-is-methane/>.

14. An opinion handed down by the Court of Appeals for the District of Columbia Circuit last August establishes that the PUC not only has the authority to consider climate change in its public interest analysis, but the obligation. In *Sierra Club v. FERC*, Court of Appeals for the District of Columbia Circuit, Docket No. 16-1329 (Aug. 22, 2017), the Court vacated and remanded a Federal Energy Regulatory Commission (“FERC”) decision approving a gas pipeline project under FERC’s analogous 15 U.S.C. § 717f(e) public interest analysis for failure to consider the downstream climate impacts of the project. The Court concluded that FERC’s analysis was deficient, noting, in pertinent part:

“... greenhouse-gas emissions are an indirect effect of authorizing this project, which FERC could reasonably foresee, and which the agency has legal authority to mitigate ...”

*Id.* at 24.

15. The reasoning of *Sierra Club* applies equally here. The PUC has the legal authority—and obligation—under its required public interest assessment, [RSA 378:37](#) and commitments to addressing and preventing climate change and the harms caused by it responsibly, to consider the impacts the petitioner’s proposed expansion plans in this and related proceedings.

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<sup>12</sup> For readers of a non-pdf version of this petition, please see: <http://www.theenergycollective.com/david-lewis/48209/epa-confirms-high-natural-gas-leakage-rates>.

16. If climate change is properly considered, the petitioner’s gas expansion plans cannot be approved under the overriding public interest analysis and obligation applicable to PUC decisions. *See, e.g., Waste Control Systems, Inc., supra*, 114 N.H. at 24; *Boston & Maine R.R. v. State, supra*, 102 N.H. at 10; *Browning-Ferris Industries of New Hampshire, Inc. v. State, supra*, 115 N.H. at 191.

17. [RSA 378:37](#), which sets forth New Hampshire’s official energy policy, must be satisfied for approval of the petitioner’s IPR, as well, as is acknowledged by the petitioner in the IPR. *See IRP at p. 55* (“The Commission’s charge in this docket, therefore, is to evaluate whether EnergyNorth’s LCIRP is consistent with the State’s energy policy as articulated in RSA 378:37.”).

18. However, the petitioner’s expansion plans *do not comport* with [RSA 378:37](#).

19. [RSA 378:37](#) provides:

“378:37 New Hampshire Energy Policy. – The general court declares that it shall be the energy policy of this state to meet the energy needs of the citizens and businesses of the state at the lowest reasonable cost while providing for the reliability and diversity of energy sources; to maximize the use of cost effective energy efficiency and other demand side resources; and to protect the safety and health of the citizens, the physical environment of the state, and the future supplies of resources, with consideration of the financial stability of the state's utilities.”

*Id.* (emphasis added). Under this statute, the PUC is charged with considering the impacts petitioner’s gas expansion plans will have on climate change as our State policy is to meet energy needs “at the lowest reasonable cost” while protecting our environment, safety, health and natural resources. Gas use and climate change come at anything but “the lowest reasonable cost” to the citizens and businesses of New Hampshire. Rather, they come at enormous, largely hidden, costs not associated with renewables:

(1) **to ratepayers in subsidizing huge infrastructure costs**, for example, the nearly one-third of a billion dollar price tag for the Granite Bridge Project. A study from the University of New Hampshire released last year, generally known as the “[Carsey report](#),”

concludes that pipeline expansion projects bring an annual average bill of about \$66 million to ratepayers. See page of Carsey report at <https://scholars.unh.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1296&context=carsey>;

(2) **to one of our leading industries, tourism**, by its negative impacts on winter recreation, hunting (by the decimation of the moose population), fishing and foliage—threatening hundreds of millions in annual revenues. See 2008 DES Fact Sheet “Global Climate Change and its Impact on New Hampshire” at <https://www.des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-23.pdf>;

(3) **to our sugar industry**, as “[s]ugar maples are extremely susceptible to mid-winter thaws and summer droughts.” See 2008 DES Fact Sheet “Global Climate Change and its Impact on New Hampshire’s Fall Foliage and Maple Sugar Industry” at <https://www.des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-25.pdf>;

