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TESTIMONY OF STATE SENATOR AND RANKING MEMBER OF SENATE ENVIRONMENTAL CONSERVATION COMMITTEE BRAD HOYLMAN AND ASSEMBLYMEMBER LINDA B. ROSENTHAL TO THE NEW YORK CITY COUNCIL COMMITTEES ON ENVIRONMENTAL PROTECTION AND WATERFRONTS REGARDING THE PROPOSED PORT AMBROSE LIQUEFIED NATURAL GAS PROJECT

APRIL 1, 2015

Thank you for the opportunity to submit testimony to the City Council Committees on Environmental Protection and Waterfronts regarding the application by Liberty Natural Gas, LLC (Liberty) to build a liquefied natural gas (LNG) deepwater port facility called Port Ambrose, roughly 19 miles from the New York shore. We oppose this unnecessary and environmentally irresponsible project, and we therefore support Resolution 549 calling on Governor Cuomo to veto the application.

The construction and operation of Port Ambrose would have a strongly negative ecological impact on its surroundings, discharge millions of gallons of chemically treated seawater and require the dredging of miles of sea floor. Port Ambrose would further aggravate environmental degradation by increasing New York's reliance on natural gas, a methane-emitting fuel. According to the Intergovernmental Panel on Climate Change, the leading international body for the assessment of climate change, methane, a dangerous greenhouse gas, is 86 times more effective than carbon dioxide at trapping heat in our atmosphere over a 20-year period. This is, of course, in addition to the potential havoc wrought to New York's coastline if an extreme weather event, such as another Hurricane Sandy, were to damage a vulnerable offshore facility of this type. Moreover, Port Ambrose could pose a grave security risk for New York. According to the Council on Foreign Relations, liquefied natural gas facilities are a potential terrorist target. Any explosion or fire from an LNG facility in the New York harbor would be catastrophic.

This project also has the potential to interfere with the development of a far more environmentally responsible wind farm that has been proposed for this area. The Bureau of Ocean Energy Management, an agency of the U.S. Department of Interior, in its scoping comments on the Port Ambrose application, stated that it is "concerned that the proposal to construct a LNG port in the same area proposed for a large wind facility could result in serious conflicts—or at the minimum, complicating factors—that may

impact the overall viability of one or both projects." We and many of our constituents fear that this would not be a worthy tradeoff.

Furthermore, Port Ambrose is an unnecessary project. According to the 2014 Draft New York State Energy Plan, domestic production of natural gas is at its highest level in four decades and the "need for substantial increased volumes of imported LNG has diminished for the near term." The Draft Energy Plan further states that this saturation of supply in natural gas has caused imports to decline every year from 2007 through 2012, a year in which just two of the twelve active LNG import terminals in the country received regular shipments.

In 2011 New Jersey Governor Chris Christie vetoed an application for an LNG port by Liberty off the coast of New Jersey, stating that "offshore LNG poses unacceptable risks to the state's residents, natural resources, economy and security." We urge Governor Cuomo to veto this project and continue to defend New York State's precious environmental assets.

Thank you for your consideration of our comments.

FOR THE RECORD

LIBERTY
natural gas

March 26, 2015

New York City Council

Re: Port Ambrose Project; Draft Resolution Number 549

Dear Honorable Council Members:

This letter is in response to draft Resolution No. 549, which outlines concerns regarding the Port Ambrose liquefied natural gas (LNG) deepwater port project. Liberty Natural Gas, LLC (Liberty), the project sponsor, respectfully disagrees with several of the points noted in the Resolution as being inconsistent with the findings of multiple state and federal environmental reviews for deepwater ports using identical offloading buoy technology, the U.S. Coast Guard's Draft Environmental Impact Statement (DEIS) recently issued for Port Ambrose, and other reports and studies. Liberty respectfully submits the following points for the New York City Council, Committee on Environmental Protection's consideration regarding the merits of Port Ambrose, including its minimal environmental impacts, the proven reliability and safety record of similar ports, and the overall public benefits of the project.

Environmental Impacts and Agency Review

The environmental impacts associated with the Port Ambrose facility are well known and understood through the extensive state and federal environmental review process that is currently underway, and through reviews of similar port facilities that use the same buoy technology. The Port Ambrose project utilizes an underwater buoy system that is identical to two deepwater LNG ports that were approved by the U.S. Maritime Administration, U.S. Coast Guard, U.S. Environmental Protection Agency (EPA), National Oceanic and Atmospheric Administration (NOAA), and other federal and state agencies in 2007 and constructed off the coast of Boston. Additional ports using the same technology were approved off the coast of Louisiana and most recently Tampa, Florida. As with the pending Port Ambrose application, the ports underwent substantial federal and state review processes, which ultimately concluded that the underwater buoy and shuttle vessel system has minimal impacts on the environment from both construction and operation. In fact, the two Boston terminals are located adjacent to the *Stellwagen Bank National Marine Sanctuary*, which is frequented by the critically endangered North Atlantic Right whale and is one of the most ecologically sensitive areas on the East Coast. This exemplifies the minimal environmental impacts associated with submerged buoy-based deepwater ports, which is the same design as Port Ambrose.

The Coast Guard's DEIS for Port Ambrose finds minimal impacts from the project on the region's environment. Specifically, the DEIS states: "Impacts associated with the proposed project would not be expected to degrade commercial, recreational, ecological, or scientific importance of any biological resource, nor would it cause any measureable change in population size or distribution of any species in the area." (DEIS at pg. ES-16). This determination includes assessments of impacts on marine mammals, sea turtles, fish, birds, and other species in the New York Bight.

Turning to the specific environmental issues raised in the Resolution, each point was addressed and analyzed in the DEIS. On the issue of pipeline installation, a trench must be dredged, like for all offshore pipeline and cable projects, to bury the pipeline below the seabed. According to the DEIS, approximately 250 acres of seafloor would be disturbed during overall project construction (DEIS at pg. 4-15) and any benthic organisms disturbed by the construction process are expected to re-colonize in less than one year (DEIS at pg. 4-97). Also, like all offshore pipeline projects, it is necessary to flood the pipeline with water during installation and testing. In order to prevent growth of algae and other organisms inside the pipeline, the water must be treated with a growth inhibitor, which will be neutralized by adding hydrogen peroxide before discharging the water. According to the DEIS, this one-time process will only result in localized, short-term, minor impacts on water quality (DEIS at pg. 4-5).

It is important to emphasize that Port Ambrose is designed to minimize impacts on the environment. The state-of-the-art vessels will run on natural gas (not high-sulfur diesel oil) and have zero-water discharges during port operations; the buoy anchors will be installed using suction rather than driven piles to minimize acoustic impacts on marine species; the pipelines will be installed using dynamically positioned vessels to prevent anchor impacts to the seabed; and the vessels will have advanced air emissions controls and will be operated using NOAA-approved procedures to minimize impacts on marine mammals. This is only a short sampling of the environmental protections adopted by the project, which are analyzed in the DEIS and will help minimize any impacts on the environment.

LNG Safety

While stakeholders may raise concerns about the safety of LNG, the marine LNG shipping industry has an impeccable safety record. Over the past 50 years, over 80,000 LNG voyages have safely taken place worldwide. This includes over 1000 deliveries to the onshore LNG terminal located in Everett, Massachusetts, which began operations in 1971. LNG is simply frozen natural gas, and when frozen, it is not explosive or toxic, will not burn, and is far less volatile than diesel or gasoline.

Port Ambrose and similar deepwater ports have unique safety features, in that the buoy rests on the seabed when not in use and the vessel is mobile. In the event of a hurricane or other major weather event, a vessel can detach from the buoy in under 15 minutes but would likely sail out to sea days in advance to completely avoid a serious storm system. The mobile nature of the vessel and remote siting far from shore also greatly enhance the safety of the port, which will be monitored by the Coast Guard during port operations.

The Coast Guard and local and regional safety officials, including the NYPD, FDNY, New York Office of Emergency Management, and the Port Authority of New York and New Jersey, are conducting an independent safety and security review of Port Ambrose, and the Phase I results, which identify any risks, are included in the DEIS. In short, this review found that "...there is no short-term or long-term, adverse, direct impact on activities outside the Safety Zone, NAAs, or ATBA" (DEIS at ES-28) which are Coast Guard established safety zones immediately surrounding the port that do not impinge upon any shipping lanes. The Coast Guard's review makes it clear, as with similar deepwater ports, that there is no threat to coastal communities from a facility located over 18 miles out to sea.

LNG liquefaction and storage have been a significant energy source that has been managed safely since the 1960s in the heart of New York City. Con Ed and National Grid have LNG peaking facilities in Astoria, Queens, and Greenpoint, Brooklyn respectively. Both facilities provide safe, clean and reliable natural gas to your local residential, commercial and industrial consumers. Port Ambrose is another way New Yorkers can meet the growing demand for natural gas during winter peak needs.

Natural Gas Imports, Carbon Reduction and Offshore Wind

The Resolution also notes that Port Ambrose could increase New York's reliance on natural gas. This may well be the case, but it would largely be from fuel-switching in area power plants and commercial and residential conversions away from coal and heating oil, which have far greater emissions than natural gas. For example, National Grid's Kenneth Daly announced at the Queens Chamber of Commerce Energy Summit on February 12th plans to convert over 20,000 customers and over 500 buildings from oil to low cost and lower emission natural gas. Also, while the Resolution notes that less natural gas imports have occurred in the U.S. in recent years, the Northeast, which is at the end of the U.S. pipeline grid, pays substantially more for natural gas than most other areas in the country. This affects both commercial and residential ratepayers, and in particular low and fixed income families. Boston, with its multiple LNG terminals, has had consistent marine deliveries of LNG for decades that help reduce the cost of energy for area ratepayers. Port Ambrose would provide an additional source of natural gas to help reduce energy costs in the downstate New York area, and would do so without any taxpayer or ratepayer subsidies.

The Resolution also identifies concerns about siting a potential wind farm in the 127 square mile area of interest that overlaps with the Port Ambrose project site. Liberty, in coordination with its project partner Hoegh LNG, has extensively studied the siting and navigation needs of Port Ambrose and determined that both projects can readily coexist. As noted in the DEIS, if both a wind farm and Port Ambrose move forward, the area occupied by the port (including safety and exclusions zones) "would eliminate approximately 1 percent of the lease area for turbine installation." (DEIS at p. 6-7). Factoring in setbacks for safe navigation, Port Ambrose would occupy "approximately 4 percent of the available wind farm area." (DEIS at pg. 6-7). Given the very small footprint occupied by Port Ambrose's submerged buoy system, both a wind farm and

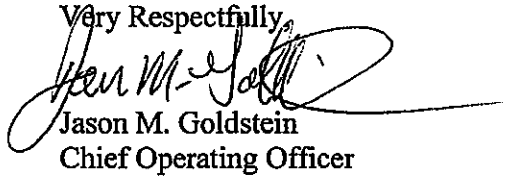
Port Ambrose could easily coexist within the area that is under review for potential wind farm development.

Summary and Conclusions

Port Ambrose is still in the process of undergoing its multi-year, interagency environmental and safety reviews, which to date have resulted in project design improvements, mitigation and other measures at the request of regulators and stakeholders to further reduce potential impacts from the project. Liberty respectfully requests that the Committee reserve judgment on the project until the comprehensive review process is complete and all of the project impacts and benefits can be weighed based on a complete administrative record. The project uses state-of-the-art technology in a very small footprint, which has repeatedly gained state and federal approval in several areas of the U.S. While Governor Christie expressed opposition to a prior Liberty proposal, the project was substantially larger in scale, crossed wetlands and sensitive fisheries, was sited in part onshore, and did not undergo the thorough environmental and safety reviews that are taking place for Port Ambrose. Liberty has worked to address New Jersey's concerns, in part by modeling Port Ambrose off of the two Boston deepwater ports, which have proven to be safe, reliable, and environmentally friendly port facilities.

We would welcome the opportunity to meet individually with Members of the Committee on Environmental Protection to discuss the many benefits the project will have for your constituents. Over 300 New York based groups representing thousands of residents have already expressed support for Port Ambrose, and that number continues to grow. Additional information about the Port Ambrose project, including the Coast Guard's DEIS, is available on the federal docket at Docket No. USCG-2013-0363 or at portambrose.com.

Very Respectfully,



Jason M. Goldstein
Chief Operating Officer

NY AREA
AFFORDABLE RELIABLE ELECTRICITY ALLIANCE

April 1, 2015

Hon. Donovan Richards
Committee on Environmental Protection
New York City Council
250 Broadway
New York, NY 10007

RE: Support for proposed Port Ambrose Project

To Chairman Richards and the Committee on Environmental Protection:

On behalf of the membership of New York Affordable Reliable Electricity Alliance (New York AREA), I offer our comments in support of the proposed Port Ambrose deep-water port project, which will expand reliable flows of natural gas for downstate New York.

We firmly believe that Port Ambrose will provide significant economic benefits to New York without environmental disruption.

With respect to the economic opportunities to the region, the natural gas price difference between New York and New England this winter offers a striking contrast. For example, the Boston region has access to LNG, and Long Island/New York City does not. According to the U.S. Energy Information Administration (EIA), the price of natural gas on Transco-6 hub serving New York spiked to $38.15 MMBtu on Wednesday, February 18, 2015, which was double New England's average of $17.73 MMBtu. This translates into New Yorkers paying more for a product that is essentially cheaper in a similar region. These price increases are especially hard on those with fixed incomes and the poor.[1]

Experts credit LNG for averting panic premium prices in New England, and blame constrained access to natural gas for higher prices in New York. Opponents to projects like Port Ambrose, a deep-water natural gas import terminal 26 miles off the coast of Rockaways, offer no credible alternative to powering or heating our homes during harsh winter weather. The silent majority of ratepayers cannot afford to continue paying double the average price for natural gas.

The fact is Port Ambrose will reduce the price of natural gas in downstate New York by tapping into existing pipelines on the seafloor which have been there for more than five decades. It will create over 600 construction-related union jobs and provide an investment of over $90 million in local goods and services during construction. The overall outcome will be $300 million in annual savings for consumers, hundreds of jobs for the local economy, and a resilient energy infrastructure.

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1 *"Northeastern Winter Natural Gas and Electricity Issues,"* U.S. EIA, January 7, 2014, Link: http://www.eia.gov/special/alert/east_coast/pdf/energy_market_alert_Jan_7_2014.pdf

In terms of the environment, though natural gas is a fossil fuel, it is the cleanest between oil and coal. Given pipeline constraints headed into the northeast, the New York Independent System Operator ordered power plants on Long Island and New York City to prepare to switch to oil when electric prices eclipsed $1,000 per megawatt hour on February 19, 2015. These issues should not be overlooked or underestimated as hundreds of thousands of New Yorkers struggle with respiratory challenges daily. And our modern/mobile lives depend upon the reliable flow of electricity.

New York City's 538 miles of coastline will not be impacted by Port Ambrose, nor will human population be at risk since it is located 26 miles from the Rockaways. The submersible buoy system utilized by Port Ambrose is a major innovation compared to the land based LNG terminal, Everett, which has been in operation in Boston, Massachusetts for forty years. Federal, state, and local authorities in New England have proven that a land based LNG terminal can be safe and their tireless work should be commended. Port Ambrose is far out into the ocean and safe.

Some have misrepresented Port Ambrose and claim it will export natural gas. It will not.

Thus, advancing the Port Ambrose project has no impact on potential hydrofracking in New York or elsewhere. Gas sourced from shale exploration in other states is already being shipped via pipeline, train, and tractor-trailer to New York, New Jersey, Connecticut and other northeastern states for consumption for electricity or home heating purposes.

At issue is reliable access to supply. Port Ambrose addresses this concern with minimal impact to the environment and maximum benefit to the economy.

New York should move forward with Port Ambrose and not allow other costly aspirations or unfounded accusations to cause unnecessary delay. The pipeline already exists on the ocean floor and Port Ambrose will tap into that infrastructure to increase resiliency and capacity in New York's gas markets. Further, the project will not impact the proposed wind project which one utility abandoned noting its uneconomic and high costs.

Thank you for your time and consideration.

Sincerely,

Richard Thomas

Richard Thomas
Executive Director, New York AREA

cc: New York Governor Andrew M. Cuomo
Richard Kauffman, Chairman of Energy and Finance for New York
New York City Council Committee on Waterfronts

FOR THE RECORD

SUBMITTED TESTIMONY OF THE
NEW YORK BUILDING CONGRESS
PUBLIC HEARING ON RESO. 549
CONCERNING THE LIBERTY LNG PORT AMBROSE FACILITY
APRIL 1, 2015

THE NEW YORK BUILDING CONGRESS SUPPORTS THE PROPOSED LIBERTY NATURAL GAS LNG FACILITY. WE URGE THE COUNCIL TO ALLOW THE ENVIRONMENTAL REVIEW PROCESS FOR THE PROJECT TO PROCEED AND NOT TO ACT FURTHER ON RESOLUTION 549.

THE BUILDING CONGRESS IS A MEMBERSHIP ORGANIZATION COMPOSED OF THE DESIGN, CONSTRUCTION AND REAL ESTATE INDUSTRY WITH MORE THAN FOUR HUNDRED MEMBER ORGANIZATIONS EMPLOYING TENS OF THOUSANDS OF PEOPLE IN AND NEAR NEW YORK CITY. THE BUILDING CONGRESS HAS AN ACTIVE ENERGY COMMITTEE COMPOSED OF THE LEADERSHIP OF THIS IMPORTANT SECTOR.

IN 2011, THE COMMITTEE SPONSORED A REPORT FORECASTING INCREASING ENERGY DEMAND AND INDENTIFIED A NUMBER OF SUPPLY CONSTRAINTS THAT COULD DRIVE ENERGY COSTS UP. CONSTRAINTS ON NATURAL GAS SUPPLY DID IN FACT CAUSE A SIGNIFICANT COST SPIKE DURING THE 2013-2014 WINTER AND AGAIN THIS YEAR.

CONSIDERING THE IMPORTANCE OF AN ADEQUATE AND REASONABLY PRICED ENERGY SUPPLY TO THE REGIONAL ECONOMY, IT IS IMPERATIVE THAT NEW SOURCES OF ENERGY SUPPLY BE DEVELOPED. THE LIBERTY LNG FACILITY IS AN IMPORTANT PART OF THIS MIX.

WE RECOGNIZE THAT OTHER ENERGY PROVIDERS AND BUILDING CONGRESS MEMBERS ARE SEEKING FURTHER ANALYSIS OF POTENTIAL SITING CONFLICTS WITH THE LIBERTY LNG FACILITY AND AN IMPORTANT WIND FARM PROPOSED FOR THE SAME AREA. WE ENCOURAGE THE PARTIES TO RESOLVE THIS ISSUE.

HOWEVER, OTHER IMPACTS ARE CONSIDERED DE MINIMUS IN THE DRAFT

EIS.

IN LIGHT OF THE IMPORTANCE OF AN AFFORDABLE AND RELIABLE ENERGY SUPPLY TO THE REGIONAL ECONOMY AND OF THE POTENTIAL BENEFITS OF THE LIBERTY LNG PROJECT, WE URGE THE COUNCIL TO PERMIT THE PROCESS TO PROCEED UNENCUMBERED BY A NEGATIVE RESOLUTION OF THE CITY'S LEGISLATIVE BODY.

THANK YOU FOR THE OPPORTUNITY TO TESTIFY.

Testimony of Alex Beauchamp
Food & Water Watch
In Support of Resolution #549
April 1, 2015

My name is Alex Beauchamp. I'm the Northeast Region Director for Food & Water Watch. I'm here to speak in support of Resolution #549.

Thank you for the opportunity to discuss the short-sightedness of the Port Ambrose LNG project.

There is no convincing demonstration for the public need of this project.

Liberty's projections of growth in natural gas demand for the New York metropolitan region are based on a report from ICF, an enormous energy consulting firm with a huge self-interested stake in expanding natural gas use across the country, and around the globe.

Such self-fulfilling projections are pessimistic and grim, and they sell New Yorkers short.

They completely underestimate the progress our region can — and must make — in eliminating demand for fossil fuels by expanding proven clean energy solutions. We must remake our energy system around energy efficiency technologies, conservation measures and renewable energy sources, such as wind and solar.

The Port Ambrose project would not only be a conduit for more fossil fuels, and thus more climate pollution, it would also displace offshore wind energy capacity.

Much to our amusement, just two weeks ago, Liberty Natural Gas, the firm behind the project, embraced the State of New York's ban on fracking, and touted LNG imports as an alternative to fracking.

But this is just the latest twist in the many re-incarnations of Port Ambrose.

With the state's ban, evidently Liberty Natural Gas sees an opportunity to claim that natural gas from Trinidad & Tobago — which only has about 8 years worth of proven natural gas reserves — is actually needed.

But this gas, and this project, is not needed.

Contrary to Liberty Natural Gas' sudden appreciation for the problems with fracking, we have every reason to believe that the facility would join the many others proposed to export, not import, fracked natural gas.

This is because LNG exports, not imports, are the clear market trend.

Exports are about maximizing oil and gas production through widespread and intensive drilling and fracking.

As a society, we cannot accept this. As a nation, we must choose a different course.

Thank you.

Testimony of Jessica Roff
Programs Manager, Catskill Mountainkeeper
April 1, 2015
Resolution 549
Resolution calling on Governor Andrew Cuomo to veto the application by Liberty Natural Gas, LLC to construct the Port Ambrose liquefied natural gas terminal off the coast of New York

Chairperson Richards, Chairperson Rose, and the Committees on Environmental Protection and Waterfronts, thank you for the opportunity to testify today on this extremely important matter for New York City, New York State, the United States, and the planet.

We are here to talk about Liberty Natural Gas, a shell corporation in the Cayman Islands, and its proposal to build a liquefied natural gas port just miles off the coast of New York, most disturbingly, just off shore from the communities most ravaged by Superstorm Sandy, and still working to recover from that climate change driven disaster.

It all comes down to one critical fact: There are numerous reasons why Port Ambrose is a terrible idea, many of which you've already heard, and there are NO reasons to actually build this expensive, dangerous piece of fossil fuel infrastructure that will continue to shackle us to what must be the fossil fuel past, instead of moving us forward to a clean, safe, local-job producing wind energy future proposed for the exact same location.

Given the information already covered by my many extremely knowledgeable colleagues, I will address an issue that doesn't get enough discussion: emergency response and preparedness and the unfunded mandate to first responders, mostly in Sandy-affected communities.

And in that context, I want to talk about a word that should make all of us very nervous. It's "GUIDANCE." Because, it seems that in dealing with possible emergencies, disasters, accidents, and terrorist threats, all we have is "guidance," not binding regulations or concretized plans. In my past life I was a government attorney and I worked on a lot of international negotiations on behalf of the US Government. One thing the Department of State loved to see in international agreements was the word "should," with all the wiggle room that entailed. And, we would have many hours long discussions before ever agreeing to the word "shall," because that was binding. I bet we can all guess which word appears in policy and other documents relating to Port Ambrose and other fossil fuel infrastructure.

