

Coalition Against the Rockaway Pipeline

172 Fifth Avenue, PMB 126, Brooklyn, New York 11217

December 9, 2013

VIA eFILING

Kimberly D. Bose, Secretary
Nathaniel J. Davis, Sr., Deputy Secretary
Federal Energy Regulatory Commission
Office of Energy Projects
888 First Street, NE
Washington, DC 20426

*Re: Docket CP13-36-000 Proposed Rockaway Delivery Lateral Project, and
Docket CP13-132-000 Proposed Northeast Connector Project*

Dear Secretary Bose:

Thank you for the opportunity to comment on the draft Environmental Impact Statement (DEIS) issued by the FERC on October 4, 2013 for the Rockaway Pipeline. Unfortunately, the DEIS violates the National Environmental Policy Act (NEPA), 42 U.S.C. 4321, et seq., and the Administrative Procedure Act, 5 U.S.C. s. 706, and is deficient and misleading in many respects. As a threshold matter, and as explained in detail below, FERC must reissue the Draft EIS and provide a new comment period, or at bare minimum extend the present comment period, in light of, inter alia, (a) the major changes in the project that have emerged since issuance of the DEIS, including the time of year of construction, (b) the recent release of more than 1,000 pages of documents related to the project, which bear on the analysis in the DEIS but which CARP and the public have not had a sufficient opportunity to review, and (c) the failure to complete critical environmental analyses on which a full consideration of the impacts of the project necessarily depends, including completing the consultation process under the Endangered Species Act, and similar review processes under the Marine Mammal Protection Act and National Historic Preservation Act. Other glaring deficiencies of the DEIS reviewed in detail below include the following:

- It fails to adequately establish the necessity for the product the pipeline would transport. The people of NYC have no need for the relatively small incremental increase in delivery that would result from this action.

- It primarily addresses a construction project and related mitigations different from the project which Williams Transco developed during the final month of DSEIS preparation and announced to the public (with partial documentation) two weeks after DSEIS publication.
- It fails to address adequately many Key Concerns, *inter alia*, the construction of the National Grid portion without benefit of federal review, the misuse of the national parkland and historic National Register structures, and the impacts of the extensive scheduling and design changes recently submitted to FERC after the DEIS had already been issued.
- It ignores the far-upstream and far-downstream impacts that, at this date, ought be included in any intelligent consideration of energy production and build-out.

In short, this DEIS prompts any who rely on its assessment toward erroneous conclusions. Moreover, the lack of public notification, and the resulting paucity of meaningful participation from this city of millions, must be considered and rectified.

NEPA OVERVIEW

Declaring a national policy "to enrich the understanding of the ecological systems and natural resources important to the Nation," 16 U.S.C. § 4321, Congress passed NEPA in 1969, declaring a "continuing responsibility" of all federal agencies to "preserve important historic, cultural, and natural aspects of our national heritage" *Id.* at § 4331(b)(4). NEPA is our nation's "basic national charter for protection of the environment." 40 C.F.R. § 1500.1.

To carry out these goals, NEPA provides that, for all "major Federal actions significantly affecting the quality of the human environment," federal agencies "shall" prepare a "detailed statement," called an "Environmental Impact Statement" ("EIS"). 42 U.S.C. § 4332(C). Under NEPA, an EIS must consider (1) the "environmental impact of the proposed action"; (2) any "adverse environmental effects which cannot be avoided"; (3) "alternatives to the proposed action"; (4) the relationship between "local short-term use of man's environment and the maintenance of long-term productivity"; and (5) "any irreversible and irretrievable commitment of resources" involved in the proposal. *Id.* at § 4332(c)(i)-(v). In addition, NEPA requires agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." *Id.* at § 4332(E).

The Council on Environmental Quality ("CEQ") -- an agency within the Executive Office of the President -- has promulgated regulations implementing NEPA which are "binding on all federal agencies." *See* 40 C.F.R. § 1500.3. Those regulations require that before an EIS is finalized an agency must issue a draft EIS informing the public of the proposed action and the

agency's draft consideration of impacts and alternatives – on which the public must be afforded a meaningful opportunity to comment. The agency must then fully consider those comments before finalizing the EIS and making a decision as to which of the alternatives considered in the EIS it will implement. See id. §§ 1503.1(a)(4), 1503.4.

DISCUSSION

I. The DSEIS must be reissued in light of major developments since it was issued, and at minimum the comment period must be extended.

Before turning to the substantive deficiencies of the DEIS, several procedural matters must be addressed that require the agency to reissue a new Draft EIS, or at bare minimum extend the comment period. First, highly relevant information and impacts were not disclosed until well into the comment period, and other information is still being disclosed. Second, the DEIS was based on a project schedule that has since been changed, and the public must have an opportunity to comment on the different and substantially greater impacts which can be expected to occur if the project timeline changes from winter construction to summer construction. Finally, multiple other federal agencies are themselves still considering approvals and impacts that bear on the proposed action – all of which the public must have an opportunity to review and comment on.

In fact, changing the action from a construction project in the winter ocean to a construction project in the summer ocean, because of the increase in impacts to marine life, involves the stripping away of the action's primary mitigation, and in essence is the creation of a new project.

A. Transco's recent submission of well over 1,000 pages of new documents requires, at the very least, an extension of the public comment period.

Since October 4, 2013, when the DEIS was issued, Transco has been making voluminous additional submissions to FERC, thus far totaling well over 1,000 pages. Because these submissions are being made *post-issuance* of the DEIS, it goes without saying that whatever information they contain was not considered in FERC's analysis. Moreover, because they are being submitted after the opening of the comment period, it also goes without saying that members of the public who submitted comments early did so without knowledge of the significant information contained therein. Notably, Transco's post-DEIS submissions describe major scheduling changes, which, as discussed below could mean considerably greater environmental impacts than were analyzed in the DEIS.

As discussed above, NEPA requires that the public be afforded a meaningful opportunity to comment on a proposed action. There is simply no way to conclude that such an opportunity exists in this case, given the magnitude of Transco's post-DEIS submissions – which continue to pour in, even with less than a week remaining until the comment period closes.

FERC must, therefore, at bare minimum, extend the comment period, accordingly, to accommodate the public's right to review and offer opinion on the newly available information.

B. Because scheduling changes were announced post-issuance of the DEIS, it is fraught with “information gaps and inaccuracies,” which warrant a new DEIS.

Within the October and November 2013 submissions were significant scheduling and design changes. *Compare* DEIS at 2-32 (“[C]onstruction of the pipeline would be completed over a six month period beginning in the [early] spring of 2014”) *with* Enclosure 1 – Additional Information (Oct. 18, 2013) (“Transco determined that it could no longer complete construction of the offshore pipeline in the timeframe originally proposed.”) *and* Transco Meeting Summary (Sept. 24, 2013) (“Sept. 24 Summary”) (“Transco [now intends] to construct the offshore portion of the Project during the late *spring and summer* of 2014.” (emphasis added)).

Without a doubt, “[t]he season in which construction takes place can influence the degree of impacts associated with construction activities,” DEIS at 4-45, and, as the DEIS makes clear:

Construction during periods of sensitive fish activity could cause greater impacts than construction during other periods. Transco intends to initiate offshore construction in early spring. This is a time of the year when water temperatures are still cool enough to be non-optimal for most biological activity in the marine environment.

Id. (emphasis added).

Thus, the scheduling changes cast serious doubt on the validity of the DEIS, which was created in reliance upon what is now outdated and incorrect data. E.g., Sept. 24 Summary (new construction schedule “will have *different impacts than originally anticipated.*” (emphasis added)); *see also, id.* (“[T]he impacts related to summer construction may not be fully reflected in the pending DEIS.”).

Indeed, Transco's filings point to specific examples of additional impacts resulting from the scheduling change, including, *inter alia*, an “increase in eggs and larvae for fish and other prevalent species such as surfclam,” Sept. 24 Summary, and increased “impact to GNRA visitors during summer construction,” Recap from Transco Meeting (Sept. 9, 2013). New York Department of State representative Matt Maraglio further identified “areas that need additional analysis [because of the schedule change] including: [c]haracterization of beach uses during construction; [s]urface waters/users that are affected; [and] [a]reas and users adjacent to the work area that may be [v]isually affected.” Transco Meeting Summary (Sept. 17, 2013) (“Sept. 17 Summary”). *See also infra* (discussing in more detail some of the environmental impacts needing reconsideration in light of the new proposed schedule).

As Transco's own materials make clear, because of the construction schedule change, the DEIS likely contains "*information gaps and inaccuracies*," *id.* (emphasis added); *see also*, Sept. 18 Summary ("the DEIS coming out soon from FERC *may not accurately discuss impacts based on the changed project schedule*" (emphasis added)). These gaps and inaccuracies necessitate additional review in the form of a revised DEIS, as they effectively "preclude meaningful consideration by the public," *State of Cal. v. Block*, 690 F.2d 753, 770 (9th Cir. 1982), of the *actual* project proposed.

C. Cooperating agencies have not yet commented on old information, let alone new submissions trickling in from Transco over the past several weeks.

NEPA requires cooperation between agencies "early in the NEPA process," C.F.R. § 1501.6, and "[e]ach cooperating agency shall (1) [p]articipate in the NEPA process at the *earliest possible time*." *Id.* (emphasis added). FERC notes that the U.S. Department of the Interior – National Park Service, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers – New York District, National Oceanic and Atmospheric Administration – National Marine Fisheries Service, and City of New York are all "cooperating agencies in the preparation of [the] draft EIS," DEIS at 1-1; all of these agencies must make decisions on or provide expertise with regard to the Project at the earliest possible time, and at the very least, soon enough to allow the public a meaningful opportunity to comment on their findings.

At least some of these agencies had not yet provided *any* recommendations or approvals at the time the DEIS was issued, and, as such, those agencies analyses were not included for public consideration in the document upon which they are now asked to comment. For example, FERC recommends that various phases of construction not begin until:

- "the FERC staff receives comments from NOAA Fisheries, Protected Resources Division regarding impacts on marine mammals and Transco's proposed mitigation measures," DEIS at 4-38;
- "NOAA Fisheries issues an IHA to Transco," *id.*;
- "the Director of OEP approves Transco's plans and notifies Transco in writing that the mitigation measures may be implemented and construction may proceed," *id.*;
- "the FERC staff receives comments from NOAA Fisheries, Protected Resources Division and the FWS regarding impacts on the federally listed species," *id.* at 4-84;
- "the FERC staff completes formal consultation with NOAA Fisheries/FWS," *id.*;
- "Transco submits . . . comments from the NPS and the New York SHPO on all reports and plans for the Rockaway Project," *id.* at 4-133;

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- “Transco files documentation from the Pennsylvania SHPO that an archaeological survey at Compressor Station 195 is not required, or conducts a survey and files a survey report and the comments of the Pennsylvania SHPO on the report,” *id.*;
- “the ACHP is afforded an opportunity to comment,” *id.*;
- “the FERC staff reviews and the Director of OEP approves all cultural resource reports and plans,” *id.*

Pursuant to NEPA, the public, without question, has a right to comment on these agencies’ analyses and recommendations. By ending the comment period before those analyses and recommendations are available, and before they have been incorporated into the DEIS, FERC is depriving the public of that right.