(4) **to our moose and loon populations (also fueling tourism)**: Moose and loons are climate change “canaries in a coal mine.” See online article at <http://nhpr.org/post/moose-loons-are-climate-change-canaries-coal-mine-say-nh-conservationists#stream/0>. In fact, climate change is the leading cause of their decline. See August 1, 2017 NHPR online article “Climate Change is the Leading Cause of Moose and Loon Population Decline in New Hampshire” at <http://nhpr.org/post/climate-change-leading-cause-moose-and-loon-population-decline-new-hampshire#stream/0>. Moose hunters and wildlife watchers inject over \$340 million a year into the New Hampshire economy. See June 1, 2015 *National Geographic* online article “What’s a Ghost Moose” at <https://news.nationalgeographic.com/2015/06/150601-ghost-moose-animals-science-new-england-environment/>;

(5) **to our dairy industry**, by **increasing, intensifying droughts**. See August 30, 2016 “Concord Monitor” online article “Dying dairies: How drought, low milk prices lead to decline in N.H. farms” at <http://www.concordmonitor.com/NH-Dairy-Farms-Struggle-Close-Because-of-Drought-Low-Prices-Yeaton-Farm-Epsom-NH-4346716>;

(6) **to agriculture**, an annual \$330 billion U.S. industry, from **climate change induced stresses ranging from extreme weather events to increased insect pests and diseases**;

(7) **to our health and health costs**, for example, by the increase in the tick population and associated increase in lyme disease, and by all of the respiratory and other problems caused by breathing the pollutants from fossil fuels. New Hampshire has experienced one of the largest state increases in Lyme diseases since 1991. See EPA online article “Climate Change Indicators: Lyme Disease” at <https://www.epa.gov/climate-indicators/climate-change-indicators-lyme-disease>, see *id.* New Hampshire also has an enormous number of impacted asthma sufferers. In fact, “New Hampshire’s asthma rate is among the highest in the nation. Approximately 110,000 NH adults and 25,000 NH children have asthma.” See page 22 of “Greater Manchester, New Hampshire Health Improvement Plan” online at <https://www.manchesternh.gov/Portals/2/Departments/health/GManCHIP.pdf>;

(8) **to seacoast towns and homes**: one study has determined that it will cost just three New Hampshire coastal towns between \$1.9 and \$2.9 billion to address the impacts of climate change. See p. 23 of “Changing Tides How Sea-Level Rise Harms Wildlife and Recreation Economies Along the U.S. Eastern Seaboard” at [http://www.nwf.org/~media/PDFs/Global-Warming/Reports/Changing-Tides\\_FINAL\\_LOW-RES-081516.ashx;another](http://www.nwf.org/~media/PDFs/Global-Warming/Reports/Changing-Tides_FINAL_LOW-RES-081516.ashx;another). Another concludes that **over 7,000 New Hampshire homes could be under water by 2100 due to sea rise caused by climate change**. See Nov. 30, 2016 “Union Leader” online article “Study: 7,000 Seacoast properties could be under water by 2100” at

<http://www.unionleader.com/apps/pbcs.dll/article?AID=/20161130/NEWS11/161139963&template=printart>;

(9) **to taxpayers and ratepayers** in cleaning up from ice and other destructive storms, and addressing all of the above other harms.

(10) **to everyone's cost of insurance** as the price of addressing all of the negatives rise for insurance companies.