Not even the communications are mapped out for dealing with these kinds of emergencies, and that doesn't even require the kinds of training that actual emergency response requires. At John Jay College over the winter I went to a presentation about the "Guide for Communicating Emergency Response Information for Natural Gas and Hazardous Liquids Pipelines" sponsored by the Pipeline and Hazardous Materials Safety Administration (PHMSA). If you don't know about this report, you should. I did not bring printed copies today because it is over 30 pages, but I have emailed it to Samara Swanston so you all can read it. The specific focus of the report is on pipelines, but the presenters also noted that it is true for oil trains, and other infrastructure. Port Ambrose would connect to pipelines.

The report highlights the importance of communication relating to these types of emergencies and of

planning for communication well before a pipeline emergency occurs. The study and report, which also provides "guidance" and recommendations and is completely non-binding, is that there is no communication - at least nothing standardized, mandatory, regulated, or any other word you might find reassuring. And, the things that are being communicated about – including equipment - are also not standardized, equilibriated, or updated on a uniform schedule. And, perhaps the biggest concern is that chain of command is also neither clear nor uniform. Keep in mind that we have been using and regulating pipelines for a very long time.

On the other hand, tankers, such as the ones that will be using Port Ambrose and are fueled primarily by LNG are a relatively new concept in the United States. There are no established regulations specifically for vessels that receive LNG for use as fuel. So, the Coast Guard filled the "gap" by 'recommending appropriate safety measures' for the safe transfer of LNG and use of LNG as a marine fuel in a February 19, 2015, policy letter with the subject: GUIDELINES FOR LIQUEFIED NATURAL GAS FUEL TRANSFER OPERATIONS AND TRAINING OF PERSONNEL ON VESSELS USING NATURAL GAS AS FUEL. Unfortunately, it should come as no surprise that this letter is also full of words like "guidance," "should," and "recommendations." I have also emailed a copy of this document.

When I was a government lawyer, I also worked on Mutual Aid Agreements related to Indian country where jurisdiction turns on a dime and many agencies are poorly staffed and underfunded. These agreements saved lives and made work happen as it should. And, they included specific training for all the first responder agencies involved.

We have all heard about how the Coast Guard is not prepared to take on the ever-expanding security issue of the ever-increasing number of LNG facilities in this country. Because Port Ambrose would be a deep water port it will also be dealing with moving tankers. This raises concern with regard to jurisdiction among New York City, New York State, and Federal emergency responders and agencies. There has been no discussion of Mutual Aid Agreements in the context of Port Ambrose, or of other infrastructure currently under construction such as the Rockaway Lateral Pipeline which crosses Federal park land, Federal wildlife preserve land, open ocean, New York City and State land, and buildings on the historical register – and for the record, when police have been called to protests we've had along the construction site, they had no idea what the pipeline was or what it would carry. They thought it was a sewage line.

When we were last at City Hall, on March 16th for the close of the Federal, FDNY also had a press conference. I had an opportunity to speak with a number of firefighters who told me a few disturbing things. First, they told me that there are only three marine FDNY units, they are located in Manhattan and Brooklyn. Second they told me that there is one Hazmat unit in the FDNY. And, third, they had not heard anything about Port Ambrose - and they happened to be from Queens. I have also spoken with an FDNY dispatcher who said that the only training or discussion he knew of related to Port Ambrose was a "table top" training, which essentially means that people sat around tables and talked and brainstormed. There was no actual training and no talk of further training.

Which also raises the issue of if and when the necessary training is undertaken, who will pay for it? Companies like Liberty build dangerous fossil fuel infrastructure with impunity. They do not pay the true cost of doing business and they certainly do not pay the cost of emergency response, injury, or clean up. How is that okay? Where is the money going to come from? How are we going to

standardize the training. Pipeline and other fossil fuel infrastructure accidents are known as "high impact, low probability" incidents, which means that emergency responders don't train on them the same way they do, for say, a multi-family unit apartment building fire. Here in NYC at least we have some of the best funded, best equipped, and best trained emergency responders, but that is still not sufficient. And, let's also keep in mind the proximity of Port Ambrose to the municipalities and towns in Long Island. Their emergency responder are not nearly as well-funded or well-equipped. These questions should be threshold tests for fossil fuel infrastructure, not after thoughts.

We are at a critical juncture now as the ocean levels and temperatures rise and 100 year floods happen far more frequently than every 100 years. Now is the time we need to commit to a renewable energy future and as Chairperson Richards is fond of saying, "divorce our fossil fuel past." Building an offshore wind farm instead of Port Ambrose would create clean, safe jobs; would not exacerbate climate change; would allow for the ocean floor and ocean ecosystems to not only recover after construction, but to thrive; would help New York City to meet its goal of ~~being~~ an 80% ~~renewable~~ GHG emissions reduction ~~energy city~~ by 2050; and would contribute to coastal communities' resiliency because, as Mark Z. Jacobson of Stanford University found, wind turbines can reduce peak wind speeds by up to 98 mph as well as decrease storm surge by up to 79 percent.

Now is the time to invest in our future with renewable energy and clean, local, safe, abundant jobs. There is nothing about Port Ambrose that looks to our future, it mires us in a dangerous past and brings no benefits to New York. Thank you to the City Council for taking on this important issue and to Chairperson Richards for his leadership. The City Council must pass this resolution and Governor Cuomo must veto Port Ambrose for all of us.

Anthony K. Rogers-Wright

Policy and Organizing Director

Environmental Action

April 1, 2015

RE: Testimony to Committee on Environmental Protection, Resolution 549: Resolution calling on Governor Andrew Cuomo to veto the application by Liberty Natural Gas, LLC to construct the Port Ambrose liquefied natural gas terminal off the coast of New York.

Chairman Richards and fellow distinguished Council Members. Thank you for granting me the honor to submit written and oral testimony on the proposed Port Ambrose LNG Import Facility. My name is Anthony Rogers-Wright and I am the Policy and Organizing Director for Environmental Action, and environmental Non-Governmental Organization and Research Group. Prior to my appointment with Environmental Action I have over ten years of experience as a Policy and Environmental Analyst for numerous multi-national consulting firms where I specialized in preparing various environmental documents including Environmental Impact Statements and specialized in Socio-economic impacts and Environmental Justice impacts and mitigation strategies. I have been asked by the coalition of concerned citizens and organizations to comment on the associated section of the Draft Environmental Impact Statement for the proposed Port Ambrose Project.

Mr. Chairman, pursuant to Section 1502.1 of the National Environmental Policy Act, an Environmental Impact Statement shall, "...serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." Furthermore, Section 1502.1 stipulates, "An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions." I was taught to comprehend this statute as a responsibility to author documents that are objectively informative and legally defensible. Unfortunately the DEIS for Port Ambrose fails both of these tests profoundly uniformly and specifically with respect to Socio-economics.

The vast majority of the socio-economic analysis is too vague and quite frankly languorous. As a result, the public and decision makers like yourselves are not properly informed about the direct and indirect impacts that this project would have on communities and local and regional economies. As such, it is warranted to conclude that Liberty Natural Gas and Tetra Tech, the preparers of the DEIS perpetuated a culture of obfuscation which opens up the analysis and the entire document to numerous legal challenges.

There is one area that I would like to use my time to focus on specifically, the issue of Environmental Justice. President Clinton signed Executive Order (E.O.) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, on February 16, 1994. The E.O. directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. The order also directs each agency to develop a strategy for implementing environmental justice. The order is also intended to promote nondiscrimination in federal programs that affect human health and the environment, as well as provide minority and low-income communities access to public information and public participation. The DEIS fails to comply with the EO and utilized very peculiar if not surreptitious methods to reach its conclusion that low-income and minority populations would not be disproportionately impacted, and this is a major problem for a City as rich in diversity as New York.

We must do our absolute best to protect all of our citizens and give special attention to our most vulnerable citizens including our children, aging population and low-income and minority citizens who have traditionally and currently experience disproportionate environmental impacts. We saw this during and following Superstorm Sandy and the DEIS does not provide enough information to legitimately ensure that this project will not exasperate disproportionate impacts.

Here are some examples of the sophomoric approach applied in the DEIS. Table 3.9-1 does not include Hispanics in the aggregate for total minority population. Pursuant to EPA Region 2 Guidelines for Conducting Environmental Justice Analysis, EPA's office of Environmental Justice has defined the term "minority" for EJ purposes to include Hispanics, Asian-Americans and Pacific Islanders, African Americans, and American Indians and Alaskan Natives. As such, two of the counties referenced in Table 3.9-1(Kings County and Queens County) both have minority populations that warrant an analysis to determine if these populations would be disproportionately impacted by the proposed project. Moreover, while the EPA recommends a threshold of 51.51 percent of minorities for urban areas and 34.73 percent for rural areas, it is common practice to compare the minority population of a local geography (i.e. a Census Tract or Block Group) to a larger area (i.e. a county or city) since EJ impacts tend to be local in nature. If the minority population of a local geography is meaningfully greater than a larger area, an Environmental Justice analysis is warranted to determine if the given population would experience disproportionate impacts. As such, the DEIS should complete an EJ analysis for local geographies and compare them to larger areas.

Furthermore, as we all know, impacts, especially EJ impacts are realized at the local level, not the regional level. But rather than relying on an average of the five counties that make up the ROI, the DEIS must include an analysis of potential localized impacts. Impacts to minority citizens are typically local in nature; therefore, impacts should be analyzed at the Census Tract or Block Group level.

Mr. Chairman, take your district for example. According to the 2010 Census, your district is rich in diversity and minorities/people of color account for over 75% of its population. Therefore it would qualify as an EJ population that warrants a specific and localized analysis including consultation with leaders like yourself to develop and implement safeguards to protect your constituents. I imagine that neither Liberty nor Tetra Tech reached out to you or other leaders in your district.

The DEIS overlooks this community and others and this is a pernicious precedent that puts people's health and lives at unnecessary risk. I could go on, but would refer you to the comments that I submitted along with Clean Ocean Action if you would like further information.

Tactics such as these are bereft of integrity and therefore warrants a veto from the Governor. As such I appreciate and applaud your leadership and am ready and willing to assist you in any way that I can to secure passage of Resolution 549.

Thank You for your time and consideration.

Anthony K. Rogers-Wright.

LEAGUE OF WOMEN VOTERS®
OF NEW YORK STATE

THE LEAGUE
OF WOMEN VOTERS®
OF THE CITY OF NEW YORK

April 1, 2015

NYC Council Public Hearing April 1, 2015
NYC Council Resolution 0549-2015

The League of Women Voters of New York State and the League of Women Voters of New York City strongly support New York City Council's Resolution 0549-2015 calling on Governor Andrew Cuomo to veto the application by Liberty Natural Gas for Port Ambrose Liquefied Natural Gas Deepwater Port. In September 2012 this application was made, yet the financial status of Liberty Natural Gas and its owners and their identity remains incomplete. The public has the right to know this information to evaluate whether the company can support such a large investment to construct and operate the port, pipeline, two Liquid Natural Gas regasification vessels, staff, offices, etc. and whether it carries sufficient insurance or on-hand cash reserves in case of accidents or malfunctions.

Further, the public should have access to a Port Operations Plan to demonstrate navigability of the two almost 1000 ft. long Liquid Natural Gas Regasification Vessels among planned windmills for the same area of the ocean and, at all times, without significantly interfering with commerce.

The Plan should also address their ability to operate under severe weather conditions.

Before approving or disapproving this application, we have requested the United States Maritime Administration (MARAD) to adopt its proposed policy to require a separate application for an import port with an independent Environmental Impact Statement if the owners of an import port wish to switch it to an export port.

The security and safety concerns of a liquid natural gas (LNG) port outside the Port of New York and New Jersey are serious:

- LNG tankers have been listed as potential terrorist targets by the Department of Homeland Security since 2003;

- LNG is highly flammable - if ignited, it can kill people and damage steel; and

- In the Independent Risk Assessment Phase I of the draft environmental impact statement, a large break in the storage tanks can be caused by a vessel moving at standard speeds but inadvertently strikes a Liquid Natural Gas Regasification Vessel calling on the Deepwater Port or by an intentional vessel hit.

The result could be twofold:

1. The LNG would float on top of the water and a pool of LNG would form. If Ignited, the fire could kill or burn the 156 crewmembers and damage the Liquid Natural Gas Regasification Vessel or those on the ship that strikes.

2. If the pool of LNG is not ignited, a vapor cloud would form and could spread rapidly, including to a second Liquid Natural Gas Regasification Vessel at the other buoy or into the Ambrose to Nantucket Traffic Lane (2.2 nautical miles from the Port) depending on the wind direction. If the cloud were ignited, the fire would flash back to the source of the spill, likely causing death or serious burns to all individuals it encounters either aboard the LNG regasification vessel or aboard nearby vessels.

Other forms of terrorist scenarios such as acts of war, i.e., hijacking, attacks by planes, torpedoes, missiles, drones, pre-placed explosives, etc. are not discussed in the Independent Risk Assessment Phase 1 and we strongly recommend they be considered with a risk assessment and appropriate response in Phase II.

The League of Women Voters of New York State, joined by the League of Women Voters of New York City, ask council members to pass Res 0549-2015 calling on Governor Andrew Cuomo to veto the application by Liberty Natural Gas for Port Ambrose LNG Deepwater Port.

SURFRIDER
FOUNDATION
NEW YORK CITY CHAPTER

April 1, 2015

New York City Council Committee on Environmental Protection
New York City Council Committee on Waterfronts
City Hall, New York, NY

RE: Res. No. 549 - Resolution calling on Governor Andrew Cuomo to veto the application by Liberty Natural Gas, LLC to construct the Port Ambrose liquefied natural gas terminal off the coast of New York

Chairs Deborah L. Rose and Donovan J. Richards,

On behalf of the New York City Chapter of the Surfrider Foundation, and their thousands of members, supporters, and activists, I urge you to pass a resolution asking Governor Cuomo to veto the proposed offshore Port Ambrose liquefied natural gas terminal.

There are many reasons for Governor Cuomo to veto this project including: public safety issues; the risk to coastal and ocean jobs from an accident; it not being in line with renewable energy and carbon reduction goals; and the lack of need for additional natural gas delivery into the NYC market. Because our members are consistently out enjoying the waves and beaches that NYC offers, this letter will focus on the environmental impacts and risks inherent in the Port Ambrose project.

Port Ambrose will have many known negative impacts to New York's environment including: increased light, water, noise, and air pollution; increased water turbidity; degraded or destroyed benthic habitat; and displaced, injured, or killed marine animals ranging from tiny (such as phytoplankton) to large (such as whales). Here are some of the facts about impacts to the marine environment from Port Ambrose.

1. It will require 4.5 million cubic feet per year of seawater for ballast and other uses.[1] It is estimated that this seawater will include 45 million fish larvae and eggs per year, which will be killed through entrainment.[2]
2. Four acres of benthic habitat will be destroyed from continued movement of permanent anchor chains.[3]

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[1] Liberty LNG Draft Environmental Impact Statement. Appendix J, page 6.
[2] Ibid. Appendix J, page 38.

3. Dredging of the seafloor, noise, turbidity, and entrainment will negatively affect species classified as endangered under federal law including five species of turtles, six species of whales, and Atlantic sturgeon.[4]
4. Dredging of the seafloor, noise, turbidity, and entrainment will negatively affect 38 federally managed marine species of fish and shellfish. These species form the basis of a large commercial and recreational fishery in New York waters.[5]

If an accident occurs with Port Ambrose, the impacts are largely unknown. What is known is that Liquefied Natural Gas is highly explosive in certain situations. If a fire or explosion were to occur at Port Ambrose, the effects to humans and the environment would be serious and expansive.

Thank you for the opportunity to testify about Port Ambrose. Please urge Governor Cuomo to veto this project. If Port Ambrose is allowed to move forward, the negative impacts from this project will be felt by New Yorkers and our environment for decades.

Nikita Scott
Matt Gove
New York City Chapter of the Surfrider Foundation

The Surfrider Foundation is a grassroots environmental organization dedicated to the protection and enjoyment of the world's oceans, waves, and beaches for all people. In New York, the Surfrider Foundation maintains three chapters with thousands of members, volunteers, and supporters.

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[3] Ibid. Appendix E, page 25.
[4] Ibid. Appendix I, page 3-2.
[5] Ibid. Appendix E, page 32.

STATEMENT OF THE NATURAL RESOURCES DEFENSE COUNCIL

Before the New York City Council's

COMMITTEE ON ENVIRONMENTAL PROTECTION AND COMMITTEE ON WATERFRONTS

Regarding the Resolution calling on Governor Andrew Cuomo to veto the application by Liberty Natural Gas, LLC to construct the Port Ambrose liquefied natural gas terminal off the coast of New York

Good afternoon and thank you for holding this public hearing. My name is Andrea Leshak, and I am a legal fellow at the Natural Resources Defense Council (NRDC). NRDC is a national non-profit environmental advocacy organization with its headquarters in New York City. NRDC has 1.4 million members and e-activists, with 25,000 in New York State and 12,500 in New York City. NRDC's top institutional priorities include curbing global warming, building the clean energy future, and protecting our oceans and ocean ecosystems. We are a leading advocate for sustainable and well-sited renewable energy, including the deployment of offshore wind energy off the Atlantic coast. NRDC is actively engaged in supporting clean energy policies across New York State.

Liberty Natural Gas proposes to construct, own, and operate the Port Ambrose LNG terminal in the New York Bight, approximately 16.1 nautical miles southeast of Jones Beach, New York, 24.9 nautical miles east of Long Branch, New Jersey and 27.1 nautical miles from the entrance to New York Harbor. On March 16, 2015, NRDC submitted comments to the Coast Guard and the Maritime Administration requesting that those agencies disapprove the Port Ambrose LNG terminal. NRDC is pleased to provide testimony to support the resolution calling on Governor Andrew Cuomo to veto the application by Liberty Natural Gas to construct the Port Ambrose liquefied natural gas (LNG) terminal. As described in further detail below, there are three main reasons why NRDC opposes this project.

Conflict with the New York Power Authority Offshore Wind Lease Application

First, the Port Ambrose terminal poses a significant conflict to the proposed NYPA Offshore Wind Project, which would be located in the Atlantic Ocean in a long wedge-shaped area, with its westerly most point approximately 14 nautical miles due south of Nassau County. As proposed, the project is designed to generate 350 megawatts of clean electricity for the Long Island and New York City region, with the ability to expand generation capacity to as much as 700 megawatts, sufficient to power almost 250,000 homes. The NYPA Offshore Wind Project would provide immense benefits to the New York region.

The proposed Port Ambrose LNG terminal – and the associated exclusion zone for the two buoys and the LNG delivery vessels – would be located in the upper northwestern third of the NYPA lease site – just the area that is likely best suited for turbine construction. Thus, the Port Ambrose terminal would compete directly with the

Offshore Wind Project for the prime area for offshore wind construction, making construction and operation of the offshore wind project all but impossible.

Lack of Need for the Proposed LNG Import Terminal

Second, NRDC opposes the Port Ambrose LNG terminal because there is simply no need for an LNG import terminal off the coast of New York. As acknowledged in the 2014 New York State Energy Plan, the production of domestic natural gas has increased in recent years, causing the need for imported LNG to diminish. Indeed, the recent trend in the U.S. has been to export LNG: fourteen onshore LNG export facilities are currently proposed with an additional thirteen potential export terminal sites identified. The fact that facilities originally intended for importing LNG are now switching to exports also highlights concerns regarding the accuracy of the supposed need for Port Ambrose. Furthermore, because the natural gas from Port Ambrose would be delivered to an existing pipeline (Transco's Lower New York Bay Lateral), it is not clear that Port Ambrose would have any beneficial impact in terms of alleviating pipeline capacity in the New York City and Long Island markets or reducing the price of natural gas for New Yorkers.

The apparent lack of need for an LNG import terminal, coupled with the many available alternatives, such as adequate natural gas storage, expanded pipeline capacity, and decreased natural gas demand through energy efficiency measures and increased renewable energy dispatch, provide substantial justification to oppose the Port Ambrose terminal.

Existence of Renewable Energy Alternatives

Third, developing an LNG import terminal would be moving New York in the wrong direction. Instead, renewable energy sources – that notably lack the negative environmental and climate impacts of LNG – have the potential to meet a significant portion of New York State's energy needs. With the recent expansion of the NY-Sun initiative and with New York's significant potential for offshore wind power right off the coast of Long Island and New York City, renewable energy can provide sustainable, virtually pollution-free energy to millions of New Yorkers. Energy storage and energy efficiency measures provide further reason to reject any supposed need for increased reliance on imported fossil fuels.

New York State has worked hard to recover from the devastating impacts of Superstorm Sandy and has adopted new climate resilience strategies for the future. In addition, President Obama's Climate Plan has injected new energy into federal efforts to curb global warming. Because evidence shows that the Port Ambrose terminal is not needed to meet the energy needs of the New York region and because the project would pose a significant obstacle to the development of the NYPA Offshore Wind Project, the New York City Council should oppose, and Governor Cuomo should veto, Liberty Natural Gas's application for the Port Ambrose terminal.

Thank you for the opportunity to testify today.

ANDREA LESHAK
Legal Fellow

NATURAL RESOURCES DEFENSE COUNCIL
40 W 20TH STREET NEW YORK, NY 10011
T 212.727.4634 | ALESHAK@NRDC.ORG

The Securities and Exchange Commission has not necessarily reviewed the information in this filing and has not determined if it is accurate and complete. The reader should not assume that the information is accurate and complete.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM D

Notice of Exempt Offering of Securities

OMB APPROVAL	
OMB Number:	3235-0076
Expires:	August 31, 2015
Estimated average burden hours per response:	4.00

1. Issuer's Identity

CIK (Filer ID Number)

0001595507

Previous Names [X] None

Name of Issuer

West Face Alternative Credit USA L.P.

Jurisdiction of Incorporation/Organization

DELAWARE

Year of Incorporation/Organization

[ ] Over Five Years Ago

[X] Within Last Five Years (Specify Year) 2013

[ ] Yet to Be Formed

Entity Type

[ ] Corporation

[X] Limited Partnership

[ ] Limited Liability Company

[ ] General Partnership

[ ] Business Trust

[ ] Other (Specify)

2. Principal Place of Business and Contact Information

Name of Issuer

West Face Alternative Credit USA L.P.