Perhaps more importantly, because Transco has now made major changes to its construction schedule, even those agencies that have had opportunity to weigh in will have been basing their conclusions on information that no longer applies. As already explained more fully above, the schedule change means new and exacerbated impacts to many if not all of the affected resources. Any agency recommendations based on the old schedule must, therefore, be revised to account for these changes. Without knowing what the cooperating agencies have to say on the newly submitted information, the public is, again, essentially deprived of its right to comment on the *actual* project Transco proposes.

See also Comments of B. Pearson, with which CARP concurs:

Recently you've received comments from the U.S Army Corps of Engineers and the U.S. Environmental Protection Agency, both of which raised no substantial concerns about the conclusions in the draft EIS.

Nowhere in their responses do either of these entities acknowledge that they are aware that the schedule proposed in the draft EIS is not the schedule currently being considered. I request that the FERC send a notification to all agencies and interested parties stating the following: 1) that the construction schedule currently under consideration differs substantially from that included in the draft EIS and 2) requesting that all responses submitted to FERC specifically state that the response applies to the currently proposed construction schedule which is for construction to occur during the summer of 2014.

II. FERC has not established the necessity for this project.

Transco’s stated objectives for the Projects are to enhance the reliability and flexibility of National Grid’s distribution system in New York City and to provide a new incremental supply of natural gas. Transco’s objectives are consistent with the energy objectives identified in

state and city planning documents. The State Energy Plan states that “planned pipeline additions for new delivery points into the downstate market...would significantly relieve capacity constraints [and] increase reliability” (State Energy Planning Board, 2009). Similarly, New York City’s long-term growth plan states that the Rockaway Project “would critically reinforce gas supplies in Brooklyn and Queens” (New York City, 2011).

According to Transco, the Projects would meet these objectives by:

- providing firm delivery lateral service of 647 thousand dekatherms per day (Mdt/d) of natural gas to National Grid’s distribution system on the Rockaway Peninsula in Queens County, New York through the Rockaway Project;
- providing as part of the 647 Mdt/d, 100 Mdt/d of new incremental (i.e., additional) natural gas supply to National Grid through the Northeast Connector Project; and
- enhancing the security and reliability of National Grid’s distribution system by providing a new delivery point on the Rockaway Peninsula in Queens County that would allow National Grid to shift existing volumes of natural gas supply from an existing delivery point in Long Beach in Nassau County, New York.

Under Section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project.

The project is being presented as meeting a purported need for increased gas consumption in Brooklyn and Queens by “critically” reinforcing supplies of that gas. However, it is already acknowledged in the statements above that only 100 Mdt/d of the gas would be an increase in the amount already flowing through the system. The rest (547 Mdt/d) is delivered to Long Beach and rerouted into Brooklyn and Queens. Other than the less than 20% increase in gas, the only way that this pipeline would benefit Brooklyn and Queens is to divert gas from flowing to National Grid’s customers on Long Island. We are concerned that if a need arose for increased gas flow in one of those directions, it would likely also arise in the other. How will National Grid determine where to send the gas on a very cold day when the demand on boilers is high in both places? Will they shift gas away from the homes and businesses in one place in order to serve the other? This is a concern among both business and residential customers.

Another concern is for the price of natural gas, which has recently been abnormally (and perhaps artificially) low compared to that of heating oil. However the projected price of natural

gas is going up and is expected to double by 2016, according to the U.S. Energy Information Administration (EIA).

We point out the volatility of these prices as noted by that federal agency as follows:

*Natural gas prices were up at most market locations, increasing most significantly in the Northeast. Henry Hub increased from \$3.28 per MMBtu last Wednesday to \$3.34 yesterday, an increase of 6 cents per MMBtu, or 2 percent. Most trading points increased between 5 and 20 cents per MMBtu week-on-week, with the notable exception of the Northeast. Algonquin Citygate, serving Boston markets, is currently very elevated but fell by 7 percent relative to last week, from \$17.85 per MMBtu last Wednesday to \$16.55 per MMBtu yesterday. **Transco Zone 6 NY, serving New York City, nearly tripled from Wednesday to Wednesday, moving from \$6.10 per MMBtu to \$17.21 per MMBtu, surpassing Algonquin Citygate on February 20.***

“Currently, domestic natural gas sells for about \$3-\$4 a unit (per million BTU), but the spot price for natural gas in Japan is about \$15-\$20 per unit. US Industrial energy users, say that increased exports would raise domestic gas prices to mirror what natural gas is sold for internationally. The Industrial Energy Users of America, has said that higher natural gas prices, in turn, would make it tougher for US manufacturers, our competitiveness is dependent on the price of natural gas, and this is going to damage our ability to keep jobs here.

Natural Gas Weekly Update - For the week ending Feb. 20, 2013, Overview, *available at* <http://www.eia.gov/naturalgas/weekly/>.

There is concern on the part of investment firms that these prices forewarn the collapse of a “shale gas bubble,” as noted by Bloomberg News. In an article published in January of 2012, *“Surging prices for oil and natural-gas shales, in at least one case rising 10-fold in five weeks, are raising concern of a bubble as valuations of drilling acreage approach the peak set before the collapse of Lehman Brothers Holdings Inc.”*

The article continues:

Chinese, French and Japanese energy explorers committed more than \$8 billion in the past two weeks to shale-rock formations from Pennsylvania to Texas after 2011 set records for international average crude prices and U.S. gas demand. As competition among buyers intensifies, overseas investors are paying top dollar for fields where too few wells have been drilled to assess potential production, said Sven Del Pozzo, a senior equity analyst at IHS Inc. (IHS).

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'I don't feel confident that the prices being paid now are justified,' Del Pozzo said in a telephone interview from Norwalk, Connecticut. 'I'm wary.'

See <http://www.bloomberg.com/news/2012-01-09/shale-bubble-inflates-on-near-record-prices-for-untested-fields.html>)

Another acknowledgement of the riskiness of predicting gas prices is found at the EIA's web page entitled "The Global Liquefied Natural Gas Market: Status and Outlook," at <http://www.eia.gov/oiaf/analysispaper/global/lngmarket.html> ("Importers and exporters involved in U.S. LNG transactions are exposed to a significant level of risk given the **high degree of price volatility in U.S. natural gas markets.**").

What's more, the push to export natural gas from the United States will add to the volatility of gas prices domestically, as the gas prices internationally will drive competition for the gas on the world market.

Again according to the EIA's Natural Gas Monthly, see <http://www.eia.gov/naturalgas/issuesandtrends/> (gross exports of natural gas increased by 32.6 % between 2010 and 2012).

LNG to northeast Asia has already risen to a record \$19.40, according to World Gas Intelligence. And we find an article on their website page, LNG Intelligence, that as of December 6, 2013, US Gas Leaps Past \$4/MMBtu, available at <http://www.energyintel.com/pages/Login.aspx?fid=art&DocId=830738> (because of a massive US gas storage draw, driving domestic prices to a six-month high).

According to Deborah Rogers, who began her financial career in London working in investment banking and subsequently worked as a financial consultant for several major Wall Street firms, including Merrill Lynch and Smith Barney:

"The recent natural gas market glut was largely effected through overproduction of natural gas in order to meet financial analyst's production targets and to provide cash flow to support operators' imprudent leverage positions."

She continues, "Further, leases were bundled and flipped on unproved shale fields in much the same way as mortgage-backed securities had been bundled and sold on questionable underlying mortgage assets prior to the economic downturn of 2007."

See Report, "Shale Gas and Wall Street: Was the Decline in Natural Gas Prices Orchestrated?" Executive Summary, available at <http://shalebubble.org/wp-content/uploads/2013/02/SWS-report-FINAL.pdf>.

Note: Ms. Rogers also served on the Advisory Council for the Federal Reserve Bank of Dallas from 2008-2011.

The increase in the cost of natural gas to the residential consumer cannot merely be ascribed to cold weather. Indeed, throughout the United States natural gas prices **increased** over the summer months of 2013 as follows, shown in “nominal dollars” per thousand cubic feet:

Month	Price
March	\$ 9.35
April	\$10.45
May	\$12.63
June	\$14.99
July	\$16.23
August	\$16.46

See http://www.eia.gov/dnav/ng/ng_pri_sum_dcu_nus_m.htm.

In New York State, the numbers are even higher:

Month	Price
March	\$11.57
April	\$12.82
May	\$15.94
June	\$18.40
July	\$18.73
August	\$19.25

See http://www.eia.gov/dnav/ng/ng_pri_sum_dcu_SNY_m.htm.

Yet the residential consumption of gas during those months is down compared to winter months. According to ICF International, in a study prepared for the New York City Mayor’s Office of Long-Term Planning and Sustainability a graph clearly shows that residential usage dips sharply in February and is at its lowest just when the price is highest (please see http://www.nyc.gov/html/om/pdf/2012/icf_natural_gas_study.pdf, page 33, Exhibit 4-2).

According to the same document, we have entered a time frame in which natural gas usage by industrial, commercial, residential and other sectors (excluding that of power generation) is expected to remain approximately the same for the next 17 years, until 2030 (same document, page 13, Exhibit 2-1, U.S. and Canadian Gas Consumption by Sector). In fact, the report states that “the assumed growth rate for the New York area is even lower than the national

value at 0.6 percent per year, as a result of its more mature market and the effectiveness of its energy “

This report’s claim of the increased need for gas is based upon the demands of power generation, which need not depend upon natural gas. A study has been performed by Mark Z. Jacobson of Stanford University to “*examine the technical and economic feasibility of and propose policies for converting New York State’s (NYS’s) energy infrastructure in all sectors to one powered by wind, water, and sunlight (WWS).*” Mark Z. Jacobson, Examining the feasibility of converting New York State’s all-purpose energy infrastructure to one using wind, water, and sunlight, *available at* <http://www.stanford.edu/group/efmh/jacobson/Articles/I/NewYorkWWSEnPolicy.pdf>.

A significant portion of the argument for increasing the delivery of natural gas to New York City is based upon the idea that boilers should convert to the use of natural gas. In fact many residents believe that their boilers must convert within the next few years. This is not the case. Only boilers using #6 heating oil are required to convert by 2015 (or when their building’s Certificate of Operation expires). Buildings may comply with this deadline by switching to No. 4 or 2 heating oil (which by law must be blended with 2% biodiesel by October, 2012), or to 100% biodiesel, and/or to natural gas (dual fuel options are available). The second deadline requires discontinuing the use of No. 4 oil by Jan. 1, 2030 ... neither deadline imposes a switch to natural gas, which is a costly conversion (\$15,000-\$20,000) or an even more costly purchase of a new burner (\$120,000) and far more of a burden if natural gas prices go up in the future.

From the Sane Energy Project website, <http://saneenergyproject.org/boilers/>:

There are those who maintain that much of the soot and air pollution in our city is caused by poor boiler maintenance, rather than by the fuel itself. Buildings with malfunctioning boilers are easy to spot, spewing clouds of black smoke into the sky. But gas boilers may well create a different problem: According to a [statement](#) by experts Chris Benedict and Henry Gifford, when a poorly-maintained gas boiler malfunctions, it spews invisible carbon monoxide, and the problem is unlikely to be noticed, reported or corrected.

For all the above-stated reasons, the claim that public convenience and need are met by the Transcontinental Gas Pipe Line Company, LLC Rockaway Lateral Pipeline Delivery Project is hereby contested.