20. Add to the above costs whatever price can be put on the premature deaths caused by droughts, severe storms and other climate events—indeed, [millions will die from climate change in just the next few decades](#)<sup>13</sup>—as well as from pipeline explosions.<sup>14</sup>

21. Then, there is the bill many citizens may pay in fracked gas-related health problems. Study after study warns us that fracked gas releases, from gas drilling, production, pipeline and other infrastructure leaks and emissions, cause respiratory, heart and other health problems. *See, e.g.*, the following online sources: ["Gas Compressors and Nose Bleeds,"](#) by Jessica Cohen (Fall 2015); ["Porter Ranch Gas Leak Triggers State of Emergency in California,"](#) January 7, 2016 CNN online news article; ["Potential Hazards of Air Pollutant Emissions from Unconventional Oil and Natural Gas Operations on the Respiratory Health of Children and Infants"](#) by Ellen Webb, et. al. (2014; published in [Reviews on Environmental Health, 2016](#)); ["Madison County, New York Department of Health Comments to the Federal Energy Regulatory Committee,"](#) prepared for Madison County Department of Health by [Thimble Creek Research](#) (September 30, 2014), pp. 14-28; ["Gas Patch Roulette: How Shale Gas Development Risks Public Health in Pennsylvania,"](#) by Nadia Steinzor, et. al. (October 2012); ["Human](#)

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<sup>13</sup> *See* <https://www.scientificamerican.com/article/premature-deaths-multiply-as-climate-changes/>.

<sup>14</sup> Like the one in New Mexico discussed at <http://abcnews.go.com/US/story?id=96090&page=1>; the one in Illinois discussed at <http://www.chicagotribune.com/news/nationworld/midwest/ct-nachusa-gas-pipeline-explosion-20171206-story.html>; or, the one in California discussed at <http://www.kcra.com/article/pg-e-no-leaks-found-in-fresno-county-gas-line-that-exploded/6421851>—and their “incineration zones” may extend for hundreds of feet. *See* page 14 chart of explosions at <http://www.pipelinesafetytrust.com/docs/C-FerCircle.pdf>. **Since 1987, the PHMSA has identified more than 3,200 gas pipeline accidents deemed serious or significant, with many involving fatalities.** *See generally* [https://en.wikipedia.org/wiki/List\\_of\\_pipeline\\_accidents\\_in\\_the\\_United\\_States\\_in\\_the\\_21st\\_century](https://en.wikipedia.org/wiki/List_of_pipeline_accidents_in_the_United_States_in_the_21st_century).

[Health Impacts Associated with Chemicals and Pathways of Exposure from the Development of Shale Gas Plays,](#)“ by Wilma Subra Subra Company (January 9, 2012).

22. Nor should it be surprising if health problems are linked to fracked gas releases as fracked gas is *not* the same as traditional, relatively “clean” natural gas. Rather, [fracked gas is comprised of hundreds of chemicals, many of which the industry refuses to disclose.](#) *See* <https://insideclimatenews.org/news/31032015/fracking-companies-keep-10-chemicals-secret-epa-says>; *see also* [“Analysis of Hydraulic Fracturing Fluid Data from the FracFocus Chemical Disclosure Registry 1.0,”](#) by the EPA (March 2015); [“California’s Fracking Fluids: the Chemical Recipe,”](#) by Tasha Stoiber, et. al. (EWG; August 2015).

23. In fact, as many as two dozen or more of the regulated toxic air pollutants identified in [Env-A 1450.01](#) have been associated with fracked gas, either as additives or a product of its combustion, through studies and data. *See* attached Exhibit “I” identifying 22 such ingredients. The climate issue aside, a moratorium should be placed on gas expansion until the contents of fracked gas are **fully** disclosed, a comprehensive comparison of its ingredients with those in traditional (non-fracked) natural gas is made, and the potential health impacts of fracked gas use are analyzed, better understood and properly factored into the equation.

24. Clark is especially concerned with the fracked gas health issue as air inversions trap unhealthy releases in the Keene valley.

25. All of the above costs associated with fracked gas use are plainly not the “lowest reasonable cost” to meet the State’s energy needs, particularly given the availability of renewable alternatives, which come without such costs, and no actual demand for the gas—and they are especially not the “lowest reasonable cost” to meet the energy needs of those targeted by the Granite

Bridge Project, who currently clearly have no “need” for the petitioner’s proposed new fracked gas infrastructure and supply sources, as they are not among its current customers.