Street Address 1

2 Bloor Street East, Suite 3000

Street Address 2

City	State/Province /Country	ZIP/PostalCode	Phone Number of Issuer
Toronto	ONTARIO, CANADA	M4W 1A8	647-724-8911

3. Related Persons

Last Name	First Name	Middle Name
West Face ACF USA GP, LLC	n/a	
Street Address 1	**Street Address 2**	
2 Bloor Street East, Suite 3000		
City	**State/Province/Country**	**ZIP/PostalCode**
Toronto	ONTARIO, CANADA	M4W 1A8

Relationship: [ ] Executive Officer [ ] Director [X] Promoter

Clarification of Response (if Necessary):

General Partner

Last Name	First Name	Middle Name
West Face Capital Inc.	n/a	
Street Address 1	**Street Address 2**	
2 Bloor Street East, Suite 3000		
City	**State/Province/Country**	**ZIP/PostalCode**
Toronto	ONTARIO, CANADA	M4W 1A8

Relationship: [X] Executive Officer [ ] Director [ ] Promoter

Clarification of Response (if Necessary):

Investment Manager

Last Name	First Name	Middle Name
Boland	Gregory	
Street Address 1	**Street Address 2**	
West Face Capital Inc.	2 Bloor Street East, Suite 3000	
City	**State/Province/Country**	**ZIP/PostalCode**
Toronto	ONTARIO, CANADA	M4W 1A8

Relationship: [X] Executive Officer [ ] Director [ ] Promoter

Clarification of Response (if Necessary):

Last Name	First Name	Middle Name
Maynard	John	R.
Street Address 1	**Street Address 2**	
West Face Capital Inc.	2 Bloor Street East, Suite 3000	
City	**State/Province/Country**	**ZIP/PostalCode**
Toronto	ONTARIO, CANADA	M4W 1A8

Relationship: [X] Executive Officer [ ] Director [ ] Promoter

Clarification of Response (if Necessary):

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4. Industry Group

- [ ] Agriculture
- Banking & Financial Services
  - [ ] Commercial Banking
  - [ ] Insurance
  - [ ] Investing
  - [ ] Investment Banking
  - [X] Pooled Investment Fund
    - [ ] Hedge Fund
    - [X] Private Equity Fund
    - [ ] Venture Capital Fund
    - [ ] Other Investment Fund

  Is the issuer registered as an investment company under the Investment Company Act of 1940?

  [ ] Yes [X] No
  - [ ] Other Banking & Financial Services
- [ ] Business Services
- Energy
  - [ ] Coal Mining
  - [ ] Electric Utilities
  - [ ] Energy Conservation
  - [ ] Environmental Services
  - [ ] Oil & Gas
  - [ ] Other Energy
- Health Care
  - [ ] Biotechnology
  - [ ] Health Insurance
  - [ ] Hospitals & Physicians
  - [ ] Pharmaceuticals
  - [ ] Other Health Care
- [ ] Manufacturing
- Real Estate
  - [ ] Commercial
  - [ ] Construction
  - [ ] REITS & Finance
  - [ ] Residential
  - [ ] Other Real Estate
- [ ] Retailing
- [ ] Restaurants
- Technology
  - [ ] Computers
  - [ ] Telecommunications
  - [ ] Other Technology
- Travel
  - [ ] Airlines & Airports
  - [ ] Lodging & Conventions
  - [ ] Tourism & Travel Services
  - [ ] Other Travel
- [ ] Other

5. Issuer Size

Revenue Range	OR	Aggregate Net Asset Value Range
[ ] No Revenues		[ ] No Aggregate Net Asset Value
[ ] $1 - $1,000,000		[ ] $1 - $5,000,000

[ ] $1,000,001 - $5,000,000	[ ] $5,000,001 - $25,000,000
[ ] $5,000,001 - $25,000,000	[ ] $25,000,001 - $50,000,000
[ ] $25,000,001 - $100,000,000	[ ] $50,000,001 - $100,000,000
[ ] Over $100,000,000	[ ] Over $100,000,000
[X] Decline to Disclose	[ ] Decline to Disclose
[ ] Not Applicable	[ ] Not Applicable

6. Federal Exemption(s) and Exclusion(s) Claimed (select all that apply)

[ ] Rule 504(b)(1) (not (i), (ii) or (iii))	[X] Investment Company Act Section 3(c)	
[ ] Rule 504 (b)(1)(i)	[ ] Section 3(c)(1)	[ ] Section 3(c)(9)
[ ] Rule 504 (b)(1)(ii)	[ ] Section 3(c)(2)	[ ] Section 3(c)(10)
[ ] Rule 504 (b)(1)(iii)	[ ] Section 3(c)(3)	[ ] Section 3(c)(11)
[ ] Rule 505	[ ] Section 3(c)(4)	[ ] Section 3(c)(12)
[X] Rule 506(b)	[ ] Section 3(c)(5)	[ ] Section 3(c)(13)
[ ] Rule 506(c)	[ ] Section 3(c)(6)	[ ] Section 3(c)(14)
[ ] Securities Act Section 4(a)(5)	[X] Section 3(c)(7)	

7. Type of Filing

[X] New Notice Date of First Sale 2013-12-12 [ ] First Sale Yet to Occur

[ ] Amendment

8. Duration of Offering

Does the Issuer intend this offering to last more than one year? [X] Yes [ ] No

9. Type(s) of Securities Offered (select all that apply)

[ ] Equity	[X] Pooled Investment Fund Interests
[ ] Debt	[ ] Tenant-in-Common Securities

[ ] Option, Warrant or Other Right to Acquire Another Security
[ ] Security to be Acquired Upon Exercise of Option, Warrant or Other Right to Acquire Security
[ ] Mineral Property Securities
[ ] Other (describe)

10. Business Combination Transaction

Is this offering being made in connection with a business combination transaction, such as a merger, acquisition or exchange offer? [ ] Yes [X] No

Clarification of Response (if Necessary):

11. Minimum Investment

Minimum investment accepted from any outside investor $0 USD

12. Sales Compensation

Recipient

Recipient CRD Number [X] None

(Associated) Broker or Dealer [X] None

(Associated) Broker or Dealer CRD Number [X] None

Street Address 1

Street Address 2

City

State/Province/Country

ZIP/Postal Code

State(s) of Solicitation (select all that apply)
Check "All States" or check individual States
[ ] All States
[ ] Foreign/non-US

13. Offering and Sales Amounts

Total Offering Amount	USD or [X] Indefinite	
Total Amount Sold	$60,000 USD	
Total Remaining to be Sold	USD or [X] Indefinite	

Clarification of Response (if Necessary):

14. Investors

[ ] Select if securities in the offering have been or may be sold to persons who do not qualify as accredited investors, and enter the number of such non-accredited investors who already have invested in the offering.

Regardless of whether securities in the offering have been or may be sold to persons who do not qualify as accredited investors, enter the total number of investors who already have invested in the offering: 2

15. Sales Commissions & Finder's Fees Expenses

Provide separately the amounts of sales commissions and finders fees expenses, if any. If the amount of an expenditure is not known, provide an estimate and check the box next to the amount.

Sales Commissions $0 USD ☐ Estimate

Finders' Fees $0 USD ☐ Estimate

Clarification of Response (if Necessary):

16. Use of Proceeds

Provide the amount of the gross proceeds of the offering that has been or is proposed to be used for payments to any of the persons required to be named as executive officers, directors or promoters in response to Item 3 above. If the amount is unknown, provide an estimate and check the box next to the amount.

$0 USD ☐ Estimate

Clarification of Response (if Necessary):

Signature and Submission

Please verify the information you have entered and review the Terms of Submission below before signing and clicking SUBMIT below to file this notice.

Terms of Submission

In submitting this notice, each issuer named above is:

- Notifying the SEC and/or each State in which this notice is filed of the offering of securities described and undertaking to furnish them, upon written request, in the accordance with applicable law, the information furnished to offerees.*
- Irrevocably appointing each of the Secretary of the SEC and, the Securities Administrator or other legally designated officer of the State in which the issuer maintains its principal place of business and any State in which this notice is filed, as its agents for service of process, and agreeing that these persons may accept service on its behalf, of any notice, process or pleading, and further agreeing that such service may be made by registered or certified mail, in any Federal or state action, administrative proceeding, or arbitration brought against it in any place subject to the jurisdiction of the United States, if the action, proceeding or arbitration (a) arises out of any activity in connection with the offering of securities that is the subject of this notice, and (b) is founded, directly or indirectly, upon the provisions of: (i) the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Investment Company Act of 1940, or the Investment

Advisers Act of 1940, or any rule or regulation under any of these statutes, or (ii) the laws of the State in which the issuer maintains its principal place of business or any State in which this notice is filed.

- Certifying that, if the issuer is claiming a Regulation D exemption for the offering, the issuer is not disqualified from relying on Regulation D for one of the reasons stated in Rule 505(b)(2)(iii) or Rule 506(d).

Each Issuer identified above has read this notice, knows the contents to be true, and has duly caused this notice to be signed on its behalf by the undersigned duly authorized person.

For signature, type in the signer's name or other letters or characters adopted or authorized as the signer's signature.

Issuer	Signature	Name of Signer	Title	Date
West Face Alternative Credit USA L.P.	John Maynard	John R. Maynard	CFO of the Investment Manager	2013-12-31

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

* This undertaking does not affect any limits Section 102(a) of the National Securities Markets Improvement Act of 1996 ("NSMIA") [Pub. L. No. 104-290, 110 Stat. 3416 (Oct. 11, 1996)] imposes on the ability of States to require information. As a result, if the securities that are the subject of this Form D are "covered securities" for purposes of NSMIA, whether in all instances or due to the nature of the offering that is the subject of this Form D, States cannot routinely require offering materials under this undertaking or otherwise and can require offering materials only to the extent NSMIA permits them to do so under NSMIA's preservation of their anti-fraud authority.

From Danny Ruscillo
Rockaway Park Resident
Rockaway Park, Queens NY

FOR THE RECORD

First, I want to thank Mayor Bill DeBlasio and the City Council Members for allowing my letter of opposition on the Port Ambrose L.N.G. Project to be read here today.

I would like to start off stating my family and I live off the coast of Rockaway, a beautiful Beach front Community in Queens New York. It is so beautiful we along with Community residents want to keep it that way. Our family and residents of this great Community do not wish to have Liquefied Natural Gas tankers or their facility (Port) built off our beautiful coast or waterways. It is fact and I repeat it is fact, that L.N.G. tankers along with their facilities are dangerous in many ways. If an accident was to occur "just one" it will cause more damage to our environment, ocean waters, fish & wildlife plus devastation within the vicinity of these facilities or large tankers. There has been many different tankers taken over by hijackers as you all here today already know “this is fact”, not only hijackers what about terrorist we must fit them into this scenario. This project must be stopped now! *WE* the Rockaway Community overwhelmingly do not want anything this dangerous off the coast of our Community. We have had enough; we are still recovering from the devastation of Super Storm Sandy. Governor Cuomo my family along with the Rockaway Community implores you to Veto this Port Ambrose L.N.G. project now!

Thank You!

Catskill Citizens
FOR SAFE ENERGY

PO Box 103 Fremont Center, NY 12736

RE: Res 0549-2015

I am submitting these comments on behalf of Catskill Citizens for Safe Energy, an all-volunteer grassroots organization with 14,000 members in New York and around the country.

The proposed Port Ambrose project, which would ostensibly be used to import liquefied natural gas (LNG) into the lower New York market, is an unnecessary, speculative business venture that is likely to fail. If built, it would probably interfere with the construction of an offshore wind farm and would certainly present an unacceptable threat to the Port of New York.

In making the case for Port Ambrose, the project sponsors, Liberty Natural Gas, fail to consider abundant evidence that convincingly demonstrates that an ongoing multi-decade expansion of domestic natural gas production is likely to render imported liquefied natural gas (LNG) uncompetitive in the target market for the foreseeable future. The sponsors fail to explain how Port Ambrose will be able to withstand the same long-term market forces that negatively impacting every other LNG import facility on the East Coast.

According to the federal Energy Information Agency (EIA), U.S. natural gas production increased by more than 45 percent between 2005 and 2014.[1] Fueled by shale gas extraction, EIA predicts that domestic production will continue to increase at least through 2040.[2] In other words America's "shale gas boom" will likely outlast the useful life of the Port Ambrose Deepwater Port.

As domestic gas supplies have increased, the demand for imported LNG has plummeted. U.S. imports peaked in 2007 at 777,000 million cubic feet (MMcf). By 2014 that figure had dropped by over 90 percent, to just over 59,000 MMcf.[3] EIA's Annual Energy Outlook 2014 forecasts:

> The United States transitions from being a net importer of 1.5 Tcf [trillion cubic feet] of natural gas in 2012 to a net exporter of 5.8 Tcf in 2040, with 88% of the rise in net exports (6.5 Tcf) occurring by 2030, followed by slower growth through 2040 (Figure MT-42).

The rapid increase in the production of domestic natural gas has predictably led to steep and sustained price declines for both natural gas and LNG. In 2008 the annual spot price of natural gas on the Henry Hub was $8.86/million British Thermal Units (MMbtus). By 2013 the price had plummeted 58 percent to $3.73.[4] EIA predicts that the Henry Hub spot price will continue to decline in 2015, to $3.07.[5]

And as EIA recently reported:

> Liquefied natural gas (LNG) imports have fallen over the past five years because higher prices in Europe and Asia are more attractive to LNG exporters than the relatively low prices in the United States.[6]

A survey of recent "World LNG Estimated Landed Prices"[7] published by the Federal Energy Regulatory Commission (FERC) demonstrates that LNG typically sells for two to five times more in Europe and Asia than in the U.S. An LNG exporter in Trinidad or Qatar is unlikely to sell their product for $2.36 or $2.70 in the U.S. when it can be sold for $7.00 or more in the United Kingdom or Spain. *(Figures are drawn from FERC's "World LNG Estimated March 2015 Landed Prices.")*

In short, there is overwhelming evidence that U.S. LNG import facilities such as Port Ambrose will be unable to withstand the macroeconomic trends that are reshaping the natural gas and LNG markets. As further evidence consider what has happened to the five existing LNG import facilities on the East Coast:

- The Distrigas LNG terminal in Everett, Massachusetts is the oldest LNG import facility in the U.S., and arguably one of the more successful ones. It benefits from long-term contracts with both suppliers and customers. Nevertheless, by 2013 the *Boston Globe* reported Distrigas has experienced, "a huge drop in imports as domestic supplies have soared."[8] The *Globe* also reported that Distrigas now retains just one primary customer, a power plant that is bound by a contract that does not expire for more than ten years.

- Boston harbor contains the only two existing deepwater LNG ports on the East Coast. Together they cost approximately $750 million. One, the Northeast Gateway Deepwater Port, opened in 2008. It received several shipments of gas during its first years of operation, but has received just one LNG shipment in the last five years.

- The other, Neptune Deepwater Port received a few shipments of gas when it became operational in 2011. In 2013, it voluntarily suspended operations after two years of inactivity.

- Imports at Dominion's Cove Point terminal in Maryland dropped by 90 percent between 2007 and 2014.[9] Its sponsors are currently modifying the

facility in order to be able to export domestically produced gas overseas.

- The fifth LNG import facility on the East Coast is located at Elba Island, GA. It began importing LNG in 2011 but quickly went into decline. Imports decreased by 78 percent between 2012 and 2013.[10] As with Cove Point, Elba Island's sponsors are seeking to add liquefaction and export capacity to their facility

As a new venture, Port Ambrose would not benefit from long-term, contracts that advantageously lock in suppliers and customers. There will be nothing to help it overcome the enormous disparity between the landed price for LNG in the U.S. and the much higher prices in the rest of the world, a disparity that is likely to persist for many years to come. In light of these established, long-term economic trends, there is no reason to believe that Port Ambrose will somehow succeed while all other East Coast LNG import facilities have been severely impacted by increased domestic gas production.

The sponsor's claim that Port Ambrose is needed because "the target market does not have sufficient infrastructure to transport [domestic natural gas] to the end users" is suspect.[11] In fact, one major new pipeline, and others already under construction or awaiting approval, are dramatically increasing capacity in lower New York State and on Long Island, the target markets for Port Ambrose gas. The DEIS fails to rigorously analyze the impact of these new or potential infrastructure improvements.

- Spectra's New Jersey-New York Expansion Project became operational in November 2013. It now delivers up to 888 million standard cubic feet per day (MMscf/day) to Manhattan, effectively doubling the amount of gas into that borough.

- Later this month Williams expects to complete construction of the Transco Rockaway Lateral, which will provide Brooklyn with an additional 647 MMscf/day of capacity.

- An April 2014 report[12] prepared by Concentric Energy Advisors for Liberty Natural Gas states that several existing regional pipelines can be modified to increase gas deliveries to the target market. These include the Iroquois Pipeline, which could be expanded to handle an additional 400 MMscf/day.

- The Concentric report also notes that "market area natural gas storage could also provide numerous benefits to the NYC/LI Metro Region"[13], yet the DEIS fails to consider the potential impact of a new gas storage facility at Seneca Lake, NY with a capacity of 1.5 billion cubic feet (bcf).

It is not clear that Port Ambrose will ever be able to deliver significant quantities of LNG to the target market. The project sponsors state that Port Ambrose would be designed to transport an average of 400 MMscf/day, but they fail to quantify how much gas it will actually be able to deliver at a profit during periods of peak demand.

If Liberty Natural Gas has to compete with European markets for available LNG supplies, it is obvious that it will normally be unable to buy gas that can be sold at a profit in the target market. For this reason, the project sponsors are forced to fall back on the claim that Port Ambrose might be made viable by supplying gas during peak demand periods, when gas sells at a premium. The sponsors commissioned a report ICF International report[14] to buttress this claim. Subtitled *Lessons of the Polar Vortex of 2013-2014"*, the report found that

> ... although the 2014 Polar Vortex temperatures were not unique to NY/NJ, the region's natural gas price spikes were. ***Only New England, which like NY/NJ is situated at the terminus of the North American natural gas pipeline grid, experienced triple-digit natural gas prices.*** [Emphasis added.] Other areas from the upper Midwest to the Southeast U.S. also saw temperatures plummet, but did not experience the same degree of natural gas price volatility ... largely because they do not have the same natural gas delivery constraints. [15]

On the website, http://portambrose.com, under "Project Need", the project also compares the constrained New York and New England gas markets and asserts:

> The introduction of LNG into New England markets via new projects similar to Port Ambrose has been proven to reduce winter average pricing spikes by over 50% in 2009 and 2010.[16]

Why, in the spring of 2015, does the sponsors' website cite the positive impact of "new projects similar to Port Ambrose", but then reference data from 2009 and 2010? The answer is simple. The unnamed, "new projects" referenced by Liberty Natural Gas are none other than the Northeast Gateway and the Neptune, the two deepwater ports in Boston Harbor that have been rendered obsolete by America's prolonged domestic shale gas boom. Despite the Polar Vortex of 2013-2014 and this year's record cold winter, Gateway received a single gas shipment in December 2014 (its first since 2010) while Neptune remains closed.

Unlike New England, New York has vastly expanded its gas delivery infrastructure in the past few years. If even two extraordinarily cold winters cannot create a market for imported LNG in the delivery-constrained New England market, why is it reasonable to suppose expensive imported LNG will be able to compete with cheap natural gas in the much less constrained New York market?

If Port Ambrose does become operational, even sporadically, it will pose an unnecessary and unacceptable risk to the region. LNG is a known terrorist target,

yet the project sponsors fail to even consider some obvious scenarios that could put American lives and property at risk. They also make no attempt to calculate the cost to the taxpayer of protecting the public, and make no attempt to determine if the required security resources even exist.

There are many small airports within the vicinity of Port Ambrose where pilots and passengers are not subjected to the same screening regimen that is employed at major international airports. What is to prevent a terrorist from loading a small private plane with explosives and flying it into a liquefied natural gas regasification vessel (LNGRV) containing more than 5 million cubic feet of LNG, which, on exposure to ambient air temperature, would immediately form an immense, explosive vapor cloud? The Draft Environmental Impact Statement (DEIS) prepared by Liberty Natural Gas and submitted to the Maritime Administration does not even consider such a scenario.

The DEIS also fails estimate the cost that would have to be borne by taxpayers if Port Ambrose were to become operational. The *Boston Globe* reports that LNG tankers supplying the Distrigas facility in Everett, MA "require a small navy of Coast Guard ships and other armed escorts."[17] The cost of this "small navy" may be justified in the case of Distrigas because it is an established and important part of the New England's gas delivery system, but Port Ambrose is, at best, a highly speculative business venture that is unlikely to ever play a significant role in its target market.

In February 2011 New Jersey Governor Chris Christie vetoed a license application[18] for a deepwater port similar to Port Ambrose because he was concerned that it would place an undue burden on the U.S. Coast Guard, Homeland Security personnel and first responders. The DEIS makes no attempt to determine if these resources have the capacity to adequately protect the public from the risks inherent in operating a deepwater LNG port near important shipping lanes and in a densely populated region of the country.

Finally, the project sponsors are forced to acknowledge that the construction of Port Ambrose could interfere with the construction of a proposed wind farm in the same area. This alone is reason enough to deny Liberty Natural Gas' license application. Offshore wind can play an important role in developing sustainable energy systems for the region; all the evidence suggests that imported LNG will, at best, play a minor and increasingly unimportant role in the regional energy market.