III. Numerous critical environmental issues are not meaningfully addressed in the DSEIS.

A. Trenching, HDD, Summer Construction & Riis Park Beach

i. Dredging toxins while trenching

The waters off Gateway National Recreation Area are the site of some of the worst dumping along the East Coast. According to a 1970 report, it is part of the largest grossly polluted area in the United States, and contains lead, chromium, copper, gold, selenium, and zinc. These toxins have been buried and kept out of the waters for years, but could be brought up by dredging related to this project, poisoning local fish and ruining commercial fisheries.

ii. DEIS 2.3.1.4 – Subsea trenching with a post-lay jet sled

The pipeline would then be lowered to a minimum depth of 4 feet below the seabed using a postlay jet sled. The post-lay jet sled would straddle and be towed along the pipeline by cable or chain from the pipe lay barge, which would provide pressurized water and air for the system. The jet sled would use high-pressure water jets to open a trench under the pipeline. The material loosened by the jets would be expelled by discharge nozzles to the area behind the sled. As the sled is pulled along creating the trench, the pipeline would sink under its own weight and settle on the trench bottom. The configuration of a typical jet sled is shown on Figure 2.3.1-5.

This is the description of the trenching work. Many sediment studies were executed. At the time of DEIS publication, a winter project was written about. Now, picture the above description of activity—and all the other ocean construction described—happening in summer, some of it as little as a half-mile offshore. Picture bathers at Riis Park Beach. You have to imagine all this, because that confluence of events is not pictured for us in the DEIS.

iii. DEIS 2.3.1.5 – Horizontal directional drilling

“Transco would use the HDD method to minimize impacts on nearshore habitats and avoid impacts on the beach and other areas of Jacob Riis Park. Transco proposes to locate the HDD entry point on TBTA property just north of Jacob Riis Park on the Rockaway Peninsula. The HDD exit point would be located about 3,600 feet or 0.7 mile offshore of the peninsula. As described in more detail below, the

HDD operation would be completed in three steps:

- the drilling of a small-diameter pilot hole;
- reaming or enlarging of the pilot hole to a diameter sufficient to accommodate the pipeline; and
- pulling the HDD pipeline segment into the completed drill hole.

The pipe for the HDD segment would be fabricated on the pipe lay barge as described above, laid on the seafloor within the proposed right-of-way easement, and hydrostatically tested (see the description of hydrostatic testing in Section 2.3.1.11 below) before being pulled through the drill hole.

The proposed HDD construction period would last approximately 8 to 10 weeks. This estimate is based on crews working 12 hours per day during the first phase of the HDD operation (i.e., during the setup of the equipment and the drilling of the pilot hole), then switching to 24 hours per day during the second phase of the HDD operation (i.e., during the reaming or enlarging of the pilot hole and when the offshore HDD pipeline segment is pulled into the hole and back to the HDD entry point).

The drilling fluid that would be used during the HDD operation to lubricate and facilitate the drilling operation and the removal of cuttings from the drill hole would consist of approximately 95 to 98 percent fresh water and 2 to 5 percent bentonite, which is a naturally occurring, nonhazardous clay mineral. As currently planned, the fresh water would be sourced from fire hydrants located in the vicinity of the onshore entry workspace. The potential for environmental impact due to the HDD drilling fluid is discussed in Sections 4.3.2.3, 4.5.2.1, and 4.6.3.2.

In preparation for initiating the pilot hole operation, a clamshell dredge would excavate a pit at the offshore HDD exit point location. The excavated material would be deposited on the seabed adjacent to the exit pit. The pit would provide a ramp and transition area that would be used to connect the end of the HDD segment to the section of the pipeline that is installed using the jet sled. It would also serve to contain the HDD drilling fluid and cuttings that are released at the offshore exit location during the HDD operation. The pit would be able to accommodate approximately 15,300 cubic yards of material.

Around the same time that the offshore exit pit is being dredged (or earlier), HDD equipment, including an HDD drill rig (see Figure 2.3.1-6), would be mobilized to and set up at the onshore HDD entry point location.

The drill rig would drill a pilot hole under the shoreline and seabed to the pre-excavated pit at the offshore exit point. Transco would install casing for approximately the first 100 to 200 feet of the drill path on the HDD entry side to the HDD entry location. *See* Figure 2.3.1-6 Typical HDD Drill Rig.

While the drilling of the pilot hole is underway, approximately five sets of steel piles (10 piles total) known as goal posts, probably due to their similarity in appearance to football goal posts, would be installed on the south side of the HDD exit pit to help support the drill pipe during the drilling operation (see Figure 2.3.1-7). Another 60 steel piles, known as fender piles, would be installed to prevent support vessels from accidentally coming into contact with the clamshell or jack-up barge during the HDD operation. All 70 of these piles, consisting of steel pipe measuring 14 to 16 inches in diameter, would be installed using two vibratory hammers. One vibratory hammer would be in the process of positioning while the other is actively hammering. 10 The installation of the piles would be completed in approximately 1 week with about 10 piles driven each day. Transco estimates that it would take approximately 60 seconds of

continuous vibratory driving to install each pile. Thus, the total operating time of the vibratory hammer would be less than one day of continuous operation spread over a period of one week.

After the pilot hole is completed, it would be enlarged to a diameter sufficient for the 26-inch diameter pipeline plus the casing that would be installed at the entry site. The enlargement of the pilot hole would be accomplished by a tool known as a reamer that would be attached to the drill head.

When the enlarged hole is suitable for installation of the HDD pipe segment, the 10 goal-post piles would be removed using a vibratory hammer. Approximately 60 seconds of continuous operation of the vibratory hammer spread over a period of one to two days would be required to extract each goal post pile. After the goal posts are removed, the jack-up barge would be moved and the pipe lay barge would be repositioned to support the installation of the HDD pipe segment through the combined effort of the onshore and offshore equipment, which would insert the HDD segment into the offshore HDD exit hole and pull it back to the HDD entry hole (see Figure 2.3.1-8).

After the HDD pipe segment is installed and before it is connected to any other sections of pipe, it would be hydrostatically tested a second time (see Section 2.3.1.11 for additional discussion of hydrostatic testing). When this second hydrostatic test is successfully completed, Transco would remove the casing at the onshore entry location and demobilize any remaining HDD equipment.

Following completion of the HDD, the 60 fender piles would be extracted using the vibratory hammer. Transco estimates that removal of the fender piles would be completed in approximately one week with about 10 piles extracted each day. Approximately 60 seconds of continuous operation of the vibratory hammer would be required to extract each pile. The total operating time of the vibratory hammer for the extraction of the fender piles would be less than one day spread over a period of one week.”

This above is the description of the Horizontal Directional Drilling. Drilling fluids and cuttings will be left in an open pit, covered by a very shallow amount of native material. Representatives of NOAA NMFS, which had long held that the drilling fluids and cuttings should be removed, were not at the meeting where it was decided they would be left in place. At the time of DEIS publication, a winter project was written about.

Now, picture the above descriptions of activity—and all the other ocean construction described—happening in summer, some of it as little as a half-mile offshore. Picture bathers at Riis Park Beach. You have to imagine all this, because that confluence of events is not pictured for us in the DEIS.

B. The DEIS does not adequately address the impacts on fish and wildlife, including threatened and endangered species, particularly in light of the delay in construction.

As noted above, the change in the construction period for the project requires issuance of a revised DEIS, to allow the public to comment on the impacts that will occur during the new period. However, even based on what is already disclosed in the DEIS, it is plain that the document is patently deficient in its consideration of these impacts.

Once again, the DEIS states unequivocally that construction of the pipeline will take place over a six month period, beginning “in early Spring.” DEIS at 4-45; *see also id.* at 2-32. Throughout the DEIS’s analysis of impacts the agency relies on this start date to conclude that impacts on wildlife and other resources will be low. Thus, for example, the agency states that doing the work in “early Spring” will insure that “water temperatures are still cool enough to be non-optimal for most biological activity in the marine environment.” DEIS at 4-45.

The DEIS’s analysis of impacts on wildlife is replete with reliance on this schedule. *E.g.* DEIS at 4-28 (acknowledging that “the impacts of the project on wildlife” will depend on the wildlife present when construction takes place). Thus, in considering the adverse impacts associated with the project’s many activities – *e.g.* offshore excavation, pile driving, directional drilling (which may result in the release of drilling fluids, DEIS at 4-32), vessel use (which may result in ship strikes, *id.* at 4-33) – the DEIS repeatedly relies on the time period of construction. Indeed, although the DEIS recognizes that “*up to 13 species of marine mammals are transients that use the Atlantic Ocean south of Long Island during the year,*” the agency summarily *dismisses* impacts to many of them by stating that the “Atlantic white-sided dolphin, bottlenose dolphin, long-finned pilot whale, short-finned pilot whale, minke whale, humpback whale, and fine whale *are highly unlikely to be present in the Rockaway Project area during the proposed offshore construction period.*” *Id.* at 4-33 (emphasis added).

Moreover, while the DEIS acknowledges likely adverse impacts to federally-listed species, including the critically imperiled right whale and Atlantic sturgeon, there too the agency relies on the periods these species are present relative to the construction period in considering the impacts. For example, the DEIS recognizes that “Atlantic sturgeon would likely be present in higher numbers in the vicinity of the Rockaway Delivery Lateral during the *late* spring (April to June) and fall (September to November), not in early Spring when construction was assumed to commence. DEIS at 4-70.

Similar information is provided for multiple other species, including 3 separate imperiled species of sea turtle. DEIS at 4-75 (explaining those three species may be found in the project area in the summer and fall months, but not the Spring when construction was planned as per the DEIS). Indeed, when analyzing the impacts of “underwater noise” on the sea turtles, the DEIS states that while sea turtles could be disturbed by this noise, “most of the offshore work would likely be completed during the spring when sea turtles are less likely to be present.” DEIS at 4-76; *id.* at 4-77 (noting that bottom-dredging and jet-trenching also may have adverse impacts on sea turtles, but only if “if construction occurs when these species are present in the region”). The

DEIS dismisses adverse impacts on federally protected bird species on the same basis. DEIS at 4-80 (discussing the Roseate tern).

However, as also noted above, since issuance of the DEIS *the construction schedule has changed*. Accordingly, it could not be more clear that the DEIS fails to adequately consider the impacts of the project on wildlife, marine mammals, and the environment as a whole. *See, e.g., Cal. v. Block*, 690 F.2d 753, 770 (9th Cir. 1982); *Dubois v. Dept of Agric.*, 102 F.3d 1273, 1292 (1st Cir. 1996) (DEIS inadequate where the proposal under consideration was substantially changed after issuance of the DEIS); *Mid-States Coalition for Progress v. Surface Tsptn Bd.*, 345 F.3d 520, 548 (8th Cir. 2003) (substantial changes in the proposed action relevant to environmental impacts make a DEIS deficient).

These problems are exacerbated here with respect to federally listed species in particular because, as also explained above, so much of the information on those impacts is either not included in the DEIS, or remains unknown. Indeed, while the DEIS informs the public that it is the agency's "official BA [Biological Assessment] for the Rockaway project," DEIS at 4-60 – and thus that the public should rely on the DEIS to evaluate the agency's analysis of impacts on listed species, in fact, *weeks after the DEIS was issued, on October 18, 2013 Williams submitted a separate BA with other information*. *See* Oct. 2013 BA on the Rockaway Delivery Lateral Project (BA).