26. Then, of course, there are the almost certainly astronomical stranded costs of gas projects, like those associated with the Granite Bridge Project—which should be considered *per se* unreasonable under [RSA 378:37](#), as the only way to avoid them, *i.e.*, by committing to exacerbating the climate problem for decades with methane use when we should and could be working to ameliorate it right now, is morally repugnant. As previously noted, the Granite Bridge Project, alone, would come with an almost one-third of a billion dollar (or more) price tag, and the average *annual* gas infrastructure bill for ratepayers is roughly \$66 million. As is shown by the table reproduced in paragraph 8 above, the petitioner’s gas expansion plans will create continuing supply shortages over at least the next two decades which will, in turn, continue to create a demand for gas pipelines and other infrastructure.

27. Moreover, our current overdependence on gas is already inconsistent with the energy source diversification requirement of [RSA 378:37](#). [Our gas reliance is usually more than half of the total share of all of the available energy alternatives](#). See current use percentage at <https://www.iso-ne.com/>. Are we trying for 80% reliance? 100%? How “cheap” will gas be when all of the gas contracts term-out, and we have no alternative but to renew them, as everything depends on gas? Those arguing a gas “need” usually point to the gas shortages and price spikes of the winter of 2013-2014 as proof positive. However, the New Hampshire Office of Energy and Planning (“OEP”)<sup>15</sup> concluded that “increasing reliance on one fuel, namely natural gas, is what caused the wholesale price spikes in the winter of 2013-2014 in the first place ...” See [October 15, 2015 OEP letter to PUC, p. 2, filed in PUC Docket IR 15-124](#). Studies have shown that more large gas projects are both

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<sup>15</sup> Now known as the New Hampshire Office of Strategic Initiatives.

unnecessary and counter-productive to lowering energy costs—indeed, while New Hampshire is currently really only paying the same or less for energy than other parts of the country, our overdependence on gas and other factors will likely only result in higher gas prices. *See* [http://www.masslive.com/news/index.ssf/2015/11/ag\\_healy\\_grid\\_reliability\\_fine.html](http://www.masslive.com/news/index.ssf/2015/11/ag_healy_grid_reliability_fine.html); <https://www.clf.org/blog/iso-forward-capacity-auction-results-show-in-venegy-plant-not-needed/>; <https://www.unh.edu/unhtoday/news/release/2017/03/07/unh-research-finds-increased-energy-use-not-needed-grow-economy>; <http://www.nhbr.com/February-20-2015/Will-NH-really-benefit-from-major-energy-projects/>; <https://oilprice.com/Energy/Natural-Gas/3-Reasons-Natural-Gas-Is-Heading-A-Lot-Higher.html>.

28. As previously noted, our commitment to address climate change and reduce greenhouse gas emissions causing the crisis is further evidenced by New Hampshire’s membership in the [Under2Coalition](#), the goals of which will be completely thwarted if the petitioner’s expansion plans are approved.

29. Clark will present additional ample support for his position, if allowed as an intervenor in this proceeding.

WHEREFORE, for the reasons expressed, Clark respectfully requests that the PUC:

- A. Grant this petition and allow Clark to intervene in this proceeding as a party, with all rights as such to the full extent allowed by law; or
- B. Schedule a hearing on this matter; and
- C. Grant such other and further relief as is just, lawful and otherwise appropriate.

Respectfully submitted,

The petitioner,

Terry Clark,

By his Attorney:

Dated: March 6, 2018

//s//Richard M. Husband, Esquire  
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**CERTIFICATE OF SERVICE**

I hereby certify that I have, on this 6th day of March, 2018, submitted seven copies of this petition to the PUC by hand delivery, with copies e-mailed to the petitioner and the Consumer Advocate. I further certify that I have, on this 6<sup>th</sup> day of March, 2018, served an electronic copy of this petition on every other person/party identified on the PUC's service list for this docket by delivering it to the e-mail address identified on the PUC's service list for the docket.

//s//Richard M. Husband, Esquire  
Richard M. Husband, Esquire