Footnotes:

1. U.S. Energy Information Administration, U.S. Natural Gas Marketed Production http://www.eia.gov/dnav/ng/hist/n9050us2a.htm

Year: 2005 18,927,095 Million Cubic Feet
Year: 2014 27,259,815 Million Cubic Feet

2. The Annual Energy Outlook 2014 with projections to 2040 published by the U.S. Energy Information Administration predicts a 56% increase in natural gas production between 2012 and 2040. (Page MT 23) http://www.eia.gov/forecasts/aeo/pdf/0383(2014).pdf
3. U.S. Energy Information Administration, Liquefied Natural Gas Imports http://www.eia.gov/dnav/ng/hist/n9103us2A.htm
4. U.S. Energy Information Administration, Henry Hub Natural Gas Spot Price http://www.eia.gov/dnav/ng/hist/rngwhhdA.htm
5. U.S. Energy Information Administration, Short-Term Energy Outlook, March 10, 2015. http://www.eia.gov/forecasts/steo/report/natgas.cfm
6. Ibid.
7. FERC's "World LNG Estimated march 2015 Landed Prices" can be viewed at http://www.ferc.gov/market-oversight/mkt-gas/overview/ngas-ovr-lng-wld-pr-est.pdf. Other recent overviews can also be readily found online.
8. "2 costly LNG terminals sit idle" by Jay Fitzgerald, The Boston Globe, January 23, 2013. http://www.bostonglobe.com/business/2013/01/23/offshore-gas-terminals-mass-bust-far/Qu8dyZzF6yBNAsDNaTT1ZJ/story.html
9. "Reversing the flow: With Cove Point, U.S. seeks to become a gas exporter" by Lawrence Lanahan posted on America.aljazeera.com, May 14, 2014. http://america.aljazeera.com/articles/2014/5/14/cove-point-us-wantstonaturalgas.html
10. U.S. Energy Information Administration, Elba Island, GA Liquefied Natural Gas Imports from Qatar. http://www.eia.gov/dnav/ng/hist/ngm_epg0_iml_yelba-nqa_mmcfa.htm
11. Executive Summary Port Ambrose DEIS Volume 1, page 19.
12. Benefits Associated With Incremental Natural Gas Supplies Delivered to New York City, Prepared by Concentric Energy Advisors for Liberty Natural Gas/ Port Ambrose, April 2014.
13. Ibid. Page 11.
14. Cost of Natural Gas Capacity Serving the New York and New Jersey Energy Market Lessons from the Polar Vortex Winter of 2013/2014, Prepared for Port Ambrose LNG by ICF International, July 2014. Page 2.
15. Ibid. Page 2
16. http://portambrose.com/project-need/
17. "2 costly LNG terminals sit idle" by Jay Fitzgerald, The Boston Globe, January 23, 2013. http://www.bostonglobe.com/business/2013/01/23/offshore-gas-terminals-mass-bust-far/Qu8dyZzF6yBNAsDNaTT1ZJ/story.html
18. Re: Application of Liberty Natural Gas for the LNG Deepwater Port Offshore of Monmouth County, New Jersey Docket Number USCG-20010-0993, February 8, 2011. See http://catskillcitizens.org/learnmore/christie%20veto.PDF

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#549

Port Ambrose

April 1 – City Hall, New York City

I support - 100% - the proposed LNG Hub 20+ miles off the NY and New Jersey coastlines. It's a logical and environmentally sound substitute for New York's absurd and archaic reliance on heating oil and crude oil. Plus, the underground and underwater delivery of natural gas substitutes smartly, safely and much-more-cleanly than the belching and archaic NJ cracker - The Bayway - that was built by John D Rockefeller over one hundred years ago!!!

Here we have America's greatest city (a) relying on a 108 year-old smoke-stack refinery and (b) heating our homes and buildings with distillates. what's up with that senselessness??? who in America does this anymore – heat with fuel oil? - except NYC!!!

Plus, gas is 50% cheaper than crude oil. we heat and power our city with crude and NYC's electric rates - that everybody from the lowliest to the wealthiest pay every month - are the HIGHEST ELECTRIC RATES in the US. I wonder why?

Plus.2, gas is 30% cleaner (more environmentally pure) than crude oil.

Having this proposed hub situated over twenty miles off shore removes any terrorist threat and the proposed underwater pipe syncs neatly with the lateral pipe that already pumps gas between New Jersey and New York. Assuming the builder and developer of this site meets all the regulatory conditions set by the United States Coast Guard, this is a badly needed project that will reward New York with cheaper and greener energy.

I'm all for it, as I said, 100%.

Thank you for giving me the opportunity to view my opinion...PJS

New York City Council Hearing Wednesday, April 1, 2015
Yes, Long Beach Wind Farm; No Port Ambrose LNG
Testimony of Citizen, Catherine F. Skopic

Thank you Legislative Counsel Samara Swanston and Chair Donovan Richards for all you do to support the improvement of our environment and work toward a just transition to renewable energy. Thank you for your excellent participation in the recent People's Climate Movement New York Legislative Forum, March 16, 2015.

My name is Catherine Skopic and I'm here to say YES to a wind farm at Long Beach, Long Island. The location is just right for such a wind farm - the intensity and persistence of wind as well as water depth make it a perfect location for a wind farm; and we need the renewable energy it would produce sustainably.

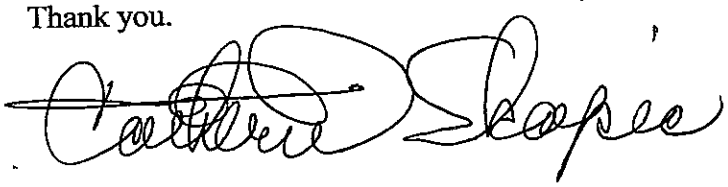
Today being April first, would that someone could tell me that the dangerous, insane idea of putting an LNG port near so densely a populated area is someone's idea of a black humor joke and that this idea will go away tomorrow and forever.

Unfortunately, it is not a joke, but it COULD go away tomorrow and forever, and I ask you to please do all you can to ensure that Governor Cuomo veto this dangerous, destructive, ill-conceived idea.

With all the anecdotal evidence we have and all the scientific data and research such as the recent IPCC report, we KNOW that any and all burning of fossil fuel will eventually destroy life on this planet. Therefore, any and all industry, such as this proposed LNG port. that supports the extraction, transport and burning of fossil fuels may be viewed not only as immoral, but as evil.

For whatever reason people would do such a thing - be it greed, money, control or whatever, I ask that they reconsider. I ask that they DO consider the many lives that would be lost in an ensuing explosion, as we know this industry, as we have seen, is more likely to encounter than not, be it through mechanical or human error.

Our nation is a democracy - we stand together for a humane, sustainable democratically owned, democratically operated energy system that serves all people equitably. There is no room for industry fossil fuels in this just transition to a new economy, the new world we are creating, the new world we are demanding.
Thank you.



New York City Council

Environmental Committee, Waterfront Committee

Hearing - April 1, 2015

Resolution 549

Presented by Mav Moorhead: NYH2O and DCS, 917.923.2118

In addition to severe water contamination as a result of methane and radium that are technologically engineered by the fracking process, as well as air contamination resulting from methane and radon 222 distribution with the gas to our cities in the Northeast thru newly constructed pipelines, we are now confronted by the gas industry's latest spin on the 'necessity' of the Port Ambrose LNG facility. Job creation would only be temporary. Permanent job creation would amount to single digits. Claims that the gas supplying Long island is necessary in response to the winter's recent cold temperatures is brought into question since the plans for this project were initiated many years ago. Claims for cheaper gas don't resonate because the cost for this LNG port would ultimately fall on the consumer in the classification of delivery charges substantially bring the cost of the gas up considerably. Long Island Power Authority recently stopped the proposed power plant in Brookhaven because Long Island's future energy needs would already be accounted for and be covered for scores of years to come.

The extreme hazards more than outweigh the gas industry contrived benefits that the developer, Liberty Natural Gas, espouses. The huge LNG tankers pose substantial risk if ruptured. The resultant gas vapor from such a rupture from such a largely voluminous source would be catastrophic. There is no way of extinguishing this source of explosion. This makes for a terrorist target like no other being adjacent to major populated areas. The New York City harbor, one of the most populated shipping lanes in the US and, in addition, adjacent major air service from 3 airports, could be severely devastated from any attack on any one of these LNG mega ships which are slated for export of gas to foreign countries.

The environmental consequences would be evident in ecosystems that would consistently be affected by the connecting pipelines on the ocean floor. Existing toxins already dumped would be disturbed and cause toxic issues to marine life. Not to mention the constant venting of methane gas into the air from these many tankers leaving port.

This LNG domestically produced gas is not providing for US or Long Island needs for the future but it is slated for gas industry highest profit margin export. Gas, LNG, sells on the foreign market for at least 7 times higher than the present US national market glut sells for presently.

The resources devoted to this already heavily subsidized industry would be best applied to wind farms. Mark Jacobson, a Stanford professor, states that 40% of our power needs to come from offshore wind power in order for NYS to be 100% renewable. A substantial percentage of of citizens from New York and Long Island are supportive of offshore wind farms. If financial resources driven to this Port Ambrose facility are considered the path to inevitable renewable sustainable energy will be unnecessarily stalled for years to come, certainly a goal of the gas industry, much to the detriment of New York and New Jersey residents.

Mav Moorhead, 917.923.2118

NY H2O

4/1/15 – Comments in Support of Res. 549 – Opposition to Port Ambrose

My name is Edie Kantrowitz, I am president of NYC Friends of Clearwater, and a board member of United for Action. But I am speaking today just as an individual. The proposed Port Ambrose LNG project does not serve the public interest. It is unnecessary, and extremely dangerous, and I therefore want to give the strongest support to City Council Resolution 549 opposing the project, and asking Governor Cuomo to exercise his veto.

Liquified Natural Gas is highly flammable, and presents a serious explosion risk. We have just a few days ago seen in the East Village how devastating and tragic methane explosions can be. LNG is even more dangerous than regular natural gas. In addition to the potential for ordinary accidents, such facilities present an obvious and extremely desirable target for terrorist groups, which have indicated strong interest in attacking LNG tankers and facilities. In a worst-case scenario, an LNG tanker could be hijacked and brought to densely populated areas on the south shore, or even upper New York harbor, before being detonated and causing thousands of deaths. Proximity to JFK airport and the commercial shipping lanes in the harbor also contribute to making this a totally unacceptable location for such a dangerous facility. So why would we want to place a giant bomb in our harbor, with a fuse just waiting to be lit?

Even if we don't have a catastrophic accident, the LNG port will have many adverse environmental effects, and will impact negatively on marine life, and on the fishing, shipping and recreation industries. Massive amounts of seawater containing the plankton, eggs and larvae of marine organisms will be drawn into the port during construction and operation, and then chemically treated water will be discharged, putting a toxic burden on the marine ecosystem. The dredging involved in the construction process will kill shellfish such as lobsters, crabs, clams and scallops, and disturb the seafloor habitats they rely upon. Endangered marine mammals such as the right whale, fin whale and humpback whale will be exposed to excessive noise and disruption of their migration routes.

This assault on the ecosystem is all for no good reason, because we don't need this LNG. There is a glut of shale gas in this country, and everyone knows it. Natural gas is already cheaper in this country than almost anywhere else in the world, and net imports of LNG to this country are currently near zero. Liberty Natural Gas is now trying to greenwash this project by saying it will provide "frack free" gas from Trinidad and Tobago to help meet peak demand needs. That really sounds like an April Fool's Day joke, because the facts clearly show how likely it is that Port Ambrose will become an export facility instead.

It's clear that this project exists solely for the benefit of Liberty Natural Gas, and not for the benefit of New Yorkers. It is unlikely to create local jobs, since the primary staging area for construction will likely be either near Albany, or at Quonset Point, Rhode Island; and Liberty has promised only five permanent jobs. Instead of Port Ambrose, we should be supporting clean energy projects which genuinely have the potential to create green and local jobs. We also know that by continuing to rely on fossil fuels like shale gas and LNG, we are continuing to accelerate climate change and invite more superstorms, when we could be focusing instead on making the transition to renewables that we need so urgently, renewables like the windfarm which we would like to see built in the same spot as Port Ambrose. So please approve Resolution 549, and ask Governor Cuomo to veto Port Ambrose!

Edie Kantrowitz
333 McDonald Avenue - #5D
Brooklyn, NY 11218

April 1, 2015

Chairman Donovan Richards
New York City Council Environmental Protection Committee

Dear Chairman Richards:

My name is Ling Tsou. I'm a co-founder of United for Action. I wish to thank Chairman Richards for introducing Resolution 549 and for holding a hearing on this today.

Liberty Natural Gas proposes to build Port Ambrose, an LNG port, about 17 nautical miles southeast of Jones Beach. LNG and Port Ambrose are not needed in New York, now, or in the future. The downstate New York and Long Island market has abundant supply of natural gas from domestic sources. Natural gas in the U.S. is cheaper than anywhere else in the world. There are two deepwater LNG ports already built in the Boston Harbor that have not imported gas since 2010. Nearly every LNG import facility around the U.S. has applied for permits to switch to exports. Why would Liberty Natural Gas want to build an LNG import facility when there is absolutely no need?

Even though Liberty Natural Gas has been promoting the construction of Port Ambrose as creating many local jobs, the company promises only 5 permanent jobs from this project. Yet, the construction of Port Ambrose could jeopardize the hundreds of currently existing jobs from recreational and commercial fishery and tourism. Moreover, this project would interfere with the development of an offshore wind farm proposed to be built in the same area. Construction of the offshore wind farm could potentially create 40,000 jobs. Let's all work together to promote the creation of jobs from clean renewable energy and not from the dying dirty fossil fuel industry.

LNG and Port Ambrose are both dangerous and deadly. Being a New York City resident, the threat of terrorism is very real. I've seen and experienced firsthand the impacts terrorism had on our community. Port Ambrose is located near the three major airports and many smaller airports in the New York City metropolitan area. It is clearly a potential terrorist target. Any terror attack or LNG explosion off the shore of the most densely populated metropolitan areas in the country will be catastrophic.

Port Ambrose would further increase New York's reliance on natural gas, a methane-emitting fuel which is 86 times worse than carbon dioxide at trapping heat in our atmosphere over a 20-year period. The greenhouse gas emissions from the construction and operation of Port Ambrose will aggravate climate change and intensify extreme weather conditions such as hurricanes and storms.

Port Ambrose threatens our health, air, ocean, climate, economy and environment. This project has no demonstrated social and economic benefits. As a New Yorker, I urge Governor Cuomo to exercise his authority to veto Port Ambrose.

Thank you.

Sincerely,

Ling Tsou
United for Action
New York City

MWA

Metropolitan Waterfront Alliance

Testimony of Roland Lewis, President & CEO
New York City Council Committee on Environmental Protection and Committee on Waterfronts
April 1, 2015 Committee Hearing
re: Res. No. 549 – Statement regarding Port Ambrose liquefied natural gas terminal

The Metropolitan Waterfront Alliance (MWA) is a bi-state coalition of over 800 community and recreational groups, educational institutions, businesses, and other stakeholders committed to restoring and revitalizing the New York and New Jersey waterways. Our waterways have been revitalized with active recreation, environmental education, and waterborne transportation, and the harbor has for centuries been a vital conduit for commerce and an engine of economic development.

MWA strongly supports Resolution 549 calling on Governor Cuomo to veto the Port Ambrose liquid natural gas (LNG) terminal project. The Draft Environmental Impact Statement (DEIS) for this project fails to sufficiently address concerns about the health and safety of the waterways and potentially conflicts with a proposed offshore wind energy project, which would provide clean energy alternatives – not to mention more jobs – for New Yorkers.

Approval of the Port Ambrose project would likely jeopardize the operations of a proposed offshore wind farm, which would provide cleaner energy and more sustainable full-time jobs. Liquid natural gas, despite clever marketing by its proponents, is a nonrenewable fossil fuel, the burning of which pollutes our air and contributes to climate change. An application from the Long Island-New York City Offshore Wind Collaborative, a partnership between New York Power Authority (NYPA), Long Island Power Authority (LIPA) and Consolidated Edison Company (ConEd), currently stands before the Bureau of Ocean Energy Management for a 350-megawatt (MW) offshore wind energy project. The DEIS does not account for the overlapping footprints of the Port Ambrose terminal and the wind energy project, which could impede the placement of wind turbines, and cause conflict in shipping lanes between support vessels for each project. The applicants themselves project that the Port Ambrose facility would support only five permanent, full-time jobs, once the terminal was completed. (Its construction would support 600 temporary full-time equivalent jobs) The offshore wind project may instead generate as many as 85 new jobs and 2,300 temporary construction jobs, in addition to many more maritime support jobs servicing the turbines.

Port Ambrose poses a direct threat to the health and biodiversity of water resources in the New York Bight, which serves important ecological and economic functions for our region, as a home to many species of marine life and a critical location for recreational boating and fishing industries. Operating the facility will require over 1.1 billion gallons of seawater each year, pumped up from the ocean. This process can injure or kill large marine life that becomes trapped in the metal screens, disrupt food sources for threatened and endangered species, and generally disturb the seafloor with debris and discharge. Additionally, insufficient consideration has been given to the possibility that major accidents or spills could release large amounts of hazardous materials that could be dispersed along currents across a wide area.

The Port Authority of NY and NJ (PANYNJ) has raised important concerns regarding a possible impact to existing vessel traffic patterns, during both construction and operation phases of Port Ambrose. The construction of the Mainline transit system would "cross through the Ambrose to Nantucket Traffic Lane and the Hudson Canyon to Ambrose Traffic Lane." PANYNJ has stated that the location of the project's submerged turret loading ("STL") buoys "lies between two major Traffic Separation Schemes utilized by marine traffic entering and exiting the Ambrose Channel and the Port of New York and New Jersey," which may cause conflict between Port Ambrose operations and other maritime vessels.

MWA urges these Committees and the entire City Council to pass this resolution on behalf of all New Yorkers, and send a clear message to Governor Cuomo that the proposed Port Ambrose LNG terminal would be an unnecessary, unhealthy, and wasteful addition to our waterways. Thank you for the opportunity to present this testimony, and I welcome any questions you may have.

Power Point Presentation in support of NY City Council Resolution 549

WIND VS. LNG

NY City Council, April. 1, 2015

sane energy project

Patrick Robbins, Media Coordinator
Kim Fraczek, Outreach Coordinator
Kevin O'Keeffe, Long Island Coordinator
Clare Donohue, Program Director

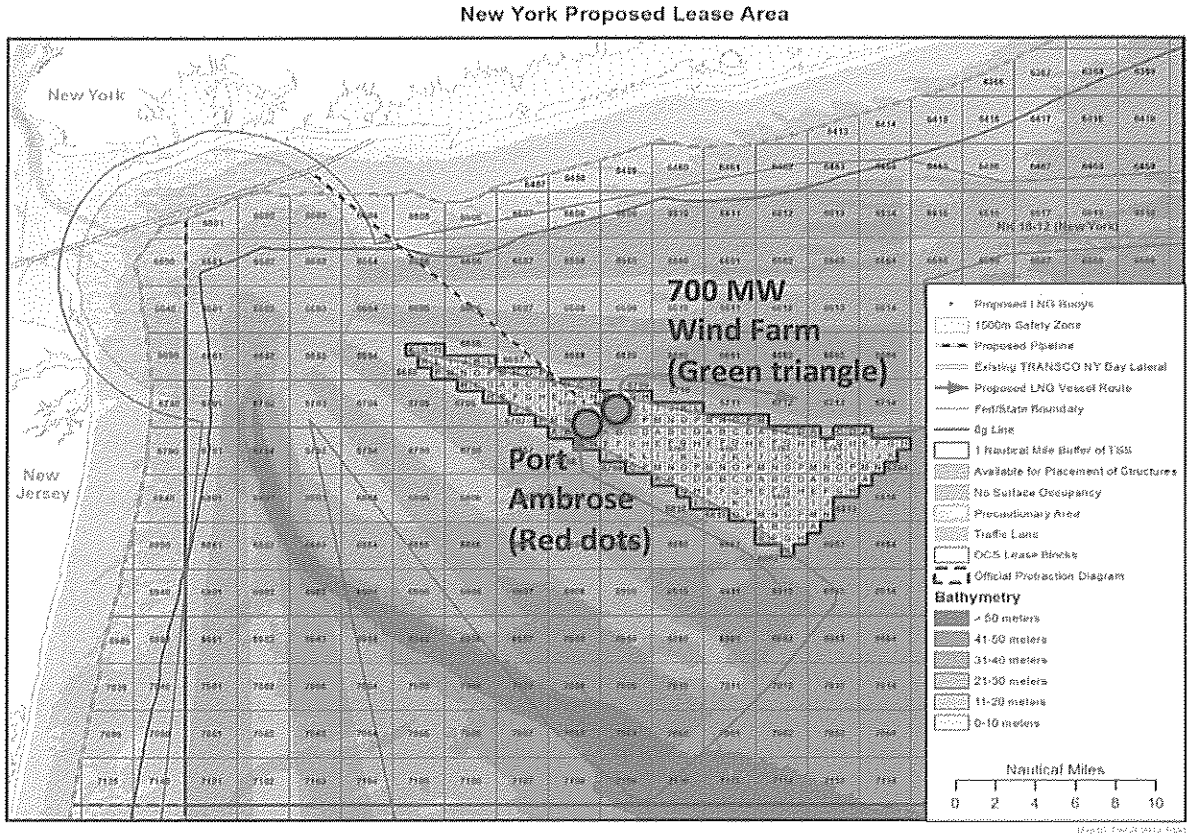
contact@saneenergyproject.org

OFFSHORE WIND VS. LNG

- Can they coexist?
- Jobs created by each
- Effect on Marine Environment
- Effect on Climate Change, including:
  - -Sea level rise
  - -Weather chaos
- Risks to coastal economy/fishing
  - -Ocean acidification
- Security issues

The LNG port is proposed to be sited right in the middle of the lease area for a 700MW wind farm. 700MW would power approximately 200,000 homes each year—this is one of the larger wind lease areas available off LI (Montauk will be 250MW). The green triangle is the wind lease area; the red dots are Port Ambrose LNG. Why are they competing for this area? Because NY is a busy port and little ocean real estate is available: The purple triangles are shipping lanes and buffers are required around each; the dark blue swoop is an underwater canyon, too deep to build anything there.

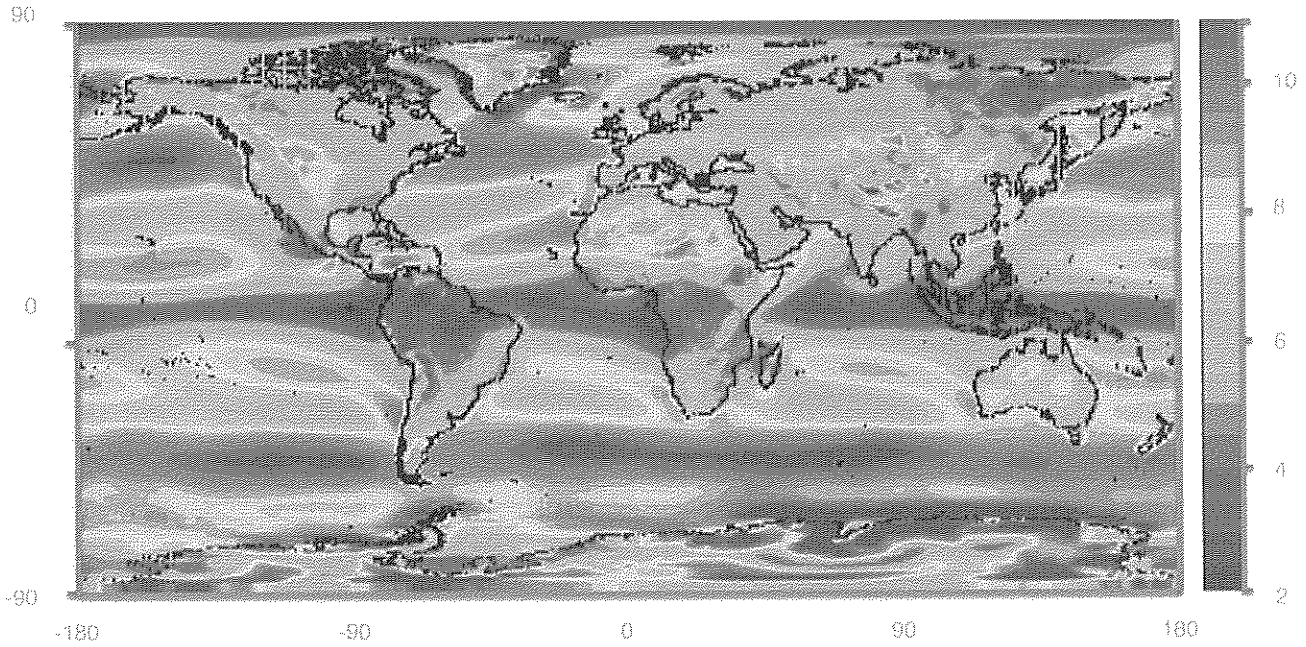
LNG Conflicts with 700MW Wind Farm



CAN THEY COEXIST? Not according to the Natural Resources Defense Council. According to Kit Kennedy, the NRDC's Director of Energy and Transportation, "We can have either the offshore wind projects or the LNG facility, not both." This is because the Port Ambrose buoys would be sited in the prime real estate location for offshore wind – because of the varying levels of flatness of the ocean floor, there are certain locations that are ideal for wind turbines, being simultaneously flat enough and sited at an economically viable distance from the shore. Port Ambrose is directly in the middle of the best location for offshore wind. If Port Ambrose would preclude wind, then we should take a serious look at which choice would have the better long term outcome. First we'll look at jobs potential.