That BA acknowledges that, contrary to the DEIS the public was asked to comment on, construction will not begin until the "late spring." BA at 2-3. On that basis, the BA now *changes* the findings of adverse effects stated in the DEIS the public has been asked to comment on. For example, the DEIS concludes that the project is "likely to adversely affect" the critically imperiled right whale. DEIS at 4-61. As a result, the public had every reason to expect that the National Marine Fisheries Service would prepare a full-blown Biological Opinion (Bi-Op) analyzing those impacts.

In fact, according to the Canadian Whale Institute, "The actual migration path is not well understood." The Institute continues "there are several gaps in our knowledge. Generally, right whales move from the only known winter calving ground in the coastal waters off Florida and Georgia (also known as the Georgia Bight) to spring feeding grounds in the Great South Channel and Cape Cod Bay," *see* http://www.rightwhale.ca/migration_e.php. Given this uncertainty by marine biologists, we have reason for concern about the presence of migrating right whales in the waters of the New York Bight during construction of the project.

C. FERC is unlawfully segmenting the pipeline project

Under NEPA, an agency preparing an EIS may not artificially segment its analysis, *see* 40 C.F.R. § 1508.25; where a major federal action is actually much broader than what is proposed by an applicant, the perceived environmental impacts of the action are unduly

minimized. *See, e.g., Citizens' Comm. to Save Our Canyons v. U.S. Forest Serv.*, 297 F.3d 1012, 1028 (10th Cir. 2002). CEQ regulations thus require combined analysis of smaller actions that are “connected,” “similar,” or have “cumulative impacts.” 40 C.F.R. § 1508.25. Essentially, “segmentation defeats NEPA’s dual purpose of requiring agencies to consider environmental impacts and disseminating information about environmental impacts to the public.” A. Hood, *The Same NEPA Proposal or Connected NEPA Actions?*, 37 B.C. Env’tl. Aff. L. Rev. 191, 206 (2010), <http://lawdigitalcommons.bc.edu/ealr/vol37/iss1/7>.

Factors to be considered by an agency when deciding whether to consider two (or more) projects in tandem include whether the actions are located on the same site, whether a project will require additional development that will have adverse environmental impacts, whether the agency conceived of other proposed actions or future projects as an integrated whole, and whether the proposed project would preclude options for future related projects. *See generally* Daniel R. Mandelker, *NEPA Law and Litigation* § 9.16 (2d ed. 1992 & Supp. 2012). Moreover, where one project lacks independent utility without another project or projects, all should be evaluated *together*. *See* 23 C.F.R. § 771.111(f).

In this case, FERC ought to have considered the Brooklyn Queen Interconnect (“BQI”) together with the Projects addressed in the DEIS. As Transco’s own marketing materials explain, the Rockaway Delivery Lateral project and the BQI are meant – *in combination* – “to provide a long-term solution to meet the supply needs of National Grid’s system by delivering natural gas to the Brooklyn area.” *See* Williams Transco Pipeline Poster, *available at* <http://williamscom.files.wordpress.com/2012/05/rockawayposters.pdf> (last visited December 6, 2013).

Thus, the BQI and the Rockaway Delivery Lateral project are, unquestionably, located at the same site and dependent upon each other: Neither project possesses independent utility, and the placement of the BQI piping precludes alternative locations for the Rockaway Delivery Lateral. While the DEIS touches cursorily on the BQI, it fails to present the projects together as a connected proposal, and to fully analyze them as such. This failure warrants the issuance of a revised DEIS.

D. M & R Station and Coastal Siting – Risk of flooding

i. Hurricanes and Flooding

The Draft Environmental Impact Statement (DEIS) Section 4.1.4.2 (on Hurricanes) states:

An analysis by the New York State Emergency Management Office (2005) found that the entire Rockaway Peninsula and much of the Brooklyn-Queens area could be flooded due to Category 3, 4 or 5 hurricanes depending on the direction of prevailing winds at landfall, distance from the eye of the storm, eye wall intensity,

and tide level, but the risk of flooding during a major hurricane event is difficult to predict. The Intergovernmental Panel on Climate Change considers it likely that hurricanes will become more intense as a result of climate change and sea level rise, but the total number of storms could decline (Pachauri and Renninger, 2007).

If storms grow in intensity, whether or not the total number of storms declines, the impacts of such storms on the Rockaway Lateral Pipeline and the Metering and Regulating Station pose an unacceptable risk. Damage to the pipeline could result from wind, flooding, or flying debris, whether the equipment and infrastructure is in operation or not.

As stated in the DSEIS: “*Transco states that the ability to forecast hurricanes several days in advance would allow it to ensure the safety and integrity of its system....*”

Communications and power were out after Superstorm Sandy in South Brooklyn and the Rockaways for several days. It is uncertain whether a weather event warning would indeed be provided in enough time for the company to respond, and even if Transco did shut down the flow of gas through the pipeline, the flooding of the equipment could damage it to the point of requiring replacement of part or all of the metering and regulating station.

“Water, together with hydrocarbons, favors the generation of solids, in particular during the decompression of gas from high-pressure pipelines. The solids block gas fittings, and the water is corrosive,” <http://www.pipelineandgasjournal.com/fundamentals-gas-pipeline-metering-stations?page=show>

The floor level at airplane hangars 1 and 2 is 13.9 feet above sea level. The Metering and Regulating Station to be sited in those historic hangars is to be elevated above floor level by one foot. During Superstorm Sandy, the waters surged to a height just a few feet below the hangars. Across Flatbush Avenue from Hangar Row lies the marina at Dead Horse Bay. On October 29, 2012, Superstorm Sandy wreaked havoc on the marina, tossing boats about and destroying structures on the ground. Transco was requested by FERC to submit an updated FEMA map after the storm. In Section 4.1.4.3 of the DSEIS (on Flooding) the following statement is found.

According to FERC, “*Transco conducted a site-specific land survey of the proposed M&R facility site to determine the elevations of the site relative to FEMA’s designated 100-year floodplain (i.e., the area with a 1 percent proposed probability of flooding in a given year). The survey determined that the lowest floor elevation inside the proposed M&R facility is approximately 2.9 feet above the 100-year floodplain delineated in the recent ABE mapping (FEMA, 2012b).*”

The FEMA map referenced immediately above is dated 2012. It seems unlikely that a map could have been drawn up within two months of the storm to reflect new data about flooding after that extreme weather event.

However, given the unpredictability of climate events according to the Intergovernmental Panel on Climate Change, even an elevation of 2.9 feet is insufficient guarantee of protection of the M&R station from flooding and salt water damage.

The pressure entering the Rockaway Lateral Pipeline from the Lower New York Bay pipeline may reach over 960 pounds per square inch. The regulator's job is to lower that pressure.

But according to Mark McDonald, president of the New England Gas Workers Association,

“Water can cause the regulator to be stuck open completely, in the wide open position ... If that happens, it dramatically increases the pressure and it can cause serious problems down the line. If gas is coming into a home or a business at a much higher pressure than it's supposed to, it can cause a fire or even an explosion. In addition, prolonged exposure to water can contribute to accelerated corrosion of the regulators, causing gas leaks that could trigger an explosion or fire.”

Flood Damage to NYC Natural Gas System Could Pose Long-Term Public Safety Threat, <http://www.naturalgaswatch.org/?p=1580>.

If there is a major fire, NYC is ill prepared to fight one. Firemen tell us that in Floyd Bennett Field, many of the hydrants don't work and others have insufficient water pressure to respond to a fire. The National Parks Service, which oversees Floyd Bennett Field and Gateway National Recreation Area, admitted that the broken hydrants have not been repaired since the New York Post reported about their condition last year. “In terms of the fire hydrants, nothing has changed,” said National Parks Service spokesman John Warren. *Floyd Bennett Field Hydrants Don't Work, Critics Say*, Residents blast Floyd Bennett Field pipeline plan, by Colin Mixson, available at http://www.brooklyndaily.com/stories/2012/32/mm_floydbennettpumps_2012_08_10_bk.html.

E. Rockaway Delivery Lateral Project – Risks & potential catastrophe

i. Technical competence

According to the DSEIS, “Under Section (C) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project.”

As reported in June 2012, the Williams Companies had been under federal corrective order for 44 of previous 45 months, according to Natural Gas Watch (<http://www.naturalgaswatch.org/?p=1305>).

Here are **some of the 35** reportable accidents they have had since 2006:

- Appomattox, VA, September 2008 – pipeline fails, blowing a fireball that scorched an area 1,125 feet in diameter, leveling two homes and injuring 5 people and damaging 100 homes.
- Alabama, 2011 – pipeline ruptures, shooting flames 100 feet into the air for 90 minutes after the pipeline was shut off; the explosion is heard more than 30 miles away.
- Springfield Township, PA, March 2012 – explosion blows hole in roof of compressor station, shakes homes a half mile away.
- Ellicott City, MD, July 2013 – Natural gas pipeline explodes, witnesses describe the sound as that of a jet plane landing on the roof. Fortunately nobody was injured.

The Pipeline and Hazardous Materials Safety Administration (PHMSA) issued a *Corrective Action Order* to Williams Partners on Dec. 6, 2011, in connection with the massive natural gas explosion that occurred in Marengo County, Alabama, on Dec. 3, 2011, on the company's Transco pipeline:

On December 3, 2011, one of the five parallel natural gas pipelines in Transco ruptured in Marengo County, Alabama. The force of the rupture created a large crater and propelled a 47-foot, 3-inch piece of buried pipe more than 200 feet away. The releasing gas also ignited and continued to burn for several hours, causing damage to one of the adjoining pipelines and scorching approximately eight acres of surrounding property.

Owner of PA Natural Gas Facility that Exploded Has Lengthy Record of Pipeline Safety Violations, Natural Gas Watch <http://www.naturalgaswatch.org/?p=1305>.

After an investigation of the incident PHMSA noted that Williams, “*has not determined whether the conditions that caused the failure exist on other portions of Transco,*” and determined that if Transco continued to operate the pipeline it would likely result in “*serious harm to life, property, and the environment.*” *Id.*

In addition, other Williams companies have been cited by PHMSA for natural gas safety violations, including:

- June 24, 2011 – Williams Partners subsidiary, the Transcontinental Gas Pipeline Co. LLC, was fined \$23,800 by PHMSA for failure to conduct annual inspections of natural gas compressor stations in Texas and Louisiana.
- March 5, 2012 – Williams Partners subsidiary, the Transcontinental Gas Pipeline Co. LLC fined \$50,000 by PHMSA for failure to follow its own, internal policies related to controlling external corrosion in natural gas pipelines running through the New York City borough of Staten Island.

ii. Lack of safety oversight

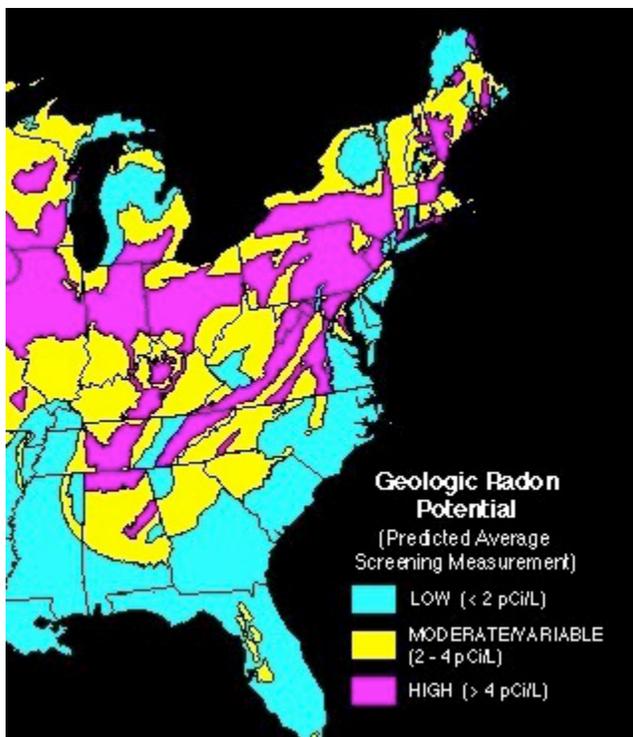
Given the spotty safety record of Williams Transco, it is even more disturbing that the little-known federal agency charged with monitoring the system and enforcing safety measures — the Pipeline and Hazardous Materials Safety Administration — “is chronically short of inspectors and lacks the resources needed to hire more, leaving much of the regulatory control in the hands of pipeline operators themselves, according to federal reports, an examination of agency data and interviews with safety experts.” *See also, e.g., Caspian Realty, Inc. v. Zoning Board of Appeals of Town of Greenburgh*, 68 A.D.3d 62, 72 (N.Y. App. Div. 2009) (finding applicant’s history of non-compliance relevant to health, safety and welfare of community). *See also* Dan Frosch and Janet Roberts, *Pipeline Spills Put Safeguards Under Scrutiny*, N.Y. Times, Sept. 9, 2011, available at http://www.nytimes.com/2011/09/10/business/energy-environment/agency-struggles-to-safeguard-pipeline-system.html?_r=3&pagewanted=1&.

iii. The Barrier Peninsula

The job of the M&R station is to meter and then regulate the enormous pressure in the pipeline. There would be no such regulation of the high pressure of this gas as it enters the Rockaway Peninsula through the Rockaway Lateral Pipeline. The Rockaways suffered extreme damage from the surging tide and the force of wind and water on the shore and homes on that peninsula. Many houses were completely destroyed, the boardwalk tossed up onto homes and streets like sticks, and cars thrown upon piles of sand blown from the sea floor. The risks to a barrier peninsula already shown to be so vulnerable to extreme weather are unconscionably high, and the Rockaway Lateral Pipeline project should be reconsidered with a new draft Environmental Impact Statement reflecting all of the above concerns.

iv. Radon

Assemblywoman Linda Rosenthal has launched a bill to protect New Yorkers against radon exposure from shale gas. *See also* Video: Al Appleton connects the dots on Spectra, radon and boilers at Cooper Union Forum on Radon, <http://www.youtube.com/watch?v=YFWwW8jadWw>; Video: Dr. Sheila Bushkin-Bedient at Cooper Union Forum on Radon, <http://www.youtube.com/watch?v=2p-DBDKSctg>.



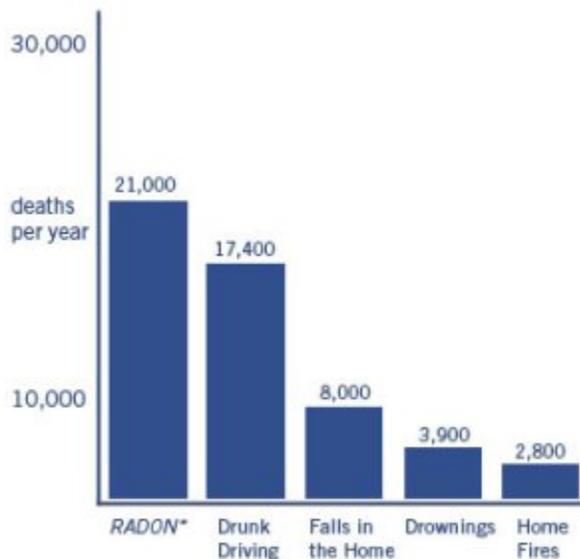
Radon is a radioactive gas that is released whenever gas is extracted. It travels with the gas through pipelines to the point of use. Radon has always been present in natural gas, and is currently present in the NYC gas supply. However, the gas supply to New York City is changing. Prior to the use of high-volume, slick water, hydraulic fracturing (fracking), the gas coming to New York City was supplied from areas in Texas, Louisiana and the Southwest, or as the map at left indicates (in blue), from areas of low radioactivity and at great distance.

As shown on the map above (in pink) The Marcellus shale play is particularly high in radioactivity; Scientists estimate it is between 10 to 70 times more radioactive than average. Following the development of fracking, more and more of New York's gas supply will be coming from this area. The proposed Spectra pipeline has been leased to Chesapeake Energy, one of the main Marcellus drillers.

The fact that this source is physically much closer to New York also means that the radon has less time to decay in transit, a matter of hours from drill sites in Pennsylvania. It follows that radon levels in city apartments will therefore be higher as the proportion of Marcellus gas in our supply increases. During winter months, when demand is higher, gas is delivered faster, and with apartment windows tending to be closed, the risk would be even greater.

Radon is an inert gas, it cannot be burned off or mitigated except by radioactive decay. It has a half-life of 3.8 days. Using the general rule of thumb of 10 half-lives to decay to 1/1000 of original concentration, that would be 38 days, or roughly one month.

With radon gas, the minimum dangerous concentration is much lower if breathed in. Twenty half-lives (or 1/1,000,000 of original concentration) would require 76 days or two and a half months. When fully decayed, radon converts to polonium and finally lead, also dangerous substances.



Of particular concern is the typical New York City kitchen, which tends to be small, poorly ventilated, and usually without a window or hood vented to the outside. City building codes now prohibit external wall vents for cooking appliances and gas dryers. Most apartments have only a recirculating hood or a passive wall vent. Passive vents are connected to other apartments via a vertical duct and release to the roof of the building. In many homes, that vent is often sealed to block neighbor's cooking odors, exacerbating the problem of poor ventilation.

Although—like asbestos—when inhaled, there is no safe amount of radon, the EPA has set a measure of 4 picocuries per liter (pCi/L) as the “actionable” level inside a home. Researchers at Johns Hopkins advocate for lowering the actionable level of radon to 2pCi/L, because of the high levels of background radiation in modern life. The majority of readings from recent citywide tests, organized by Sane Energy Project, showed radon levels in the gas supplied to city kitchens measuring less than .3 pCi/L. At the moment, our radon levels are very low, and we want to keep it that way.

The Spectra pipeline, the Rockaway Lateral, and planned upgrades at the Harlem Transco metering station, will increase the proportion of Marcellus gas mixed into the city's gas supply. This could increase the risk that NYC residents will inhale radon when they cook with their gas stoves, do laundry with their gas dryers, or maintain their gas boilers. Radon is the leading cause of lung cancer in non-smokers, and the increased exposure could potentially cause an additional 30,000 lung cancer deaths.

Radon is even more of a danger to children and pets, because it is a "heavy" gas (it decays to lead) and is known to "sink," meaning it seeks the lowest level of the space it occupies. Combined with studies that link gas cooking emissions with lowered infant development, this is truly cause for alarm. The draft EIS (Environmental Impact Statement) of the Spectra pipeline did not include radon in its review of issues. This is a subject that deserves study before any more Marcellus gas is delivered to the residents of the five boroughs, where it may endanger the health of tens of thousands of citizens. Radon levels in residential gas must be monitored and kept at current low levels.

In addition to the inhalation risk, radon and its source, radium, create other problems with pipelines: As the gas travels, decay causes radioactive elements (the so-called, "daughters of radon") to plate out on the sides of the pipelines, eventually creating radioactive "hot pipes." Replacement, disposal, and cross-contamination with nearby water pipes and utilities could be yet another result of the use of high-radon fracked gas. *See, e.g.,* [Map](#): US Geological Survey; [Chart](#): Comparative danger of radon, from EPA website; Radon in Natural Gas from Marcellus Shale By [Marvin Resnikoff](#), Radioactive Waste Management Associates; Sierra Club Atlantic Chapter [press release](#) quoting Professor James W. Ring, Professor Emeritus of Nuclear Physics at Hamilton College; Gas Emissions can Stifle Infant Development, [Environmental Health News](#); EPA [guide](#) to Radon.

Radon is the leading cause of lung cancer in non-smokers; it is responsible for more deaths (21,000 annually) than drunk driving (17,400 annually). Although—like asbestos—when inhaled, there is no safe amount of radon, the EPA has set a measure of 4 picocuries per liter (pCi/L) as the "actionable" level inside a home.

Researchers at Johns Hopkins and the World Health Organization now advocate for lowering the actionable level of radon to 2pCi/L, because of the high levels of background radiation in modern life.

Using the general rule of thumb of 10 half-lives to decay to 1/1000 of original concentration, that would require 38 days, or roughly one month. With radon gas, the minimum dangerous concentration is much lower if breathed in. Twenty half-lives (or 1/1,000,000 of original concentration) would require 76 days or two and a half months. So the time that radon

can be considered dangerous is much longer than public perception, and, even when decayed, radon converts to polonium and finally lead, also dangerous substances.

Radon is even more of a danger to children and pets, because it is a “heavy” gas (it decays to lead) and is known to “sink,” meaning it seeks the lowest level of the space it occupies. Combined with studies that link gas cooking emissions with lowered infant development, radon is truly a legitimate public health risk.

The DSEIS reads: *“Since radon is not destroyed by combustion, burning natural gas containing radon can increase the level of radon within a home (Agency for Toxic Substances and Disease Registry, 2010).”*

TRUE. In many homes, the source of radon is the ground itself, with radon occurring in basements and requiring ventilation to mitigate any risks. However, in New York City, most apartment dwellers are not exposed to radon except through the gas they use in their kitchens, laundries, and boiler rooms.

The majority of readings from recent citywide tests, organized by Sane Energy Project, showed radon levels in the gas supplied to city kitchens in 2011 and 2012 measuring less than .3 pCi/L. Historically, our radon levels have been very low, and we call on that FERC and the EPA, as agencies charged with the protection of the public interest, do everything in their power to keep it that way.

The DSEIS reads: *“Several factors limit the indoor exposure to radon from natural gas. Radon’s half-life, defined as the time it takes for the element to decay to half its initial concentration, is relatively short (3.8 days). The time needed to gather, process, store, and deliver natural gas allows a portion of the entrained radon to decay, which decreases the amount of radon in the gas before it is used in a residence.”*

THAT DEPENDS. Prior to the development of gas extraction via fracking in the Marcellus Shale, the gas coming to New York City was supplied from areas in Texas, Louisiana and the Southwest, traveling long distances and extracted from shale plays the USGS has identified as areas of low radioactivity.