New York's wind potential is huge

Red area off the NY / Long Island Coast
called "The Saudi Arabia of Wind."

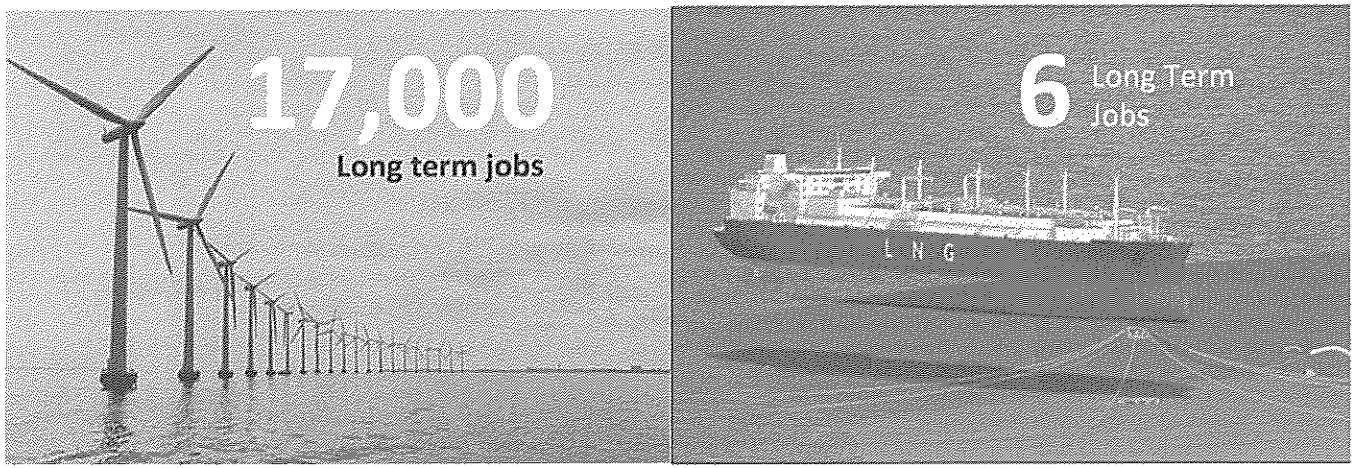


Just to put things in context, Long Island is considered THE prime territory along the Eastern Seaboard in terms of wind power potential. This is an asset we would be foolish to squander.The U.S. Department of Energy estimates that by 2030, the development of 54,000 MW of offshore wind projects in the U.S. could create more than 43,000 permanent operations and maintenance jobs and approximately 20 direct jobs per annual megawatt (More than a million jobs per year).

Source: http://www.aweablog.org/offshore-wind-americas-new-energy-opportunity/

Liberty has projected 800 construction jobs for this port, and let's, for the moment, take them at their word on that. Just looking at the specific lease area for Port Ambrose, there's no comparison. However the only construction that will actually happen ON long island will be the building of the pipeline itself. The unions that would handle trenching would find work whether an LNG port or a wind farm is built. The buoys themselves would be built off site, over the course of two years, possibly in upstate NY but more likely in Rhode Island

Wind Jobs vs. LNG Jobs



New York Power Authority (NYPA) evaluated the economic development benefits of an offshore wind farm. This study found that a 700 MW project would generate $3 billion in sales, 17,000 jobs and $1 billion in wages.

—"Offshore Wind Energy and Potential Economic Impacts in Long Island" Report by Stony Brook University

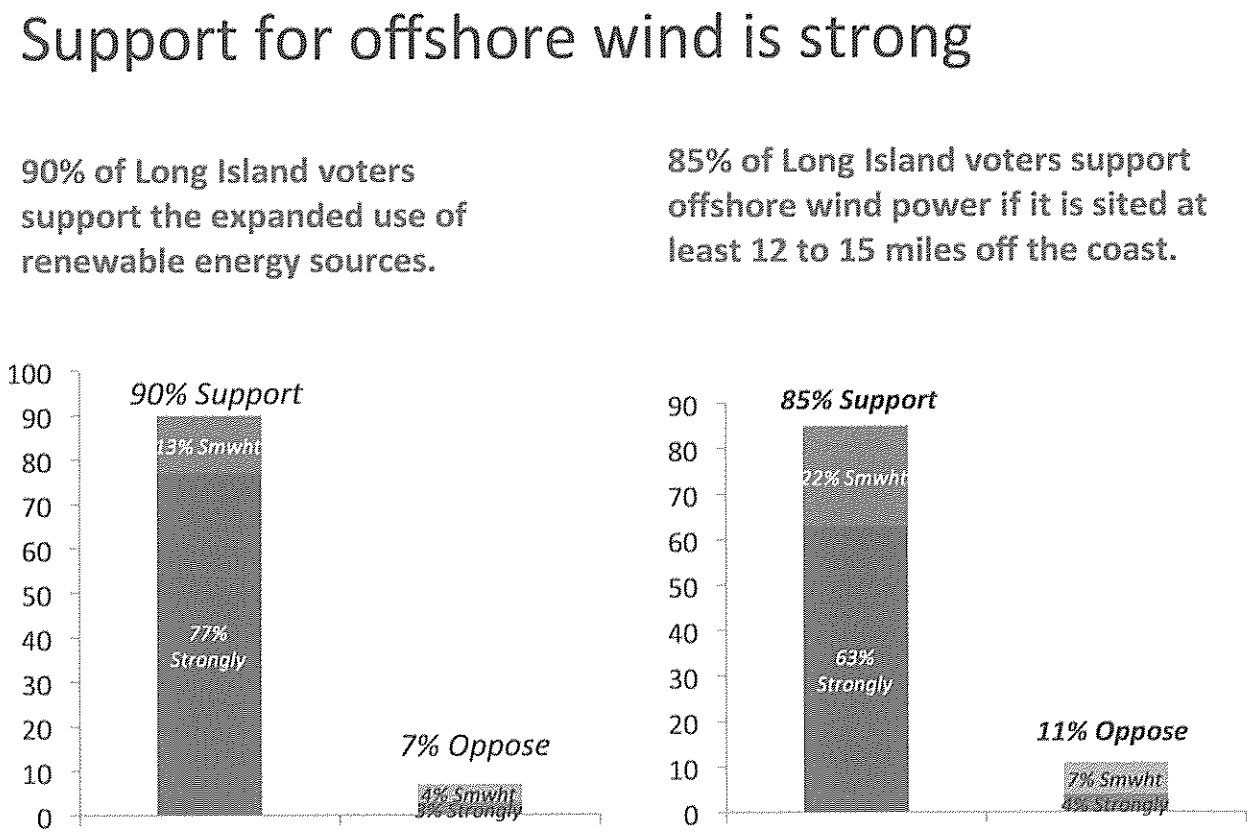
By contrast, the creation of an offshore wind industry, if it were to begin in NY, would require the development of a huge deep water port (probably on the north shore) that will require carpenters, dock builders, steel workers, ongoing installation and maintenance crews, etc. Projections for this scenario are 40,000 permanent jobs. This is why John Durso, President of the Long Island Federation of Labor, has been continuously calling for the development of the offshore wind industry in Long Island.

Let's compare estimated jobs to actual jobs created where offshore wind has already been built:
Compared to the U.S—where we have no turbines in the water—in Europe, offshore wind is serious business.
Between 2005 and 2013, more than $15 billion worth of investments were made.
At the end 2012, total installed capacity of offshore wind from 10 European countries was nearly 5,000* megawatts.
There were about 58,000 direct jobs created (about 12 jobs per MW), with growth expected up to 191,000 in 2020.

PS—Germany and Denmark are planning dozens of these types of ports; if the US doesn't get with it soon, supplies will be shipped from Europe rather than developing our own homegrown manufacturing wind industry.

Sources: *4,995 -- Huffington Post
Calculation: Using the actual European jobs numbers (about 12 direct jobs per megawatt), that would mean 626,000 US jobs for 54,000MW, or 8,400 direct jobs for the Port Ambrose lease area (700 MW) alone. Jobs predictions typically include direct and indirect jobs—jobs created to service the direct jobs, so the Stony Brook's study of 17,000 jobs created is probably close to accurate.

Not only are jobs such a huge benefit of offshore wind, consider public opinion about wind vs. LNG:
We have already seen how strong opposition to Port Ambrose is, with approximately 83,000 comments filed against it, multiple calls from city, county state, and federal officials, before this NYC resolution even passes.

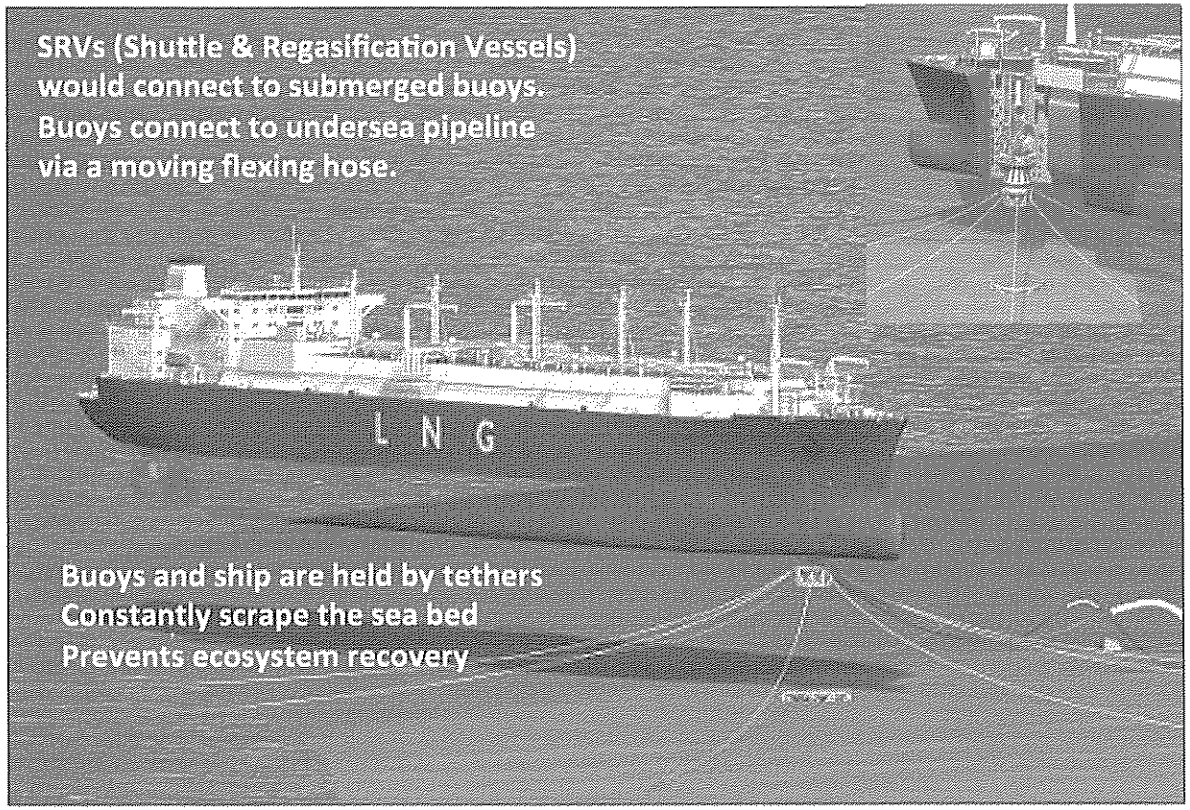


Source: Survey of Energy Attitudes in New York and Long Island by Public Policy Polling, 2012

In contrast, offshore wind has wide support among NY and LI voters.
Note: the study asked about wind sited 12-15 miles offshore—the wind farm in question is 19 miles out.

Port Ambrose works with buoys rising to "click into" the ship. The ship pivots on the buoy, moving with the current and waves--the tethers and flexible hose are constantly in motion, scraping the sea bed—never allowing recovery of the marine ecosystem. The flexible gas line seems a particularly vulnerable connection. AS A REMINDER OF SCALE: These ships are length of Empire State Building—the radius of affected area would be twice that for each ship—And those yellow buoys are HUGE -- approximately 5 stories tall.

Effect on Marine Environment: LNG

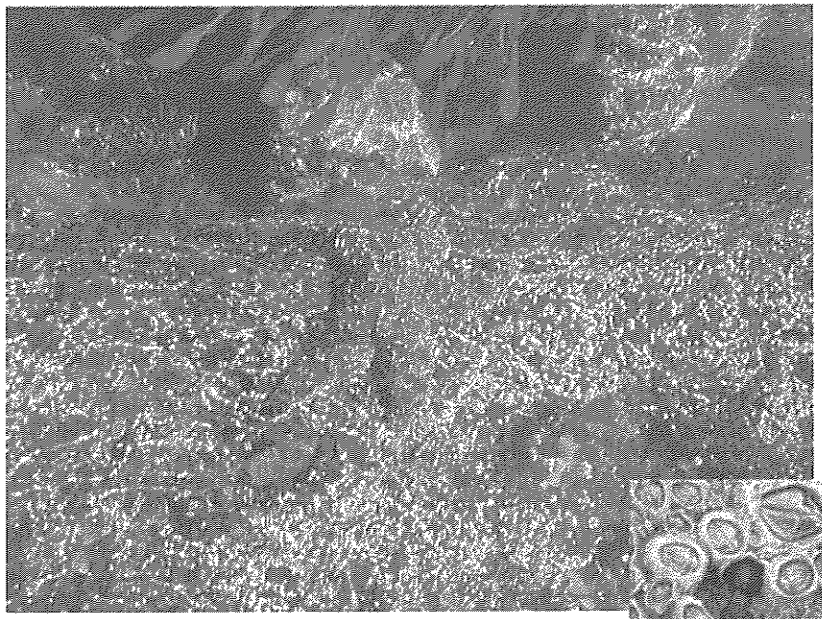


Imagine if this port suffers the same fate as the Boston project: Excelerate Energy's Gateway Port has not received a delivery since 2008—all that ecological damage for nothing! And they are not benign sitting there unused: The Boston Globe reported in July 2014 that a whale watching boat snagged a tether line 13 miles from shore.

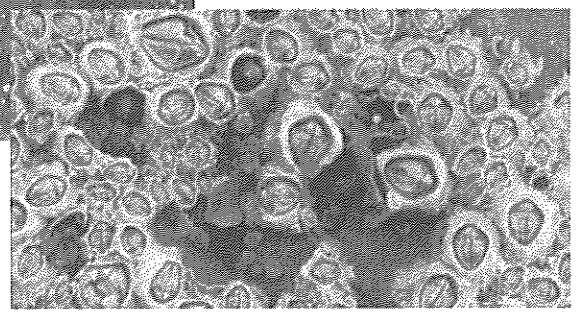
Source: Boston Globe, 7/29/2014 "Whale Watch Boat Hit Offshore Natural Gas Port

Any underwater construction impacts marine life, but comparing LNG vs. wind, the long-term effects are quite different: The bases of wind turbines have been shown to act as artificial reefs: they begin to grow barnacles and small organisms which attract little fish, which attract larger fish, etc., creating a vibrant ecosystem. Wind farms may actually begin to function as fish sanctuaries. Ironically, offshore wind could be the solution to destructive overfishing as well as the climate change that will be the death knell of the fishing industry.

Effect on Marine Environment: Offshore Wind



The bases of wind turbines have been shown to generate new ecosystems, and may serve as marine sanctuaries that allow fish stocks to renew.

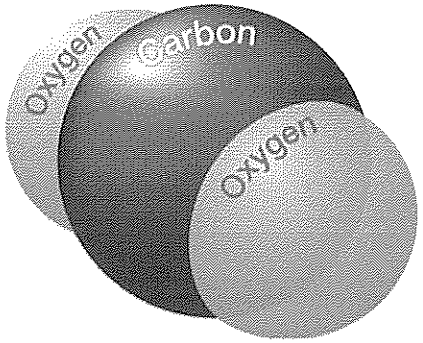


This wind farm is too far offshore to impact birds or bats.

Also of note: Professor Mark Jacobson's study which shows that wind farms can actually REDUCE the impact of hurricanes by absorbing the force of wind. Also, comparing the companies involved, on one hand you have a mysterious paper corporation. On the other you have Deepwater Wind, which has shown a remarkable ability to engage stakeholders—they worked closely with fisherman on the Rhode Island project to reach agreement on siting. Deepwater has agreed to time the construction of their pilot project so as not to interfere with whale migration patterns. Liberty has shown no such sensitivity.

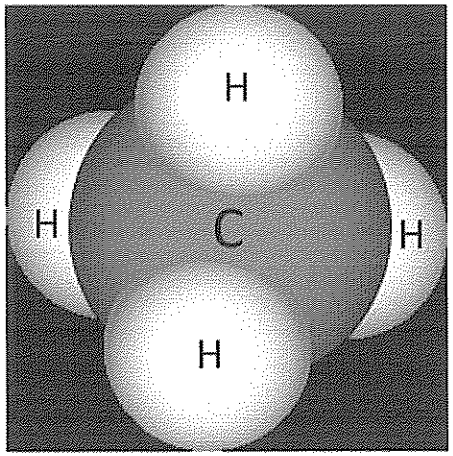
Effect on Climate: Wind vs. LNG:

CO2
Carbon Dioxide



BAD.

Methane
Shale gas AKA "Natural Gas"



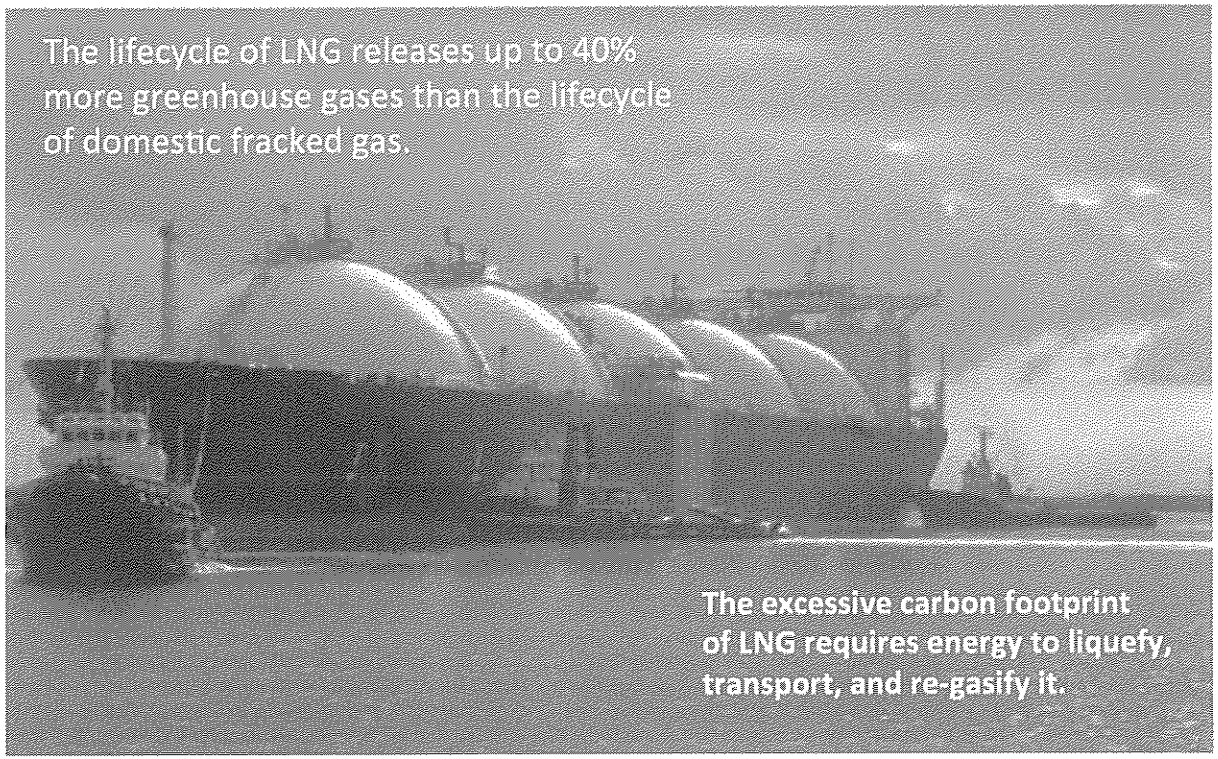
86 Times Worse.

If emissions are not reduced within the next 20 years, we will likely pass climate thresholds that could be irreversible.

We need to be aware that LNG is a supercharged climate changer. The NY City Council has agreed to an ambitious plan to reduce greenhouse gases 80% by 2050. Any chance we get to prevent NEW greenhouse gases from entering the atmosphere is important.