As the USGS confirms, the Marcellus shale play is particularly high in radioactivity; Scientists estimate it is between 10 to 70 times more radioactive than average. With the Rockaway Lateral, along with other and new pipelines, such as the Williams-Transco upgrade at West 134th Street in Manhattan, and the Spectra Pipeline (the last two already online as of November 1st, 2013), all intended to deliver Marcellus gas to the NY and Long Island markets, more and more of New York’s gas supply will be coming from high-radon shale plays. Even if the supply is mixed with gas from more distance shale plays, all things being equal, a larger

percentage of Marcellus gas is being mixed into the supply, and that percentage will increase as time goes on and other shale plays diminish in production (which is already happening).

The fact that the Marcellus is physically much closer to New York also means that the radon has less time to decay in transit, a matter of hours from drill sites in Pennsylvania. It follows that radon levels in city apartments will therefore be higher as the proportion of Marcellus gas in our supply increases.

During winter months, when demand is higher, gas is delivered faster, and with apartment windows tending to be closed and more cooking being done, the risk would be even greater. The increased exposure could potentially cause an additional 30,000 lung cancer deaths. We call on FERC to study and report on the expected level of radon in Marcellus versus other sources, before the EIS can be considered complete. We demand that Williams-Transco and National Grid detail the exact source, radioactivity level, and percentage of the gas mix they intend to deliver to consumers.

The DSEIS reads: *“The required venting of appliance exhausts from water heaters, furnaces, and other appliances also limits potential exposure pathways to radon emissions.”*

NOT ALWAYS. Let’s talk about the reality of exhausts in NYC, as opposed to what FERC might assume from reading building code. FERC is likely unfamiliar with actual venting circumstances in NYC apartments, but our colleague, Clare Donohue, is not. As a professional kitchen and bath designer, working for 15 years in NYC she can attest to the lack of ventilation available, especially in older housing stock, which is the majority of the supply. While newer buildings may comply with current requirements for proper air exchanges, older kitchens almost never do. There are very few “grandfathered” external vents remaining.

The typical New York City kitchen tends to be small, poorly ventilated, and usually without a hood vented to the outside, often without a window. NYC building codes now prohibit external wall vents for cooking appliances and gas dryers, and most apartments have only a recirculating hood or a passive wall vent. Passive vents are connected to other apartments via a vertical duct that releases to the roof. In many buildings, the roof fan that might create a draw through that duct is broken. In many homes, that wall vent is often sealed to block neighbor’s cooking odors, exacerbating the problem of poor ventilation.

The reality of New Yorker’s busy lives, an apartment-dweller’s lack of awareness of proper maintenance, or lack of access in high-rise apartment buildings, means that vents for laundry are rarely, if ever, cleaned, and are usually doing a very poor job of venting. This is discovered anytime we perform a demolition of an existing laundry vent. The answer to, “When was the last time this duct was cleaned?” is always, “Never.”

We call on FERC to examine, catalog and report on the actual ventilation situation in NYC apartments and homes before the EIS can be considered complete. The agency and the public should know whether ventilation realities, in combination with potentially higher radon in the gas supply, will endanger public health.

The DSEIS reads: *"While the FERC has no regulatory authority to set, monitor, or respond to indoor radon levels, many local, state, and federal entities establish and enforce radon exposure standards for indoor air."*

THAT'S A PUNT. NEPA, the National Environmental Policy Act of 1970, demands that FERC take the required "hard look" at radon and make a "good faith analysis" of environmental issues connected to any federal project. FERC is clearly not acting in good faith here and needs to take responsibility for protecting the public. The EPA is very much required to enforce radon standards and should not be signing off on this DSEIS without intense study of the radon issue. We call on FERC and EPA to step up and do their duty to protect public health against radon.

The DSEIS reads: *"It is expected that the combustion of gas transported by the Projects would comply with all applicable air emission standards."*

BASED ON WHAT? What exactly are the "applicable standards" FERC refers to? What agency will be monitoring the delivered gas to know if it complies? What exactly gives FERC the expectation that the gas delivered will comply, when the gas supply being delivered after the pipeline goes into service will be different from the gas supply historically delivered? We call on FERC to supply data that backs up their claim.

The DSEIS reads: *"In the unlikely event that these standards are exceeded, the necessary modifications would be implemented to ensure public safety."*

WHAT MODIFICATIONS AND BY WHOM? There are currently no laws or local codes that require the monitoring or mitigation of radon in natural gas delivered to the homes of consumers. Who does FERC expect will be watching to even KNOW if standards are exceeded? What methods of monitoring will be accepted as standard? Will consumers be required to monitor gas themselves, or will landlords, or will utilities? What method of reporting will be accepted as standard? WHAT modifications would be implemented if radon levels exceed accepted levels, by what agency and how quickly? How and when residents will be notified that their gas supply has exceeded regulated limits? What alternative will they be supplied for cooking and heating if their gas supply does exceed limits?

We call on FERC to examine and answer all of the above questions. FERC cannot pass off these unknowns as outside their jurisdiction. If FERC makes the claim that the public safety will be ensured, FERC must supply data and resources to back that claim up.

The DSEIS does not address: In addition to the inhalation risk, radon and its source, radium, create other problems with pipelines: As the gas travels, decay causes radioactive elements (the so-called, “daughters of radon”) to plate out on the sides of the pipelines, eventually creating radioactive “hot pipes.”

Replacement, disposal, and cross-contamination with nearby water pipes and utilities could be yet another result of the use of high-radon fracked gas.

In apartment buildings, there are multiple rows of vertical gas pipes running through apartment walls for the entire height of the building. Will these pipes become a hazard if the gas running through them becomes dangerously radioactive? How will that additional radiation increase the cancer risk?

We call on FERC to examine and report on the risks of “hot pipes” and how this could affect apartment dwellers, plumbers, maintenance workers, and the crews of the utilities themselves.

In conclusion, we call on FERC to deny approval of this pipeline until the builder and utilities can PROVE the gas delivered will not contain dangerous levels of radon. We call on the EPA to be proactive, and PREVENT a public health crisis AS IS THEIR JOB. Your agencies are planning to wait until a health risk presents itself before you will respond, when you should be acting in the public interest NOW.

F. Adequacy of mitigation measures

i. In many instances, the DEIS fails to identify any specific mitigation measures.

In several instances, the DEIS acknowledges that specific mitigation measures have not yet been established, and then recommends that Transco come up with such measures *before commencing construction*, regardless of whether the public has had an opportunity to exercise their right to comment on the appropriateness and effectiveness of the proposed measures. Consider, for example, the following:

- **Emergency Response Procedures:** “Transco stated in its SPCC Plan that emergency response procedures for offshore spills would be identified after the contractor has been selected. Due to the potential impacts associated with the release of oil or other hazardous materials to the ocean during construction, we recommend that . . . Transco should . . . include specific measures that would be implemented to identify, control, and clean up any accidental leaks or spills from offshore construction vessels,” DEIS at 4-20.

- **Monitoring of the Drill Path in the GNRA:** “[T]o ensure that impacts on piping plovers or any other sensitive species (such as seabeach amaranth and seabeach knotweed) are avoided[,] . . . Transco should consult with the NPS to identify a protocol for coordinated monitoring of the drill path in the GNRA,” *id.* at 4-81.
- **Noise Effects:** “To ensure that the site-specific noise mitigation plan contains the measures recommended in the acoustical assessment to limit noise contributions from the HDD entry point at nearby NSA’s to predicted levels . . . Transco should file with the Secretary a site-specific noise mitigation plan for the HDD onshore entry location,” *id.* at 4-157.
- **Vibration Effects:** “[S]imultaneous operation of multiple pieces of equipment or operation of equipment within 5 to 10 feet from the hangar walls could potentially cause damage. . . . Transco [should] identify a vibration level threshold for the hangar and prepare and implement a CPP, to include vibration monitoring, survey monitoring for movement of the building, and crack gauge monitoring, at the hangar during construction.” *Id.* at 4-166.
- **Effects Stemming from Scheduling Change:** Impacts upon certain areas “need additional analysis” because of the scheduling change. Sept. 17 Summary. “[I]f a significant impact will occur, Williams should leave ample time to *discuss options for mitigation.*” *Id.* (emphasis added); *see also, e.g., id.* (“Transco [should] develop a mitigation strategy for impacts to beach users during the summer.”).

In all of the above examples, it is explicitly recognized that: 1) there exists a potential for adverse impacts in one or more areas of concern; and, 2) Transco has yet to offer specifics as to how those impacts will be minimized or avoided. The public has the right to review and comment on whatever specifics Transco eventually offers. If details regarding mitigation measures are not available until after the comment period has closed, the public will be denied this right.

ii. Where specific mitigation measures are identified, the DEIS fails to adequately analyze their efficacy.

Where mitigation measures *are* identified, they are insufficiently analyzed, and their efficacy is wholly unsupported. Just as the DEIS does not adequately consider the environmental impacts of the Pipeline or the alternatives, FERC concludes, without any support, that all of the Projects’ impacts will be rendered insignificant, presumably by FERC’s recommended mitigation measures. *See, e.g.,* DEIS at ES-6 (“We conclude that the approval of the Projects would have some adverse impacts, but these impacts would be reduced to less-than-significant levels.”).

The DEIS fails to explain how any of the mitigation measures it identifies, however, will reduce the Projects’ impacts to “less-than-significant levels.” *E.g.,* DEIS at 4-4 (“Transco states that the ability to forecast hurricanes several days in advance would allow it to ensure the safety

and integrity of its system despite any damage that might occur to the M & R facility.”); *See also* 40 C.F.R. § 1502.16(f) (EIS must include, in its discussion of environmental consequences, the “[n]atural or depletable resource requirements and conservation potential of various alternatives and mitigation measures”); *id.* at § 1502.16 (discussion of environmental consequences must include “any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented.”).

Moreover, the DEIS explicitly recognizes that one of the primary means of mitigation – the HDD drilling method – may not actually be feasible, at least as proposed by Transco’s submitted plans, which, unbelievably, have not yet been fully evaluated by an experienced HDD engineer:

Transco should have an experienced HDD engineer evaluate subsurface conditions along the HDD route *to confirm the feasibility of Transco’s proposed HDD crossing methodology* for the Rockaway Delivery Lateral Transco could encounter complications during drilling that would require modifications to the planned HDD crossing, *including possibly abandoning the drill hole.*

DEIS at 4-6 (emphasis added). Yet, this potentially “unfeasible” HDD plan is cited numerous times throughout the DEIS as the method by which adverse impacts will be diminished or eliminated. *See, e.g., id.* at 4-14 (“Transco would implement measures outlined in its HDD Monitoring and Contingency Plan to minimize the risk of HDD complications and the potential for inadvertent releases of drilling fluid.”), 4-20 (“This [HDD] crossing method would avoid direct impacts on the wetland during construction and operation of the proposed pipeline.”), and 4-30 (“Transco selected the HDD construction method . . . to avoid impacting sensitive near-shore areas including the beach and significant habitats on the Rockaway Peninsula.”).

IV. FERC has failed to notify the true stakeholders of this project

FERC has failed to notify the true stakeholders of this project – namely, all of the people who use and enjoy the recreation area.

V. The DEIS fails to meaningfully consider and compare the environmental impacts of reasonable alternatives.

It is well-established that an EIS must consider a full range of reasonable alternatives. 42 U.S.C. § 4332(c). Indeed, the binding CEQ regulations state unequivocally that the consideration of alternatives is “the heart of the” EIS. 40 C.F.R. § 1504.14. The regulations further explain that the point of alternatives is to consider their *relative environmental impact*. Thus, the regulations explain, this part of the EIS must “present the environmental impacts of the

proposal and the alternatives *in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.*” *Id.* (emphasis added). The regulations also explicitly require full consideration of the “no action” alternative. *Id.* at 1504.14(d).

The DEIS here fails these requirements on multiple levels. As a threshold matter, the DEIS gives no meaningful consideration to the environmental *benefits* of the no action alternative. DEIS at 3-2. Indeed, as the DEIS itself notes, the Park Service had already explained that the pipeline will “stimulate construction of more homes and businesses, which in turn could result in *growth inducing impacts such as increased population density, water pollution, and traffic.*” *Id.* (emphasis added). The DEIS does not dispute this assertion; rather it simply states that those impacts are not due to *all* of the increased capacity the Pipeline will provide. *Id.* Thus, the DEIS must analyze, in “comparative form,” 40 C.F.R. § 1504.14, the growth inducing impacts of the increased capacity that *will* exist as compared to what would occur without the pipeline.

Similarly, to the extent the DEIS discloses the adverse impacts that will occur to various resources – including, for example, on wildlife, recreational use, and other resources – the DEIS never compares any of those impacts to what would occur under the no action alternative. Indeed, this problem permeates almost all the alternatives, which the DEIS simply outlines, without ever analyzing their environmental impacts in comparative form. Thus, for example, by contrast the DEIS at least includes *a chart* that purports to compare some impacts associated with route alternatives. DEIS at 3-19. Although even that chart is woefully insufficient to meaningfully compare those alternatives, not even that cursory analysis is included for the long list of other alternatives identified. DEIS at 3-3 to 3-9.

Moreover, as discussed elsewhere in these comments, one of the significant variables in terms of impacts on wildlife associated with the project is *the time of year* in which construction occurs. However, the DEIS does not even begin to consider alternatives in that regard. To make an informed decision not only on the nature and scope of the project, but on when it will occur, the DEIS should consider – again, in “comparative form” – the relative environmental impacts associated with construction during various time periods. This consideration is critical not only because we already know the time period had changed, but because it is highly likely that it will change *further* in the coming months.

Finally, with regard to all of these deficiencies with the alternatives analysis, in order for the public to meaningfully comment, a revised DEIS should be issued with this analysis so that the public can understand the relative impacts of alternatives “in comparative form” and provide their comments to the agency. Only in that way can FERC carry out its obligation to fairly inform the public about the alternatives as part of the process of determining which alternative(s) to choose here.

VI. The DEIS fails to consider climate change impacts.

A. The DEIS lacks information about how climate change is already impacting the environmental baseline in the Project area, and how those changes will combine with and exacerbate the impacts from approval of the Pipeline.

NEPA requires FERC to fully disclose the environmental consequences of its actions, and, thus, FERC was required to rigorously explore in the DEIS how ongoing climate change has impacted the environmental baseline in the Project area, and how those changes will combine with and exacerbate the impacts from approval of the Pipeline. The "Project" is defined herein as the M & R facility (hereafter the "M & R facility") and the Rockaway Lateral pipeline (hereafter the "Pipeline") construction and maintenance. Global warming's well-established impacts on resources including air quality, water quality, and plants and animals will combine with and exacerbate the Project's impacts, but the DEIS never addresses this critically important matter. In the DEIS, FERC instead provides only a very general summary of the greenhouse gases that are associated with climate change, *see* DEIS at 4.1.4.2, 4.1.4.3, 4.11.1.1, 4.11.1.4, and 4.13.15, in which FERC's only mention of 'climate' in the entire DGEIS are given and in which FERC omits any perspective on how each and all of the greenhouse gas emissions from the Pipeline compare to and are compounded by relevant regional, national and global past and future inventories of emissions. The Public is thereby deprived of meaningful opportunity to respond to the specific mitigation measures mentioned and/or available to remedy the Project's deficiencies.

Before any determination can be made by FERC, the Environmental Impact Statement ("EIS") that the Commission is preparing must carefully examine the Project's environmental impacts, both separately and cumulatively with the impacts of past, present, and reasonably foreseeable future actions. Among the significant environmental risks associated with climate change that should be examined are: degradation of water resources; serious and inadequately mitigated risks to the environment, impairment of ecosystem services; diminished air quality; harm to wildlife and botanical species of concern; and indirect climate impacts of the Project, including all of the above impacts in the regions from which gas would be mined to supply through the Pipeline to new markets (including but not limited to the 20% of total claimed anticipated Pipeline transported gas). New markets for gas will foreseeably cause more gas extraction to supply the markets with the attendant climate impacts due to land/forest clearance (emissions of decomposing biomass), gas leakage at new well pads as well as in transmission along the Pipeline, decreased vitality of remaining habitat, including forested areas in gas drilling areas and oceans undergoing predictable increases in ocean acidification, or the impacts due to economic impacts on competitiveness of non- or low-emissions alternative fuels (including solar, geothermal and wind power) due to the greater penetration of gas (increase supply and resulting lower prices) into new markets that might otherwise have converted to cleaner options for electricity and heat. None of these latter foreseeable effects of the Project have been mentioned and mitigated.

B. The Impacts of Climate Change on the Environment

The EIS also should examine the Project's direct and indirect Greenhouse Gas (GHG) emissions, as well as the cumulative impact of those emissions and the GHG emissions of other pipeline projects and gas development activities in the region. GHG pollution is a potent local, regional, and national threat to public health and welfare, as the U.S. EPA has acknowledged. (U.S. EPA, Overview of Greenhouse Gases, <http://www.epa.gov/climatechange/ghgemissions/gases.html> (cited on July 16, 2013)). GHG emissions will increase global warming, harming both the local and global environments. The impacts of global warming include "increased air and ocean temperatures, changes in precipitation patterns, melting and thawing of global glaciers and ice, increasingly severe weather events, such as hurricanes of greater intensity, and sea level rise." (Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 76 Fed. Reg. at 52,738, 52,791-22 (citing U.S. EPA, 2011 U.S. Greenhouse Gas Inventory Report Executive Summary (2011))).

The impacts of increased climate change which would result from expansion of gas-dependent markets are therefore significant. For instance, the IPCC has concluded that it is "virtually certain," meaning that the probability of this impact is over 99 percent, that air quality will decrease due to increasing temperatures (i.e. global climate change). The two most important air pollutants that will be impacted by global warming are ozone and particulate matter. As noted above, both of these pollutants are responsible for severe public health and environmental impacts. Anthropogenic climate change can affect ozone by modifying (1) emissions of precursors, (2) atmospheric chemistry, and (3) transport and removal. While the overall impact on particulate pollution at different times and in different areas is less certain than for ozone, global warming may result in substantial increases in both ozone and particulate pollution with serious attendant health consequences. Declining air quality due to global warming could combine with the air impacts of the Project to result in substantially worse air quality than disclosed in the DEIS, yet FERC failed entirely to discuss this important issue.

A warming climate also will lead to flooding and erosion which will foreseeably cause loss of coastal land in the Project area, as well as indirect impacts such as the shrinking snowpack in Western states, increased wildfires, and reduced crop yields. (*Id.* at 66,532-33) More frequent heat waves as a result of global warming already have affected public health, leading to premature deaths, and threats to public health are expected only to increase as global warming intensifies. For example, a warming climate will lead to increased incidence of respiratory and infectious disease, greater air and water pollution, increased malnutrition, and greater casualties from fire, storms, and floods. (U.S. EPA, Climate Change, Health and Environmental Effects, <http://epa.gov/climatechange/effects/health.html>) Vulnerable populations—such as children, the elderly, and those with existing health problems—are the most at risk from these threats.

Additionally, global warming is also having and will continue to have well-established impacts on another critically important resource in the area: water availability. Streamflow and water availability have already been reduced and will continue to decrease, while surface water temperature will continue to increase. Leading researchers have concluded that “up to 60% of the climate related trends of river flow, winter air temperature, and snow pack between 1950 and 1999 are human-induced. These results are robust....[and] portend, in conjunction with previous work, a coming crisis in water supply for the western United States.” Yet, the DEIS never discusses the combined impact of this decreasing water availability and the Project’s foreseeable impacts on extensive extensive depletions.

The Applicant also fails to assess the risk that foreseeable severe and frequent flooding, increasingly due to climate impacts, would pose to the construction and operation of the Pipeline and M & R facility, providing instead a conclusory and general claim that “Transco would implement (measures) to avoid or minimize impacts from these storms” (see DGEIS 4.1.4.2 Hurricanes). No mention of the impacts of increases in storms and storm surges is addressed in the DGEIS including in the section on Application Alternatives, which notes that “ ”.

FERC should require the Applicant to conduct a thorough assessment of the risk that flooding poses to the construction and operation of the Pipeline across the inland waterbody and the seabed, where flooding and sedimentary scouring and great turbulence during storms and storm surges respectively are known to occur. Furthermore, the impacts of rising sea level on both the land and sea portion of the pipeline should be fully evaluated and reported by the Applicant, including an evaluation of any subsequent additional external pressures to which the pipeline would be exposed and the foreseeable impacts of erosion on the maintenance and safety of the proposed pipeline. The risk assessment should take into account the likelihood of more frequent and more severe storms as a result of climate change and should provide specific adaptation measures that will mitigate environmental impacts.

C. The Impacts of Unconventional Gas Extraction and Transportation on Climate Change

The Project would result in direct and indirect emissions of climate-change-causing greenhouse gases (“GHGs”): carbon dioxide (“CO₂”) and nitrous oxide (“N₂O”) from compressor engines, line heaters, and generators; fugitive methane emissions from compressors and the Pipeline; and black carbon emissions from diesel vehicles and equipment that would be involved in extracting the extra gas that would be provided to the Pipeline and that would be building and maintaining the Pipeline and M & R facility. While the Applicant claims to provide an estimate of the Project's GHG emissions by providing an accounting according to the EPA's Greenhouse Gas Reporting Program (GHGRP), there is no breakdown of the claimed emissions per element of the Project's GHG emissions profile other than 1) the Construction of the Rockaway Pipeline and 2) the Operation of the M & R facility. The absence of such a breakdown

renders intangible the Applicant's few claimed mitigation measures, for instance, the venting of the M&R facility's "valves and other pipeline control devices" into National Grid gas distribution system instead of into the atmosphere. The Applicant specifies neither whether all of leakage within the M&R facility would be avoided by its mitigation measures nor what the pretended means of mitigation is. This lack of specificity prevents the public from properly considering and responding to the environmental harms threatened by the Project or the promise of and possible preferable alternatives to its proposed mitigation measures.

To comply with NEPA, adverse environmental impacts of gas leakage must be adequately estimated and mitigation proposals must be set out that specifically and quantifiably address those impacts. Applicant must set out in detail its estimate of the following:

- i) GHG emission of each component of the Project, including but not limited to valves, other (specified) "pipeline control devices", accidental rupture or failure;
- ii) mitigation measures to address each of these foreseeable possibilities, including what proportion of total estimated emissions would be avoided by the proposed measures.

The transmission of the gas from wells and its distribution in pipelines also results in the leakage of methane. The Applicant has miscalculated a significant component of total GHG emissions of its gas infrastructure Project in two ways:

- i) by in explicably leaving out leakage from the pipeline in its total GHG inventory; and
- ii) by using what appears to be a misleading figure and timeframe for estimating the GWP of the gas that would escape.