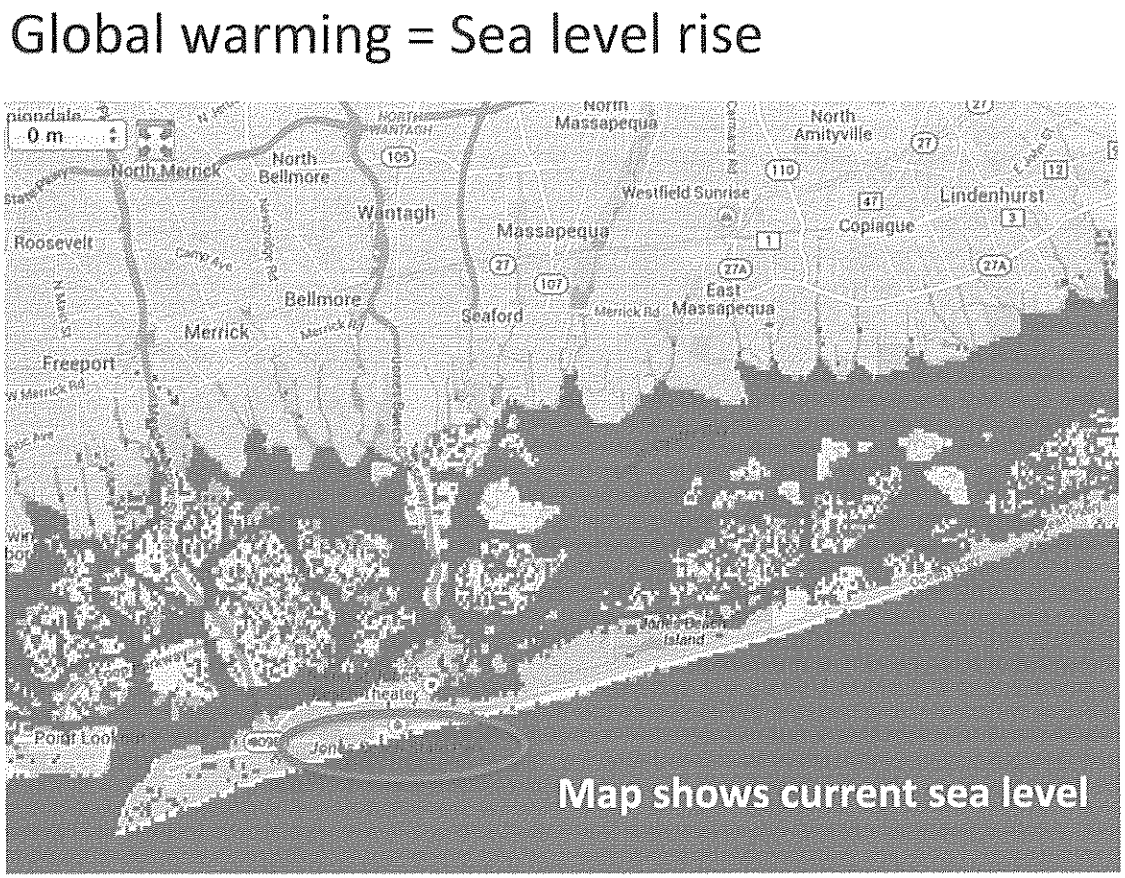
Just for comparison—there's carbon, and we are already past 400 parts per million,
Then there's methane, which is 86 times worse for warming than carbon dioxide. . . .

LNG: 40% worse for climate than shale gas



Then there's LNG—40% worse than regular natural gas, due to the amount of energy required to freeze it, ship it and re-gasify it. LNG is a supercharged climate changer.
Wind by contrast, creates combustion-free, clean renewable energy, the only chance we have to turn back climate impacts.

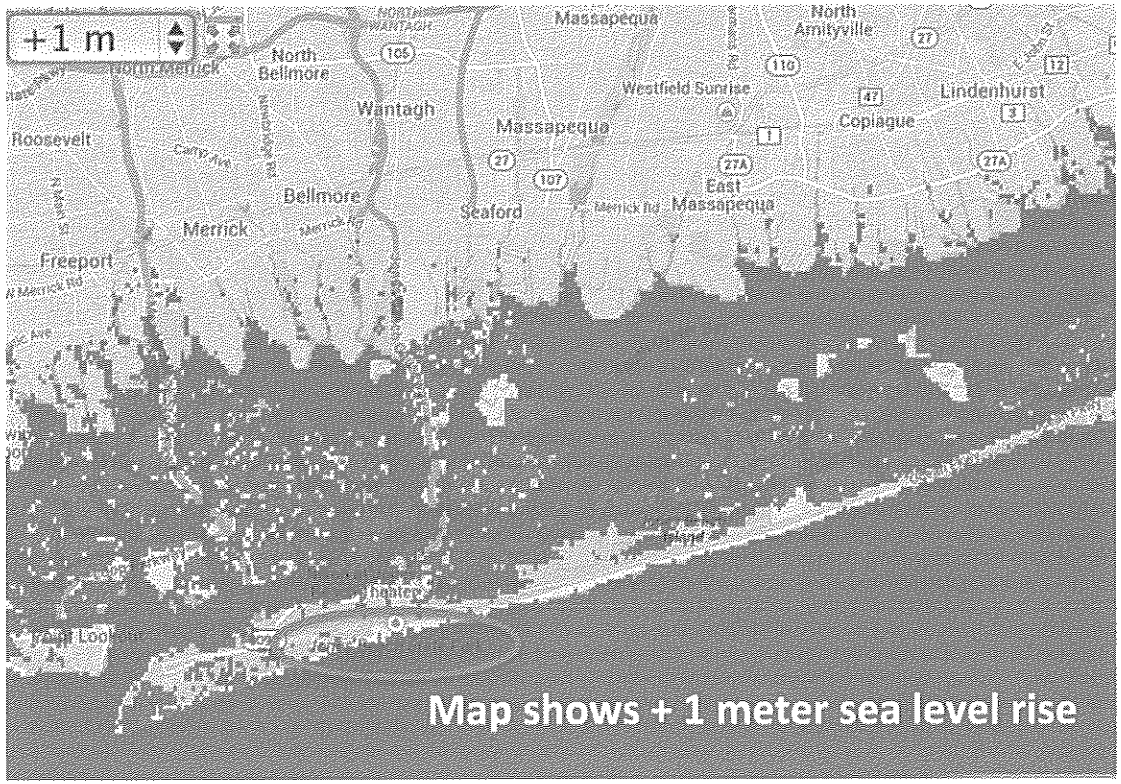
Many of us, including Chair Richards, personally experienced the effects of Superstorm Sandy, and hopefully now understand the relation between climate change, sea level rise and storm surges. This is a quick illustration of those effects on one of New York's most popular beaches—Jones Beach:



Global Sea Level Rise Map

This first slide shows the current sea level. You see the Meadowbrook Parkway and the Jones Beach Causeway access to the barrier island, with lots of storm-absorbing smaller islands in the bay in between. These islands are of course home to prolific bird life and create a unique ecosystem. So what happens to this area with climate change?

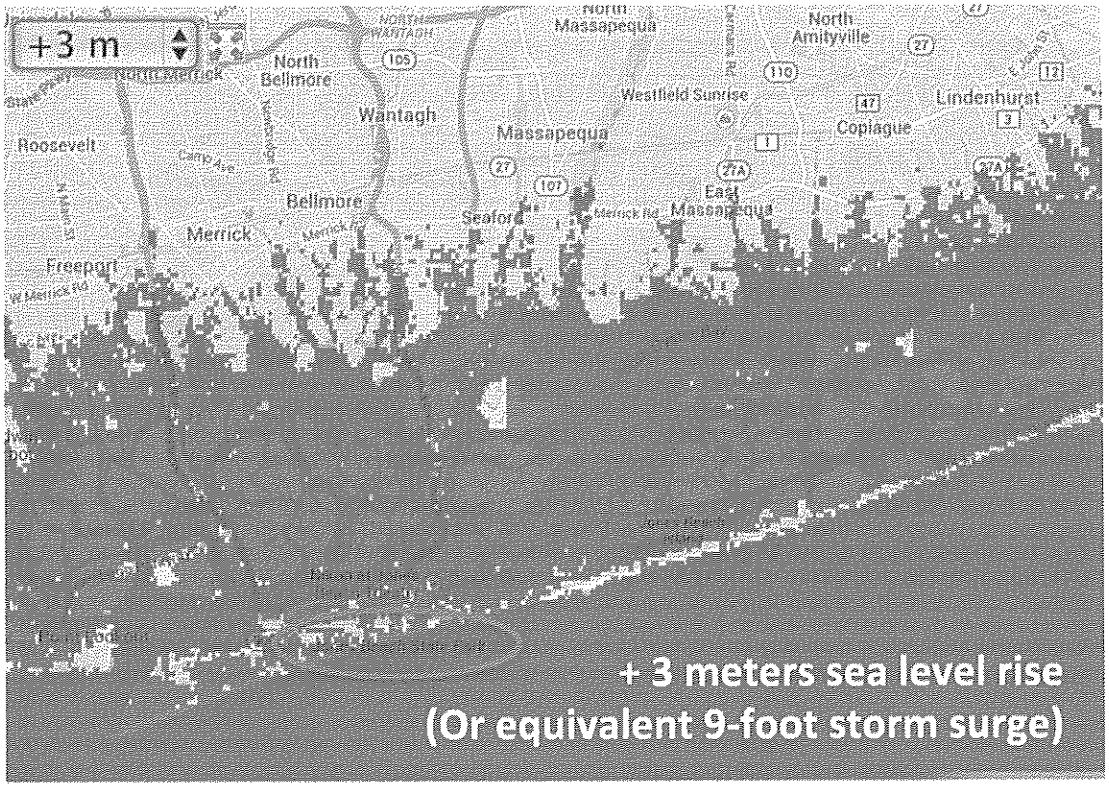
Predicted Sea Level Rise by 2100:



Global Sea Level Rise Map

Here you see that same view with a 1 meter (three feet) of sea level rise---that's the amount of sea level rise predicted as INEVITABLE by the end of the century, even if we stopped burning ALL CARBON today—the effect of greenhouse gases we have already produced will continue to warm the planet and raise sea levels. Notice that you lose about half the barrier island and lose the smaller bay islands altogether, and of course, the causeways would have to be raised or abandoned.

Climate change = Weather chaos



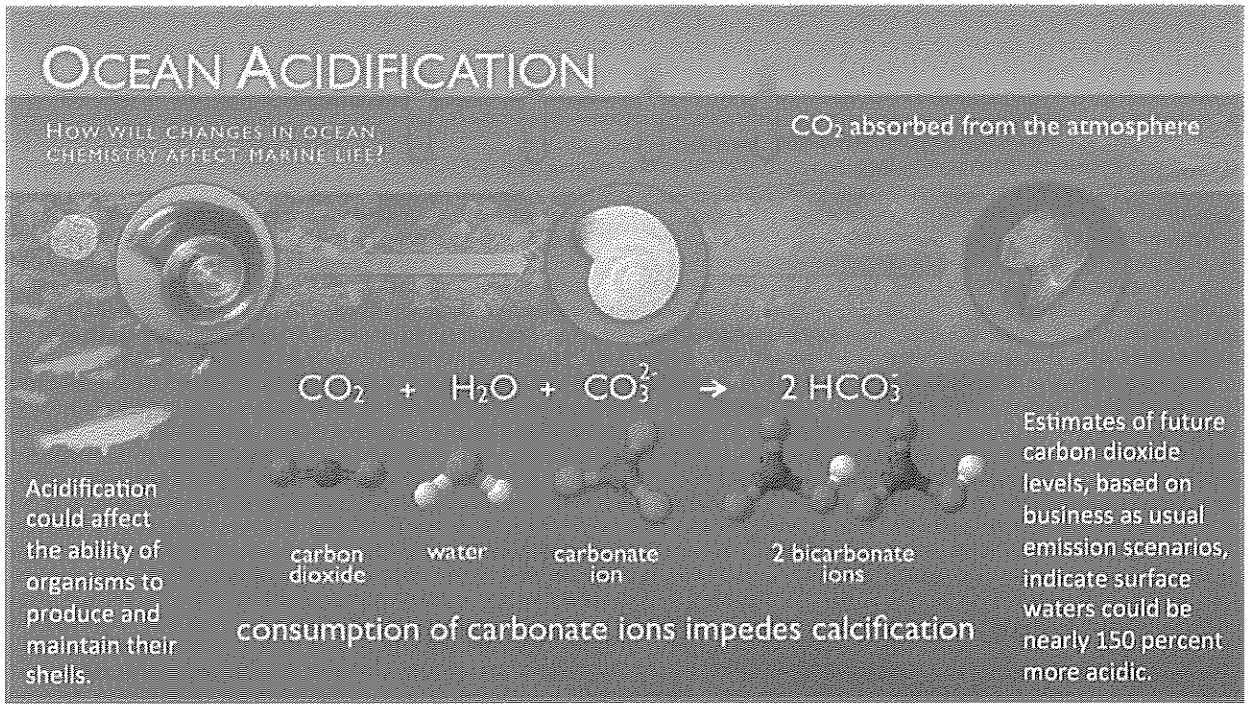
Global Sea Level Rise Map

Here we see a 3 meter sea level rise, which would be the equivalent of a 9-foot storm surge (Sandy produced surges of 12 feet and higher). You can see the barrier island and causeways are completely obliterated, and the shoreline of the main island changes dramatically.

One of the most dire impacts of climate change has an enormous impact on both the coastal economy and our actual survival: ocean acidification. Basically, as carbon levels increase in the atmosphere, more of it is absorbed by the oceans, not only warming the water temperature but actually changing the chemistry of the water to make it more acidic. Acidification has had an impact already, making the beaches more prone to jellyfish, which impacts the coastal economy, but the big worry is that it disrupts the food chain.

"The Evil Twin of Climate Change."

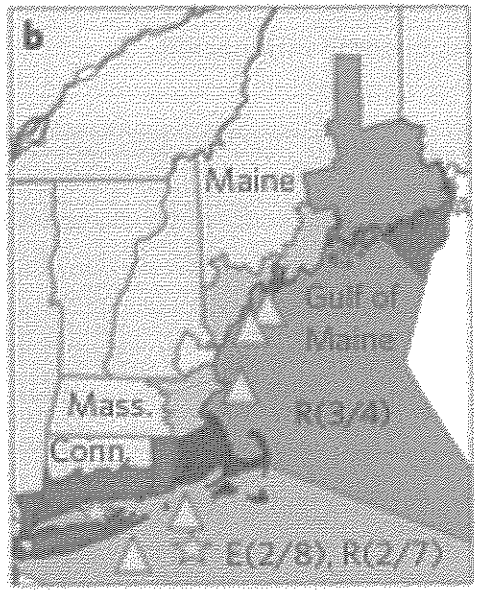
The ocean absorbs about a quarter of the CO_2 we release into the atmosphere every year. As atmospheric CO_2 levels increase, the oceans become more acidic.



Acidification deters the ability of small shellfish from hardening their shells, making them less likely to grow to maturity and reproduce. Creating such a large scale disruption at the bottom of the food chain bodes very badly for us at the top of that chain.

This is from a study just published in February—it shows how vulnerable coastal economies are to ocean acidification, and also WHEN they can expect to be impacted. You'll see that Long Island (shown in red) is one of the areas MOST vulnerable and least prepared to respond to acidification. That's pretty bad news.

Long Island Fishing Economies at Risk



From the report: "Vulnerability and Adaptation of US shellfisheries to Ocean Acidification," Published by Nature, Feb. 23, 2015

Social vulnerability (land)

- Highest SV (top 20%)
- Medium high
- Medium SV (middle 20%)
- Medium low
- Lowest SV (bottom 20%)

Marine ecosystem exposure (water)
Year threshold hit

- 2006-2030
- 2031-2050
- 2051-2070
- 2071-2099
- After 2099

Local amplifiers

E ☆: Highly eutrophic estuaries present

R △: River drainage low saturation state and high annual discharge volume

U: Upwelling is strong

nd: No data available for E or R

Red indicates how vulnerable a region is to a drop off in shellfish production (how dependent the local economy is on oyster harvests).

Purple indicates the time frame acidification is expected to affect shellfish production (for Long Island it is by 2071).

The mitigating factor is that we have some time to prepare for it, with impacts expected to hit by the 2070s (whereas Maine is already feeling the impacts). The good news here is that if we take measures to reverse acidification, we can save local fisheries.

To do that we need to STOP BUILDING anything that adds to climate change, and START BUILDING infrastructure that lessens it. This alone is one of the strongest arguments against Port Ambrose and FOR offshore wind.

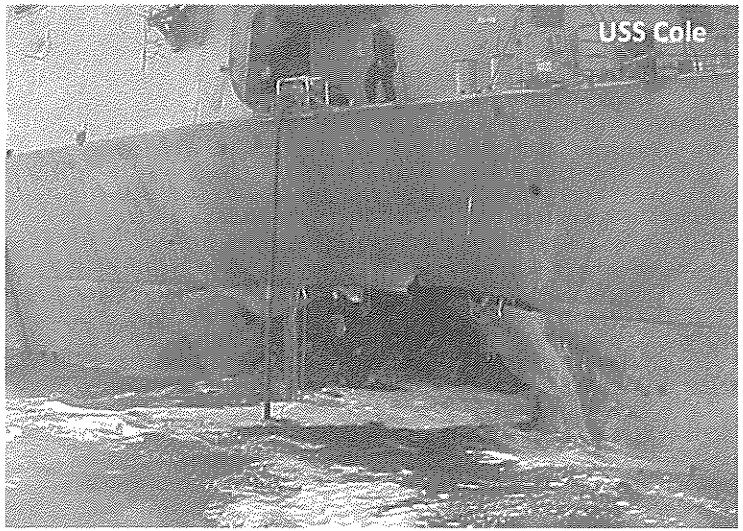
Security Risks: Wind vs. LNG

Offshore wind poses no terrorist risk

Experts say Al-Qaeda has specifically cited LNG as a desirable target. The Council on Foreign Relations reports that the most attractive targets are considered the tankers.

The Sandia National Labs report assessed four potential ways terrorists might target an LNG tanker:

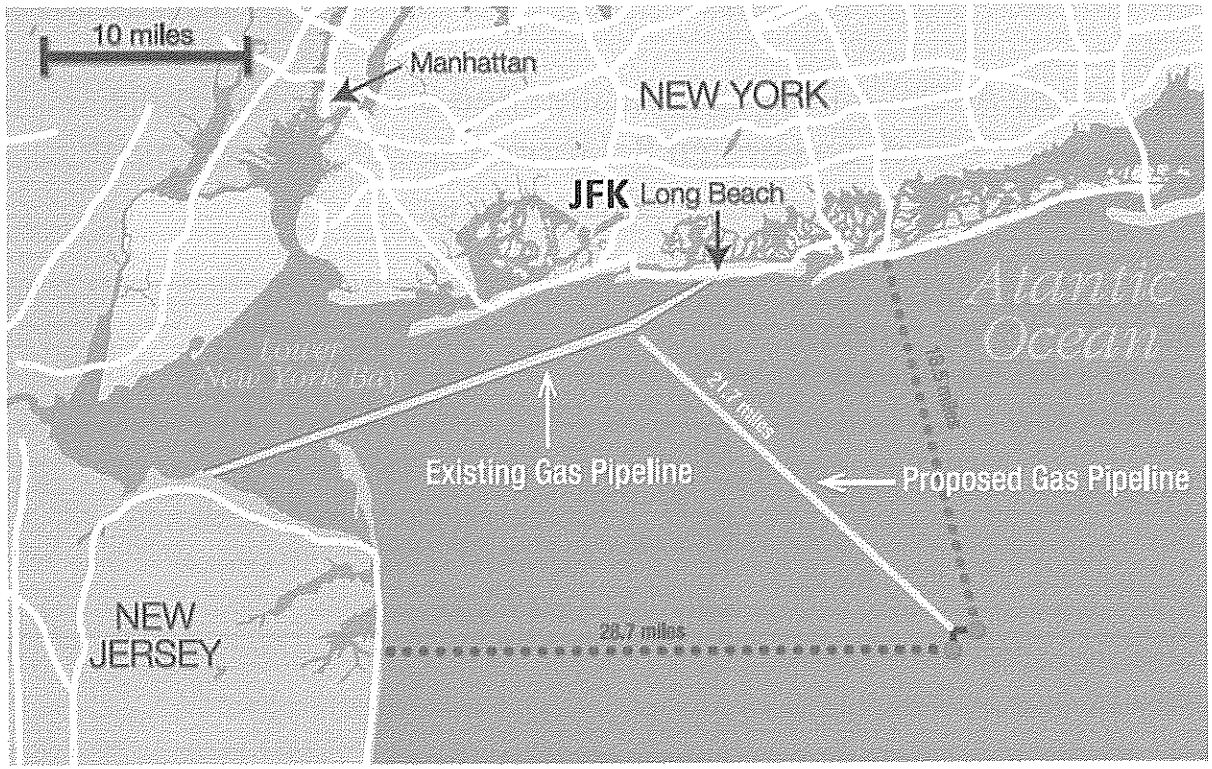
- Ramming
- Triggered Explosion (mines)
- Missiles, rocket-propelled grenades, or air strikes
- Hijacking (the most feared)



Security risks are another issue with Port Ambrose that does not apply to wind farms. Chair Richards is very familiar with the security risks from Port Ambrose LNG, he has repeatedly cited the Sandia Labs report stating that fires from an LNG accident could melt steel at 1200 feet and basically cannot be extinguished. One of the big worries from a terrorist attack is the threat that hijackers could tow a tanker into a populated port (such as NY harbor) where it could be used as a giant bomb threat.

Security Risks: Proximity to JFK

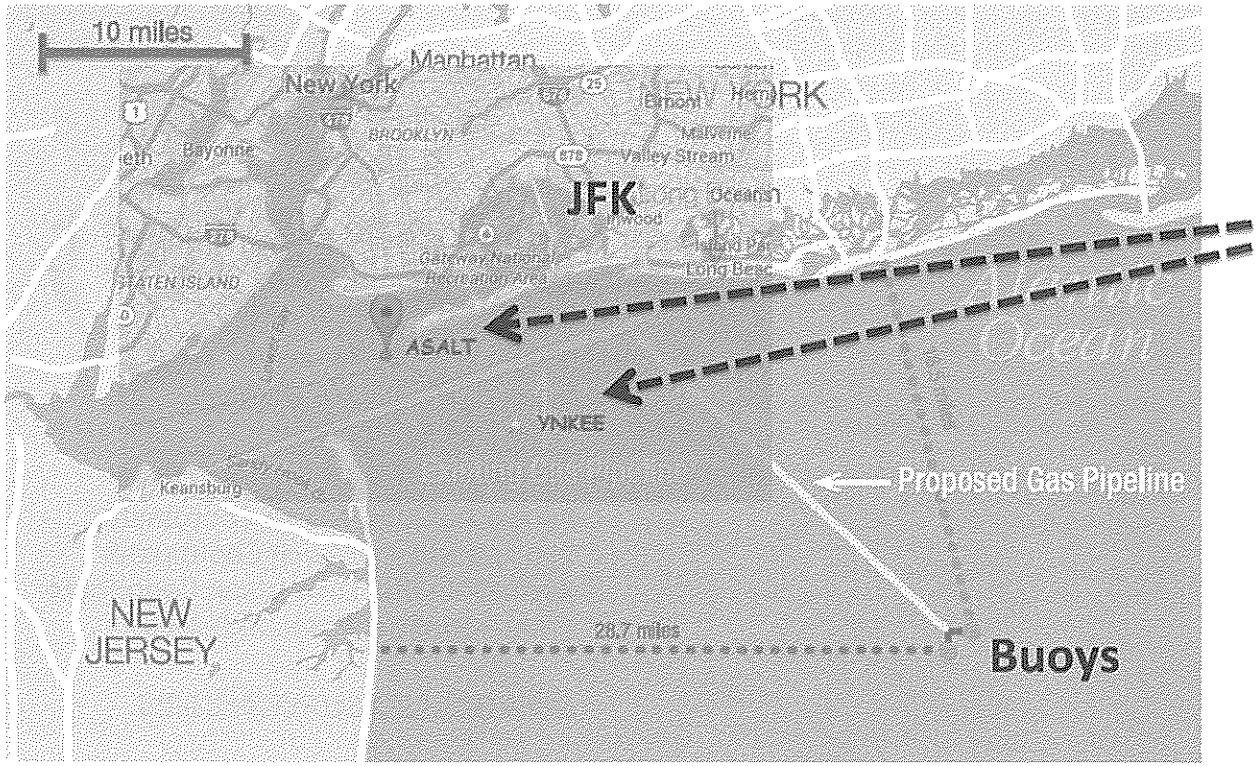
Offshore wind poses no risk to JFK



The proximity to JFK is also a big concern: Here's an illustration of where the buoys sit in relation to NYC and JFK.
Even in the absence of terrorist action, any accident at the site of the buoys is just too close to JFK and the port of NY/NJ.
Any disruption at JFK reverberates to the other two area airports, with economic losses at every instance.
But it's the flight paths to JFK that are really of concern.