Re. i) above, the Applicant writes: "(t)he estimated GHG emissions from construction of the Rockaway Project, and operation of the M&R facility on a potential (8,760 hours per year) basis, are approximately 8,571 and 20,659 metric tpy, respectively. The GHGRP does not apply to construction emissions, but we have included the construction emissions" (see 4.11.1.4 Greenhouse Gas Emissions).

Re. ii) above, the Applicant writes that "(t)he primary GHGs produced by fossil fuel combustion are CO₂, CH₄ (editor's note: Methane), and N₂O. . . .Emissions of GHGs are typically expressed in terms of CO₂e, where the potential of each gas to increase heating in the atmosphere is expressed as a multiple of the heating potential of CO₂, or its global warming potential (GWP). CO₂ has a GWP of 1, CH₄ has a GWP of approximately 21, and N₂O has a GWP of approximately 310 (EPA, 2013a)." (underlining mine, See 4.11.1.4 Greenhouse Gas Emissions).

The Applicant submitted estimates of methane's GWP as 21x that of CO₂ over a 100-

year time frame. This estimate ignored various indirect radiative forcings (contributions to the Greenhouse effect) and that the impacts within the 20-year time frame are critical given the well-established need to address growing concentrations of GHG expeditiously and the uncertainty and risks of triggering numerous tipping points that would amplify existing forcings significantly. While this 21x figure has had its shelf-life usefully extended by politicians and their allies promoting natural gas extraction, it should no longer be considered the scientific norm for understanding the atmospheric release of methane impacts on the climate. It is noteworthy to point out that, in 2013, the EPA [proposed](#) increasing the number to 25 within a 100-year time frame, in line with the 2007 IPCC estimate (Jason Mark, "[Methane's Contribution to Global Warming is Worse than You Thought](#)," Earth Island Journal, August 20, 2012). The GWP for methane within a 20-year time frame is over 100x that of CO₂.

Howarth et al (2011) have estimated the greenhouse gas (GHG) footprint of methane using its global-warming potential (GWP) - a relative measure of how much heat a greenhouse gas traps in the atmosphere. The GWP compares the amount of heat trapped by a certain mass of gas, like methane, to the amount of heat trapped by a similar mass of carbon dioxide. On a mass-to-mass basis when compared to CO₂, the researchers gave methane a global warming potential of 105 and 33 for the 20-- and 100--year horizons, based on a 2009 study in *Science* that they said accounts for "the latest information on methane interactions with other radiatively active materials in the atmosphere" (Robert W. Howarth, Renee Santoro, & Anthony Ingraffea, "[Venting and leaking of methane from shale gas development: response to Cathles et al.](#)," Climatic Change, Jan 12, 2012). As has been convincingly argued, on a 20-year basis, the GHG footprint of shale gas compared to coal is 20% to 100% larger. (Robert W. Howarth, Renee Santoro, and Anthony Ingraffea, "[Methane and the greenhouse-gas footprint of natural gas from shale formations: A letter](#)," Climatic Change, March 2011).

The 20-year time frame is important for the public and policy-makers to consider when evaluating environmental impacts of emissions as it is within this shorter time-frame within which the GWP of methane leaked from gas infrastructure will contribute to irreversible (on human time scale) global warming or will be adequately addressed by public policy.

There is strong evidence that emissions from natural gas production are higher than has been commonly understood. In particular, a recent study by a consortium of researchers led by the NOAA Earth System Research Laboratory observed pollution concentrations near gas fields and recorded levels substantially greater than EPA estimates have predicted. The NOAA study monitored air quality around oil and gas fields (G. Petron et al., *Hydrocarbon Emissions Characterization in the Colorado Front Range: A Pilot Study*, 117 J. of Geophysical Research 4304 (2012)). The researchers observed high levels of methane, propane, benzene, and other VOCs in the air around the fields. According to the study authors, their "analysis suggests that the emissions of the species we measured"—that is, the cancer-causing, smog-forming, and climate-disrupting pollutants released from these operations—"are most likely underestimated in current inventories," perhaps by as much as a factor of two (*Id.* at 4304).

Expanding capacity at the Pennsylvania compressor stations supplying gas to the Project would also increase the fugitive methane leaked because of the Project (“The U.S. natural gas transmission network contains more than 279,000 pipeline miles. Along this network, compressor stations are one of the largest sources of fugitive emissions, producing an estimated 50.7 billion cubic feet (Bcf) of methane emissions annually from leaking compressors and other equipment components such as valves, flanges, connections, and open-ended lines.” U.S. EPA, Lessons Learned from Natural Gas STAR Partners 1, *available at* http://www.epa.gov/gasstar/documents/ll_dimcompstat.pdf)

D. Greenhouse Gases as Pollutants

In addition to the Project’s toxic air pollution, the EIS also should examine the Project’s direct and indirect GHG emissions, as well as the cumulative impact of those emissions and the GHG emissions of other pipeline projects and gas development activities in the region. GHG pollution is a potent local, regional, and national threat to public health and welfare, as the U.S. EPA has acknowledged.¹¹⁴ GHG emissions will increase global warming, harming both the local and global environments. The impacts of global warming include “increased air and ocean temperatures, changes in precipitation patterns, melting and thawing of global glaciers and ice, increasingly severe weather events, such as hurricanes of greater intensity, and sea level rise” (Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 76 Fed. Reg. at 52,738, 52,791-22 (citing U.S. EPA, 2011 U.S. Greenhouse Gas Inventory Report Executive Summary (2011))).

E. Climate Impacts of the Project's Induced Actions

In addition to the direct impacts to natural resources located in the immediate vicinity of the Project, the availability of the infrastructure necessary to bring gas to market from a region underlain by the Marcellus Shale formation is likely to induce the development of additional gas wells, including those developed utilizing the extraction technique of high volume hydraulic fracturing. The No Action Alternative impermissibly dismisses in a conclusory fashion the possibility that renewable energy sources and conservation measures can displace the extra gas that would be supplied by the Project with clean energy (see the study of Dr. Marc Jacobson (Engineering, PhD, Stanford) on renewable energy resources in New York State (www.stanford.edu/group/efmh/jacobson/Articles/I/NewYorkWWSEnPolicy.pdf)).

Indirect emissions, “which are caused by the [proposed] action and are later in time or farther removed in distance, but are still reasonably foreseeable,” 40 C.F.R. § 1508.8(b), are among the effects that agencies are required to consider under NEPA. *See id.* § 1508.25(c). The Council on Environmental Quality (“CEQ”) Draft Guidance notes that “for Federal actions that require an EA or EIS *the direct and indirect GHG emissions from the action should be considered in scoping,*” and these GHG impacts should be considered in the context of the

“aggregate effects of past, present, and reasonably foreseeable future actions” (CEQ, Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions 5, 9-10 (Feb. 18, 2010) (emphasis added), *available at* http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf (notice of availability published at 75 Fed. Reg. 8,046 (Feb. 23, 2010))). One indirect effect of the Project’s transportation of natural gas from the Marcellus Shale and beyond (see Transco pipeline map) is that this gas will be combusted for use, releasing additional GHGs that cause climate change. This effect is not only reasonably foreseeable, it is certain. Where CEQ has called for NEPA analyses of GHG sources to “take account of all phases and elements of the proposed action over its expected life,” (*Id.* at 5) such certain downstream effects of a gas pipeline should be assessed. Moreover, cumulative impact analysis requires that these GHG emissions *and upstream effects* be considered in the context of GHGs emitted from gas wells and other infrastructure that already exists and will foreseeably be operating in the Marcellus Shale (and other) region(s) which might supply gas to the Project (*See* Martina C. Barnes et al., USDA, *Forests, Water and People: Drinking water supply and forest lands in the Northeast and Midwest United States* vi, 2 (2009) (hereinafter “USDA Northeast Report”), *available at* http://na.fs.fed.us/pubs/misc/watersupply/forests_water_people_watersupply.pdf).

FERC’s avoidance of a probing analysis of the Project’s climate impacts is unreasonable. Many impacts of global warming in the Project area have been predicted with a high degree of both certainty and precision, providing FERC with more than adequate information to analyze the combined impact of global warming and the Project’s impacts on resources such as air quality and water availability, as well as impacts to imperiled plants and animals. Federal agencies’ mandatory duty to take a hard look at the ongoing impacts of global warming in NEPA documents has been affirmed by the Courts. As the courts have recognized:

Global warming has already affected plants, animals, and ecosystems around the world. Some scientists predict that ‘on the basis of mid-range climate-warming scenarios for 2050, that 15-37% of species in our sample of regions and taxa will be ‘committed to extinction.’” In addition, there will be serious consequences for human health, including the spread of infectious and respiratory diseases, if worldwide emissions continue on current trajectories. Sea level rise and increased ocean temperatures are also associated with increasing weather variability and heightened intensity of storms such as hurricanes. Past projections have underestimated sea level rise. Several studies also show that climate change may be non-linear, meaning that there are positive feedback mechanisms that may push global warming past a dangerous threshold (the ‘tipping point’).

See Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 538 F.3d 1172, 1190-91 (9th Cir. 2008) (citations omitted).

The DEIS is fatally flawed by the absence of any serious consideration of the combined effect of changing baseline environmental conditions and the Project's impacts to affected resources such as air quality, water availability, and imperiled species.

F. Viability of Renewable Energy Sources Diminished by Project

According to the International Energy Agency's WEO 2012, private and public investment in fossil fuel projects over the next quarter-century will outpace investment in renewable energy by a ratio of three to one, raising questions of how much growth of gas supplies takes away from investment in zero carbon sources, as opposed to bridging to them. The approval of this project would promote gas and its polluting impacts at the expense of renewables against which gas is given unfair advantage through access to public lands, expedited approvals, lack of accounting for the costs continued extraction and use imposes on public goods, including clean air, water, viable ecosystems, and future generations which give current humans's lives meaning. Already, gas is displacing renewable (no- or low-emissions energy sources. A 2013 CO2 Scorecard study concluded that, in 2011 and 2012, natural gas was already displacing the use of lower carbon hydropower, as well as nuclear power (Shakeb Afsah and Kendyl Salcito, "[Shale Gas: Killing Coal without Cutting CO2.](#)" CO2 Scorecard, Dec 02, 2013)

The above mentioned study focuses on production of electricity from gas as opposed to coal which ignores the far greater use of gas for heat (70% versus 30%), which use shows no credible documented efficiency benefits of gas over coal and therefore suggests that greenhouse gas emissions of gas extraction and use make it worse than comparable uses of coal and therefore net-negative for the climate.

CONCLUSION

To conclude, this DEIS is the product of a broken system. Too often, co-operating agencies respond to the volumes of material offered for their review with a single-page form letter acceding to the action. FERC relies on these agency assessments and approvals. The fast-track process appears to encourage this level of non-engagement. And FERC relies on the vague, un-supported, and self-serving reassurances of the pipeline company. Actually, the DEIS author FERC, being itself supported by the industry it supposedly regulates, is seriously compromised.

Respectfully submitted,

Comments from CARP to FERC
Re: Rockaway Pipeline
December 9, 2013
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Maureen Healy
On behalf of Coalition Against the
Rockaway Pipeline