Flight paths to JFK hubs

Flights arrive from northeast following the coastline



Here, we have superimposed the position of two JFK flight hubs in relation to the buoys. You can see how close the "YNKEE" hub is to Port Ambrose. With flights coming down the east coast from the north—and remember that planes are always faster upon descent—it would take very little to steer planes off the normal flight path at the last minute. This is a scenario not considered at all in the dEIS.

Thank you for considering these comments. We appreciate the efforts of the City Council to oppose Port Ambrose and combat climate change.

More info:
http://saneenergyproject.org

sane energy project

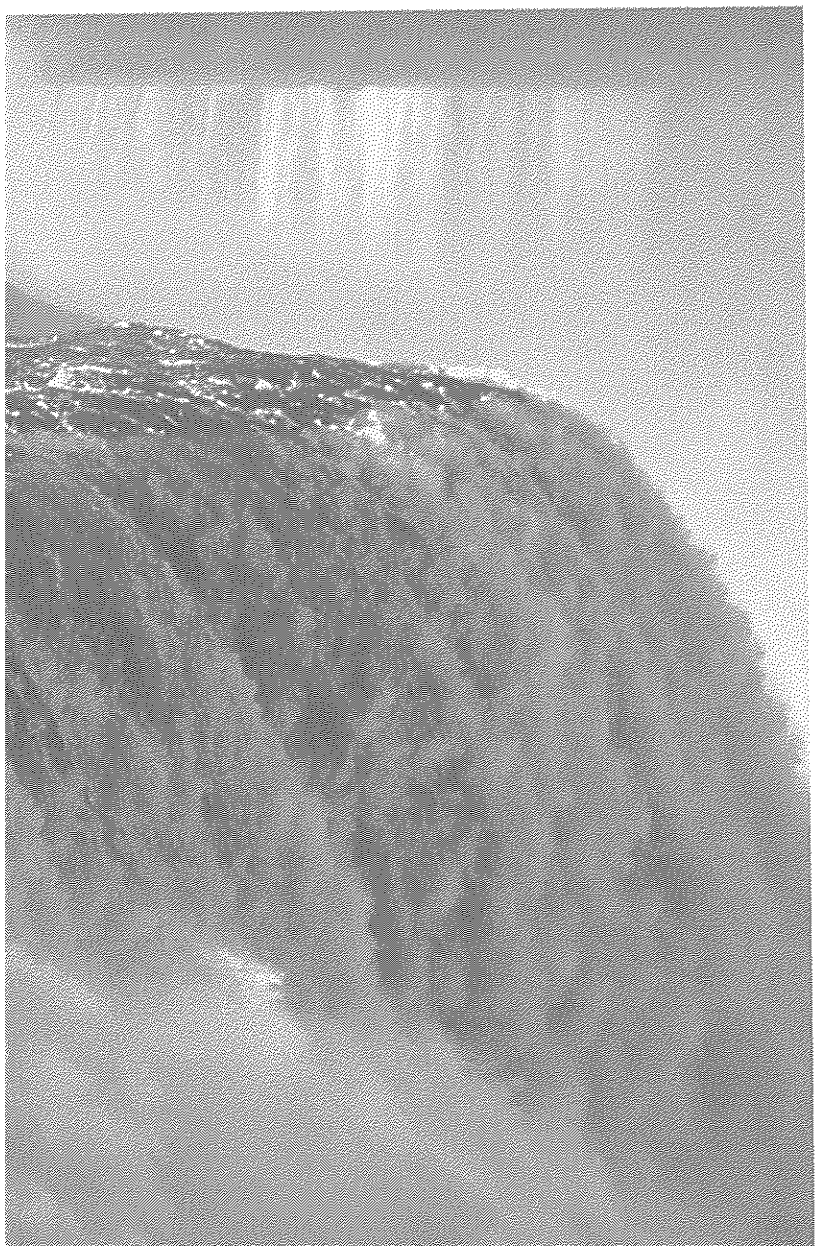
Patrick Robbins, Media Coordinator
Kim Fraczek, Outreach Coordinator
Kevin O'Keeffe, Long Island Coordinator
Clare Donohue, Program Director

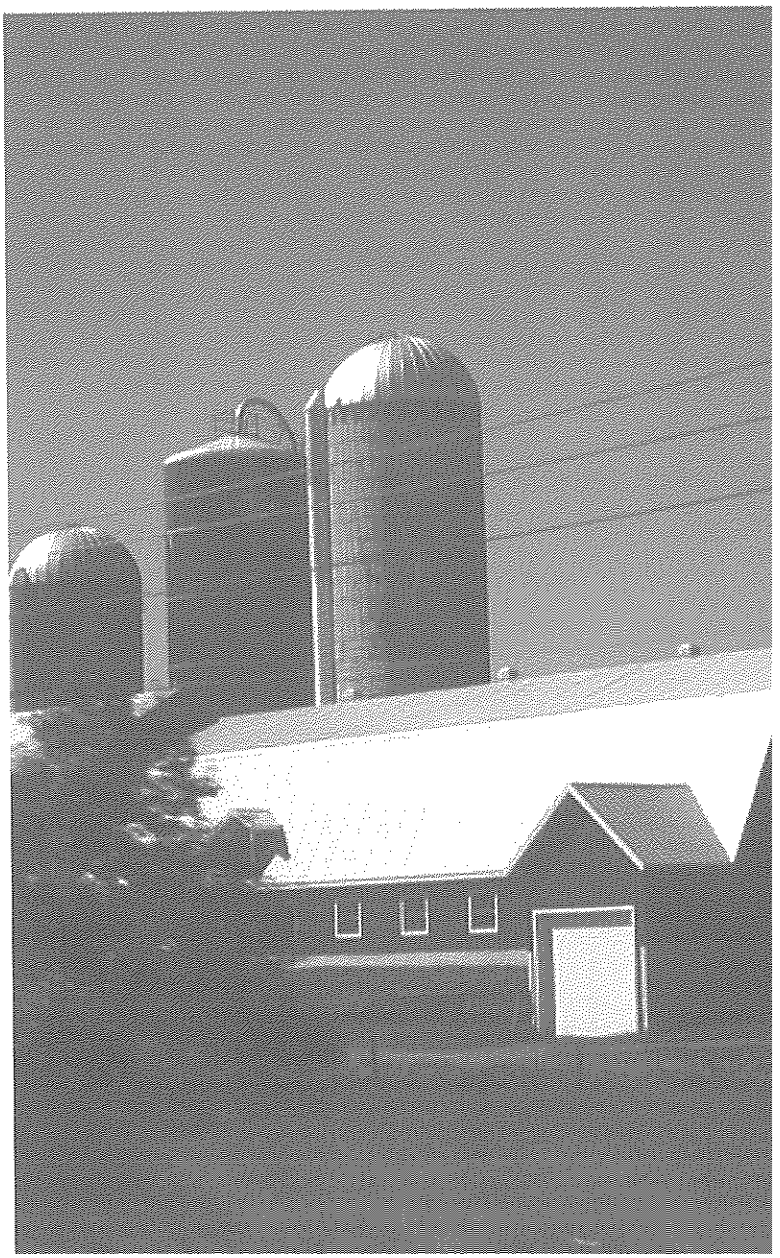
contact@saneenergyproject.org

NY A·R·E·A
AFFORDABLE RELIABLE ELECTRICITY ALLIANCE

New York's Business, Labor and Environmental Leaders Speak Out on Energy

2014





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Richard Thomas
Executive Director
New York Affordable Reliable Electricity Alliance

NY A·R·E·A
AFFORDABLE ENERGY RELIABILITY ALLIANCE

Dear Colleague,

New York AREA celebrated its first full decade in existence. Over that time period, I believe our coalition has added an important voice to the statewide energy dialogue.

Each year for the past 7 years, we have been publishing a booklet containing a selection of our members' editorials. These are articles about electricity cost, supply, our environment and impact on jobs. Simply put, bad energy policies unless contradicted, have broad long term negative impacts. This underscores why the perspective of leading business and labor leaders on these important issues are of great relevance to advancing sound energy policies that promote principles of affordability and reliability for years to come.

Some of our key constituent groups are Professional Women in Construction, Steamfitters Local 638, Hunts Point Cooperative Market, African American Environmentalist Association, New York Building Congress, Utility Workers Local 1-2, Liberty Natural Gas, Business Council of Westchester and more.

This booklet provides you the opinion editorials that have been published in *City & State*. The commentary contained offers deep insight into how New York can avoid major mistakes and capitalize on its many competitive advantages found in its diverse in-state energy infrastructure including nuclear, natural gas, and energy efficiency measures.

New York AREA and our team are here as a resource on key energy issues not only for our members but all who agree that clean, affordable, and reliable electricity is what paves the pathway to the future. As we enter our second decade, New York AREA plans to continue to fight for the continued operation of Indian Point, expanding access to in-state power generation facilities, and advocating for the development of new energy sources to meet the growing needs of the Empire State.

Do not hesitate to contact me or New York AREA staff at 212-683-1203 or info@area-alliance.org.

Arthur J. "Jerry" Kremer

Chairman,

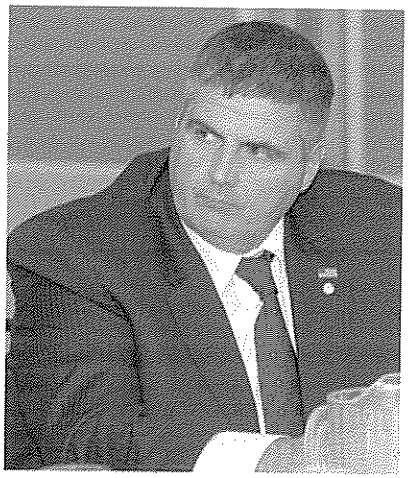
New York AREA

2014 New York AREA Annual Member Reception

In November 2014 New York AREA hosted its 11th anniversary member reception at the New York Athletic Club in Manhattan. Heather Briccetti, President and CEO of the Business Council of New York State, was presented with the Chairman's award.

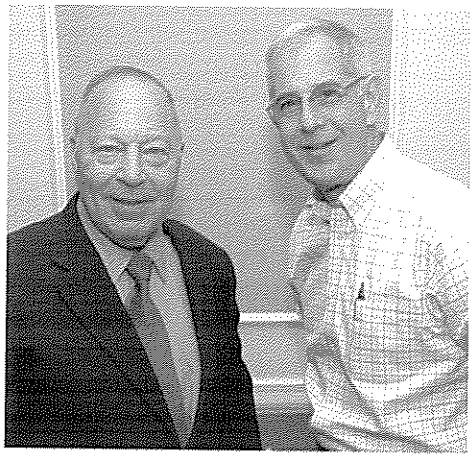
The Honorable Diane Burman, Commissioner of the New York Public Service Commission served as the keynote speaker.

New York AREA Advisory Board with PSC Commissioner Diane Burman



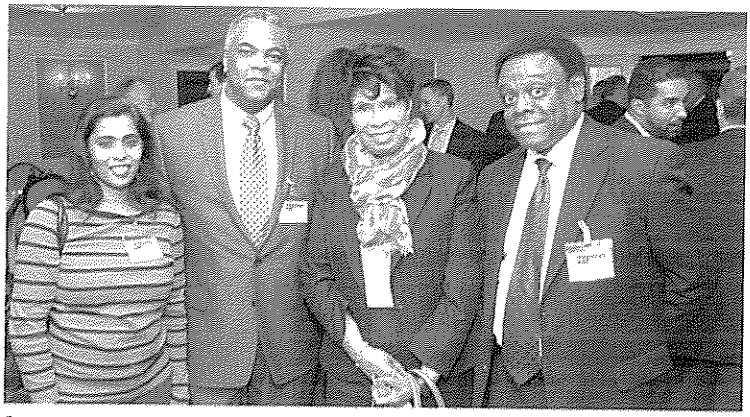
Jim Slevin, Utility Workers Union Local 1-2

Ross Ain, Caithness Energy; Gavin Donohue, Independent Power Producers of NY; and Richard Kessel



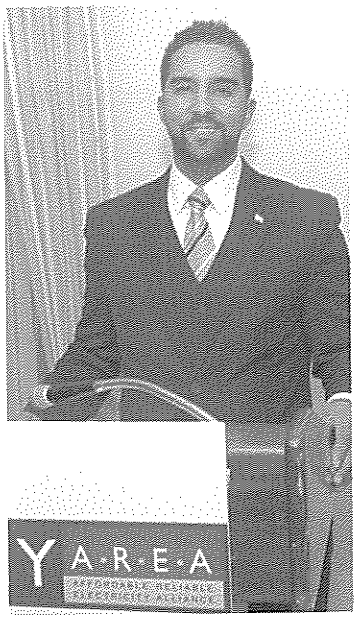
Neal Tepel, Labor Press; and Phil Fram, Quad Logic

Board member Chris Thorpe and Richard Thomas



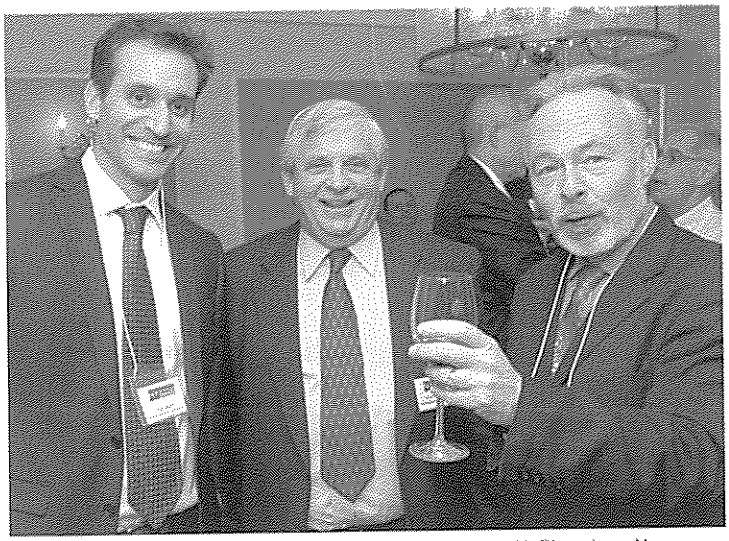
Subi Chandrasekera, Professional Women in Construction; John Tuller, New York AREA; Norva Butler, Entergy; and Norris McDonald, African American Environmentalist Association

New York Chamber of Commerce Leaders Jack Friedman, Lenny Caro, Marsha Gordon, Honoree Heather Briccetti with PSC Commissioner Diane Burman and New York AREA Chair Jerry Kremer



Rich Thomas, Executive Director of New York AREA

Richard Thomas; Cherish Thomas; Mark O'Luck, Spectrum Personal Communications Corporation; and Lenny Caro, Bronx Chamber of Commerce



Dr. Carl Liggio, Pharos Enterprise Intelligence; Chris Gadomski, Bloomberg New Energy Finance; and David Bomke, The Fulcrum Group

Dan Carleton, Carleton Energy Consulting; Yoswein Joni, Yoswein New York; and Jerry Kremer

Ron Peek, Jerry Kremer, New York AREA Chair and Trish Giaquino, Professional Women in Construction

PSC Commissioner Diane Burman

Joanne Fernandez, Entergy; Jerry Kremer; and Heather Briccetti, Business Council of New York State

Power Up Economic Development with Reliable, Affordable Energy

By Dr. Marsha Gordon

As the New York State economy continues to sputter, bold leadership on economic development has never been needed more.

Incentives to lure businesses, enterprise zones, and blueprints and studies that map out prospective solutions to the problems our state faces all have their place; but the one thing New York must have if we are to jump-start and grow our economy is reliable and affordable energy.

At a time when demand for electricity continues to rise, New York seems bent on reducing supply. State regulations have shuttered several power generators and, as the basic laws of economics dictate, less supply plus more demand equals higher prices. According to Federal Energy Information Administration data, New Yorkers pay the second-highest electricity rates in the continental U.S. However, it is not simply the laws of economics at play.

New York has an array of opaque taxes and fees that have nothing at all to do with electricity generation or transmission added onto our electric bills. For example, there's the Section 18-A Surcharge that currently adds a 2 percent levy on consumer and business electric bills. In 2009, Albany increased the assessment 500 percent, from 0.33 percent of New Yorkers' bills. The surcharge produces an estimates $600 million in revenue for the state and, though the increase is scheduled to expire on March 31, Governor Cuomo wants to extend it.

Uncertainty about the future of the Indian Point nuclear power plant also holds the promise of significantly higher electric rates for New Yorkers, while an order from the Public Service Commission would add an $811 million rate increase as part of a contingency plan.

Our studies have shown that shutting Indian Point means the loss of 2,065 MW of electric-generating capacity – and the resulting higher prices – plus an estimated 11,000 jobs, $2.1 billion in cumulative wages, and nearly $5.5 billion in cumulative economic output. Furthermore, the replacement power to make up the shortfall would add 6 million tons of carbon emissions to our air every year. That is the exact opposite of the development we want.

There is no guarantee that the best laid, most well-intentioned plans for meeting our future energy needs and economic development goals will ever come to fruition, yet the two go hand-in-hand. When it comes to energy production, the future is now. We must build toward a secure energy future that ensures the power our state, its people, and businesses need today, tomorrow, and beyond remains available, affordable, and plentiful.

***Dr. Marsha Gordon** is President of the Business Council of Westchester (www.westchesterny.org) and member of the New York AREA Advisory Board. Dr. Gordon has been named one of Westchester's most respected, admired and inspiring leaders by Westchester Magazine.*

BUILDING BRIDGES
The BUSINESS COUNCIL of WESTCHESTER

Dr. Marsha Gordon

President
Business Council of Westchester
108 Corporate Park Dr.
White Plains, NY 10604

Tel: 914-948-2110
www.westchesterny.org

The Business Council of Westchester is Westchester's largest business organization, comprising of over 1,400 major corporate, mid-size and small business and professional member firms and individuals. The Business Council is a private, not-for-profit corporation funded by annual investments made by its members and has been serving business interests in Westchester since its founding as the White Plains Board of Trade in 1904.

The Business Council advocates for Westchester's business community at the local, state and federal levels and works to enhance opportunities in Westchester by addressing a broad range of economic and business development issues that affect the growth of business in the county. The Business Council of Westchester also provides a variety of educational/training programs, information and services to its members.

As seen in *City & State*, February 2014

LOCAL 1-2
NEW YORK

James Slevin

President
Utility Workers Union of America, Local 1-2
5 West 37th Street, 7th floor
New York, NY 10018

Tel: 212-575-4400
www.uwua1-2.org

The Utility Workers Union of America, Local 1-2 represents over 8,000 members who work in the electric, gas, water and nuclear industries throughout New York, including more than 400 workers at the Indian Point Energy Center.

For more than 60 years, Local 1-2 has represented utility workers from the Bronx, Queens, Manhattan, Brooklyn, and Westchester. The UWUA works to protect Utility jobs, and the wages, benefits and working conditions that their members enjoy in their jobs. It is committed and dedicated to improving the lives of their members, their families and all working families.

Made-in-New York Energy Powers Prosperity

By James Slevin

The Ivanpah solar power installation in California's Mojave Desert opened to much fanfare earlier this month. The massive facility took years to build, cost a reported $2.2 billion dollars, and occupies more than five square miles. The return on investment, however, seems questionable. Ivanpah produces just 392 megawatts (MW) of electricity and, disappointingly, only 86 permanent jobs, while powering only 140,000 homes.

In 2012, New York consumed 158.7 million MW of electricity. The state imported more than 22.9 million MW of that total as the need for power grows along with our dependence on digital devices and technology.

As the Empire State competes to keep and attract new businesses, it has much to offer: a skilled, educated and productive work force; great natural beauty; some of the best schools anywhere; and entertainment, recreational and cultural attractions that are second to none.

What we lack is a sufficient supply of electricity that is produced in-state. As a result, New Yorkers already bear the burden of the second-highest electricity rates in the continental U.S. The situation would become even worse if the State shut down the nuclear plant at Indian Point, as the result of such an action would be even less available power, higher rates and the loss of jobs and tax revenues.

The workers at Indian Point are very conscious of the need to have a safe nuclear plant. After all, they would be the first ones affected if there were any problems at that plant. Moreover, their families live in the immediate area. These fine men and women work day and night to make sure that New Yorkers have a safe, reliable source of power to operate all the equipment that people have at their homes and businesses.

It is time to take a stand and fight to maintain all of our state's existing clean, affordable, reliable electricity-generation sources, starting with the Indian Point nuclear power plant. While the potential of solar, wind and hydro power may be great, that potential has yet to be realized; and when those finally are ready to come on line, we in New York State will need them in addition to the existing sources of power.

New York needs a world-class energy system that is not subject to the volatility of supply and demand from neighboring states and Canada or to the dangers of having more high-voltage power lines criss-crossing the State. We have the highly trained union workforce to build and maintain this industry and, one day, New York may again flourish as a leading exporter of clean, affordable, reliable electricity that will stimulate real jobs, economic development, and tax revenue growth right here.

***James Slevin** is the President of the Utility Workers of America Local 1-2 and a member of the New York AREA Advisory Board.*

North Rockland School District in the Red After Losing Power Plant

By Ileana Eckert

The North Rockland School District offers a cautionary tale about the financial impact of losing a local electric power generator.

In 2003, the Lovett, Bowline 1 and Bowline 2 Generating Stations were the largest taxpayers in our community, accounting for $46 million annually. Six years later, under pressure from the State Attorney General and environmental activists, Lovett's owner did not find it economical to retrofit the plant with pollution-control technology and agreed to shutter it.

But the story doesn't end there.

A court ruled in August 2006 that the three plants had been over-assessed for many years and awarded its owner a $224 million tax refund. To repay, the district took $30 million out of its reserves. The $194 million balance was financed with 30-year bonds at 4.2 percent interest. Total cost to the district: $375.2 million.

Our debt service from tax certiorari refunds for the 2013-2014 school year alone tops $11. 5 million, and a settlement earlier this year for over-charges between 2009 and 2013 added $4.6 million to what we owe.

The impact has been devastating. Since 2007, the district has closed two schools and one administrative building, cut staff by 24 percent, increased class size in all grades, and reduced student activities.

The lawsuit and reduction in assessment has hit middle-class homeowners especially hard. In 2003, 64 percent of the district's tax levy was commercial property owners and 36 percent residential property owners; last year those percentages were reversed. Over the last decade, property owners in Haverstraw saw their taxes rise 104.3 percent, on average; in Stony Point, it was 72 percent.

Today our school district faces crippling debt, loss of tax revenue from its previously largest property owner and the loss of a company that helped stimulate the local economy.

Other communities that are home to power-generating facilities must heed the hard lessons we have learned and note that this is also what can happen when a business doesn't re-invest in its infrastructure and becomes obsolete. Perhaps, there needs to be a better way to protect communities from these complicated and expensive proceedings.

There should be clear guidelines that prevent these liabilities from saddling school districts with millions in debt because that burden will fall on your families, your children and their schools for generations to come.

***Ileana Eckert** is the North Rockland Superintendent. North Rockland School district is made up of eight schools.*

North Rockland Central School District

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The North Rockland Central School District is made up of eight schools, which include Farley Elementary, Fieldstone Middle School, Haverstraw Elementary School, North Rockland High School, Stony Point Elementary School, Thiells Elementary School, West Haverstraw Elementary School, and Willow Grove Elementary School. The school district's mission is to inspire students to live, learn and lead.

Ms. Eckert has guided the school district through troubled waters since the Bowline and Lovett power plants closed, taking with them millions in wages and tax revenues that supported the community. Current owners of the shuttered power plants that line the Hudson receive between $11 to $15 million per year in debt service from the school district as part of their $195 million tax certiorari settlement. Eckert collaborated with teachers, janitors, and other union staff that lived in the area to weather the fiscal storm, series of layoffs, and waves of property tax increases necessary to maintain a quality affordable education system.

As seen in *City & State*, March 2014

Joseph Hochreiter

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The mission of the Hendrick Hudson School District is to ensure each student is an engaged, passionate learner who achieves his or her maximum potential and contributes to society. This is accomplished in a system characterized by:

- A culture of the highest expectations for all;
- A rigorous, articulated curriculum;
- Diverse, effective instructional strategies and resources;
- An educational environment that is challenging, creative, exploratory, accessible, and nurturing; and
- A fully engaged, supportive community.

Mr. Hochreiter's school district encompasses Indian Point Energy Center, which is owned and operated by New York AREA member Entergy. The district was identified by Moody's as under threat of insolvency should overzealous policy makers prematurely close Indian Point. The report and Mr. Hochreiter's opinion piece emphasize the vital role power plants play in serving as an economic anchor that stabilizes the regional economy and educational institutions.

Reading, Writing & Reliable Energy

By Joseph Hochreiter

A critical, but so often overlooked, aspect of the discussion about the future of the Indian Point Energy Center is the enormous contribution it makes in educating Westchester County's children.

This single facility does much more than just generate the electricity that keeps the lights on in our schools. It employs 1,100 full-time workers plus 150-1,000 on-site contractors for various projects. Many are our neighbors and the parents of our students. The majority of those jobs are skilled positions that pay good wages and benefits, generating substantial tax revenue that supports our school district and keeps the community strong.

In the Hendrick Hudson School District alone, Indian Point's PILOT (Payment in Lieu of Taxes) accounts for nearly 30 percent of our educational budget. This helps keep and attract top teachers and maintain smaller class sizes, and results in a better educational experience. Imagine how much more burdensome an already steep county tax bill would be without Indian Point.

Our community couldn't ask for a better corporate citizen. Local charities and civic organizations, including the Hendrick Hudson Community Educational Foundation and the Hendrick Hudson Free Library, among others, receive generous support from Indian Point. Plainly put, many of the educational programs that benefit our community and children would not exist without that support.

Inside the classroom, that support has helped us introduce the latest educational technology, including interactive whiteboards, computers, printers, and video equipment, to enhance the learning experience.

In the last several years, our partnership with Indian Point has expanded to include employee involvement in our science curriculum at Hendrick Hudson High School. Our students are interacting on a regular basis with scientists, engineers and technicians from Indian Point through tours of the facility, classroom visits and interactive presentations where students receive constructive reviews of their projects from a practical industry perspective.

These tools and invaluable experiences are better preparing our students for higher education and to compete in the global workforce.

Those who favor keeping Indian Point open know how important it is to our regional energy needs. The facility generates 25 percent of Westchester's and NYC's electricity and about 11 percent of all the electricity used in New York State.

Closing Indian Point would have a devastating impact on our community in terms of lost jobs, higher taxes, the end of community programs, and major cuts to education budgets. That is something our community, our school districts, our children and our families cannot afford, now or in the future.

***Joseph Hochreiter** is superintendent of the Hendrick Hudson School District, made up of five schools: three elementary schools, one middle school, and one high school.*

New York's Infrastructure Needs Serious Investment

By Jonathan Bowles & Adam Forman

Superstorm Sandy exposed a number of critical infrastructure weaknesses throughout New York City. While policymakers still need to address these fundamental problems, New York faces many other infrastructure vulnerabilities that have little to do with storm preparedness or resiliency—and more with the fact that much of the city's core infrastructure was built in the first half of the 20th Century.

As a new report from the Center for an Urban Future (CUF) reveals, much of our vital infrastructure dates back from the first half of the 20th Century:

- One thousand miles of New York's water mains, 170 school buildings and 165 bridges were constructed over a century ago.
- The city's public hospital buildings are 57 years old, on average, 531 public housing towers were built prior to 1950.
- Thirty-seven percent of subway signals exceed their 50-year useful life.

Given the age of New York's infrastructure, disruptions and malfunctions are inescapable:

- In 2013, there were 403 water main breaks.
- In 2012, 162 bridges across the city—11 percent of the total—were structurally deficient.
- Nearly 1,500 of the 2,600 public housing buildings do not comply with local standards for exterior and façade conditions.

As the tragic East Harlem apartment building explosion revealed, much of New York's energy infrastructure is also old. The average gas main in New York City is 56 years old and 53 percent are made of cast iron or unprotected steel, which are leak-prone materials. In 2012, there were 5,835 gas leaks across the city, with 1,600 linked to corroding pipes.

The electricity system too is getting older. Nearly 70 percent of in-city generation is sited in Brooklyn and Queens, where the average power station is 41 and 37 years old, respectively.

The CUF report finds that $47.3 billion is needed to maintain the safety and functioning of New York's infrastructure. Unless many of these aging assets are upgraded or replaced, they could wreak as much havoc on the city's economy and quality of life as the next big storm.

Mayor de Blasio, Governor Cuomo and other policymakers need to make a significant new infrastructure investment and refocus capital spending on repair needs, while the city's utility companies should accelerate the replacement of old assets. This won't be easy while the federal government is failing to adequately invest in infrastructure, but city and state officials can create new dedicated revenue streams, incentivize the undertaking of infrastructure projects, and develop a more comprehensive capital planning process to get the job done.

***Jonathan Bowles** is executive director and **Adam Forman** is research associate at the Center for an Urban Future, a New York City based think tank that recently published Caution Ahead, a report about New York City's aging infrastructure.*

Center for an Urban Future

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The Center for an Urban Future is a NYC-based think tank dedicated to highlighting the critical opportunities and challenges facing New York and other cities. The Center's primary focus is on growing and diversifying the local economy, expanding economic opportunity and targeting problems facing low-income and working-class neighborhoods. They work to elevate important, but long overlooked, issues onto the radar of public officials—and push policymakers to think differently about economic and workforce development.

The Center publishes fact-based research reports that are accessible to a wide audience and holds high-profile policy forums to raise the profile of issues often ignored in popular discussion or outside the view of public officials.

As seen in *City & State*, March 2014

NEW YORK BUILDING CONGRESS

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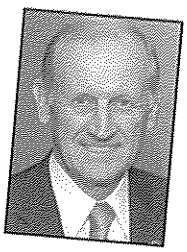
Founded in 1921, the New York Building Congress focuses on economic and infrastructure investment, job creation and professional exchange. These goals require the dedicated involvement and cooperation of the contractors, architects, engineers, unions, real estate managers, developers and owners who comprise the building community.

On behalf of nearly 400 constituent organizations comprising of more than 250,000 skilled trades people and professionals, the New York Building Congress supports sound public policy; promotes productive capital spending; encourages public/private partnerships; and evaluates the implementation of major government projects.

Let's Invest Wisely in New York's Infrastructure



By Richard T. Anderson

One issue most New Yorkers can agree on is the need to invest in our city's aging infrastructure. That part is easy. The big challenge is figuring out how to pay for the tens-of-billions of dollars that are required annually to maintain, improve, and expand the City's vast network of roads, bridges, schools, mass transit, and other vital infrastructure, including the generation and transmission of electricity.

History shows what happens when New York City ignores its infrastructure. During the fiscal crisis of the 1970s, New York City and State deferred critical maintenance because they lacked sufficient resources. The results were disastrous. Signal failures and equipment breakdowns removed entire subway lines from service. A section of the West Side Highway collapsed, closing the road from the Battery to 57th Street. Portions of the highway were not completely replaced until 2001.

The situation has improved. In 2011 alone, New York City and State, as well as the Port Authority and the federal government, invested $18 billion to maintain and improve infrastructure systems throughout the five boroughs.

But much more needs to be done. New York City is expected to add one million residents by 2030, and investments need to be made now to ensure that our already overburdened infrastructure will be able to support the additional stress this growth will put on the system.

Last December, the New York Building Congress underscored this reality when it unveiled an innovative study that warned of government's increasing and unsustainable reliance on debt to finance infrastructure needs. That report urged lawmakers to consider and ultimately adopt a series of user-generated revenue streams that would be dedicated solely to capital spending.

The need to adopt dedicated revenue streams is particularly acute at the State-run Metropolitan Transportation Authority (MTA). The MTA, which is responsible for approximately 30 percent of the mass transit ridership in the nation, currently devotes about 16 percent of all its revenues simply to meet its debt service obligations. By 2018, the Building Congress expects debt service to consume 22 percent of annual revenues.

In our report, we endorsed a plan that would charge vehicles a uniform fee for crossing bridges and tunnels within the five boroughs, or for entering Manhattan below 59th Street. The plan could initially lower the cost of some currently-tolled crossings, while generating more than a billion dollars of new revenue annually for the MTA's capital program.

Keeping New York as the premier global business, financial and tourist center requires an equally world-class infrastructure. Let's invest now, invest wisely, and invest in the future of this great city and region.

***Richard T. Anderson** is President of the New York Building Congress and a member of the New York AREA Advisory Board. A copy of the infrastructure report can be found at: http://www.buildingcongress.com/pdf/infrastructure-report.pdf.*

Federal Policy Set to Improve New York Energy System on May 1

By Dr. Matthew C. Cordaro

New York set new record demands for electricity during the sweltering 2013 heat wave and 2014 sub-zero deep freeze. The lights stayed on; homes were air conditioned in the summer and space heating kept things comfortable during the winter and all of this largely because of sound management by the New York Independent System Operator (NYISO), the non-profit responsible for our electric reliability. However, the Federal Energy Regulatory Commission (FERC), a federal regulatory agency strengthened in the wake of the 2003 blackout, has indicated that the Empire State may not be so lucky in the coming years if sufficient in-state power is not made available.

This is why FERC and NYISO experts spent seven years conducting an exhaustive analysis to ensure New York maintains access to abundant and competitively priced electricity. The result is a new energy market design for the Hudson Valley and New York City known as the "Lower Hudson Valley Capacity Zone." It relies on free market fundamentals and takes effect on May 1, 2014. It aims to attract private investments into the state's energy infrastructure to create a more robust and reliable system. These investments will lead to cheaper electricity, jobs creation, and spur economic growth.

Opponents of FERC's free market approach contend that the new zone should be delayed and warn that electric prices could increase as a result. The truth of the matter though is that this is an oversimplification and counterproductive.

In reality many power plants have retired in New York in the past 15 years while many others are facing economic pressures to close. Further, any electric increase should be minimized over time as more supply leads to lower electricity costs, and can be more than offset by political will. Pinning the blame for high energy prices on FERC ignores other paths to dramatically cutting electricity costs in New York.

According to the U.S. Energy Information Administration, New York's residential electricity costs were 68% higher than the national average in January, and 53% more than neighboring Pennsylvania. This may be as much a result of increasing transmission costs, taxes, and arcane fees than changes in the wholesale price of electricity which has actually declined in New York over the past 10 years.

Before investors commit many millions or billions of dollars to new plants, they need a clear, market pricing structure upon which to evaluate their decisions.

With the new capacity zone, New York will encourage the energy infrastructure investments needed to ensure reliable and competitively priced electricity.

***Dr. Matthew Cordaro** is the former chief executive officer of the Midwest Independent System Operator, the non-profit transmission grid operator serving 15 states and a Canadian province. He serves on the advisory board of the New York Affordable Reliable Electricity Alliance and is also a former CEO at utility companies.*

Note: The above op-ed was adapted from an opinion piece Dr. Cordaro authored and appeared in the Poughkeepsie Journal on April 13, 2014.

MISO

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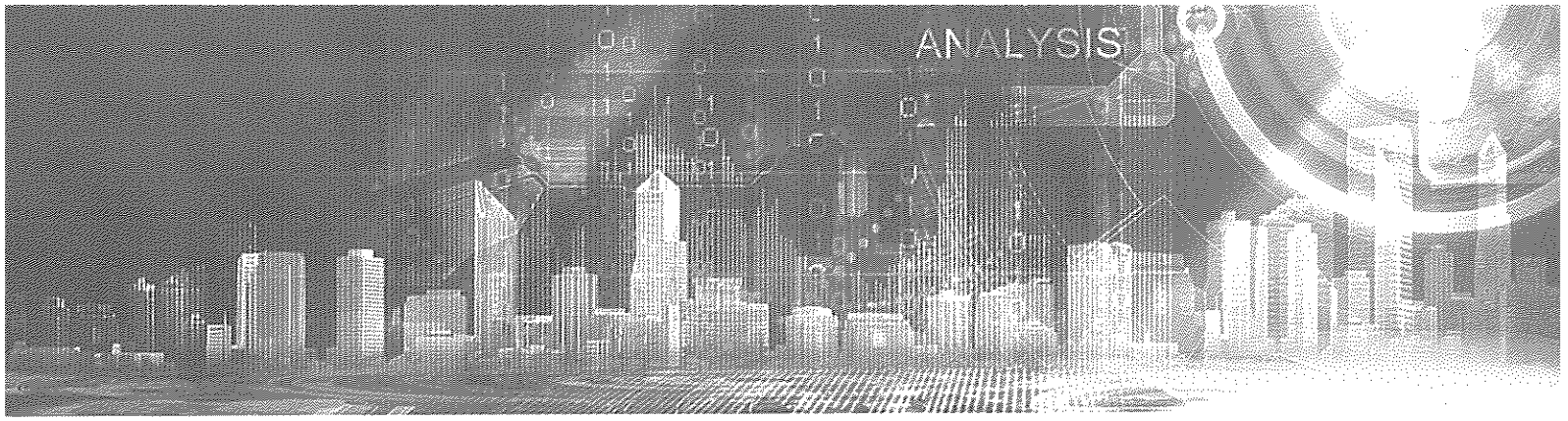
Dr. Matthew C. Cordaro is a member of New York AREA's Advisory Board and member of the Long Island Power Authority Board of Trustees. He is also the founding president and former CEO of the Midwest Independent System Operator, the largest independent transmission system operator in the nation, and previously served as president and CEO of Nashville Electric Service, one of the ten largest public electric utilities in the country.



Energy Policy Perspective

Energy and economic development are inextricably intertwined. As energy costs go up, the challenge of hiring extra employees or purchasing materials to fulfill work orders becomes more complicated. A large part of increasing energy costs are related to infrastructure constraints, political agendas, and energy taxes which comprise over 25 percent of the average New Yorkers utility bill. It is critical to recognize the important role electricity plays in powering homes and businesses as well as the need to maintain and expand access to affordable, reliable, clean power. It's an economic issue that is too easily overlooked that impacts everybody's bottom line.

The following information provides an overview of New York's tenuous energy situation in plain language. Topics covered include natural gas, transmission, taxes, and policies that will shape the future of New York's energy landscape.

Wild Weather Drove Energy Demand to New Heights

New York State set significant records for both gas and electric demand in 2013 and early 2014.

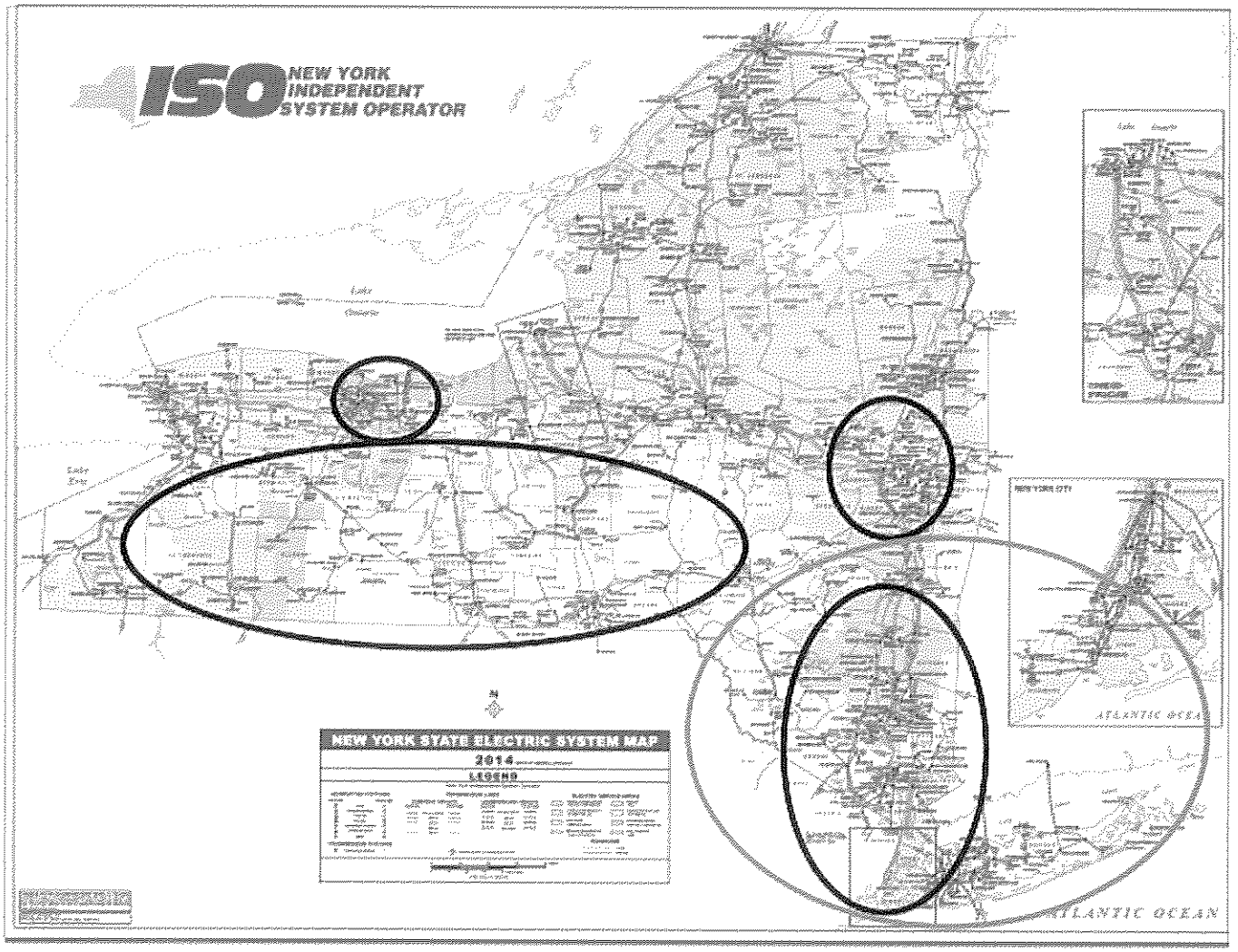
The July 2013 seven day national heat wave set a new state record demand of 33,955 megawatts (MW), surpassing the previous record of 33,939 MW set on August 6, 2006. Con Edison also reported it set a new record for electricity demand on the same day, hitting 13,322 MW at its peak – 133 MW more than the previous record set on July 22, 2011.

The 2014 polar vortex set a new winter electric demand record of 25,738 megawatts (MW) of electricity on January 7, 2014, eclipsing the 2004 record of 25,541 MW. The impact on gas and electric prices was staggering. In conservative terms, the price of natural gas for heating skyrocketed by 394% which caused electricity prices to spike by 252%.

The deep freeze also threatened grid reliability in Quebec, Canada. *The Montreal Gazette* reported that Hydro-Quebec was nearly unable to meet demand and required New York generated power to rescue their ratepayers from a catastrophic system blackout. Had it not been for New York's fleet of nuclear power plants, which provide 30% of the state's electricity, Quebec's problem could have easily become New York's problem.

Grid Operator Identifies Reliability Issues Ahead

New York's energy infrastructure is in need of repair. According to a 2012 study, transmission congestion cost New Yorkers an additional $4.8 billion a year in extra fees and charges (See CARIS Study). In its latest reliability needs assessment, the New York Independent System Operators indicated that the loss of power generation and transmission facilities poses additional threats to grid stability.



Note: The dark circles indicate the areas where the load may be impacted by transmission security constraints, and the light circle indicates the region with resource adequacy violations.

Figure 1: Approximate Locations of Reliability Needs Source: 2014 NYISO RNA

In the Rochester area, the loss of the Ginna nuclear plant in 2015 would create system overloads.

A lack of transmission and generation resources to meet demand would cause voltage violations in the Western and Central New York areas.

For the Capital Region, the mothballing of Selkirk I and Selkirk II units has prompted transmission owners to focus on updating plans to address overloads that will heighten grid congestion in years to come.

While the Lower Hudson Valley is poised to attract large capital investments due to the new capacity zone, New York's short term political objectives may create a dangerous electricity shortage. NYISO warns that growth in demand and a reduction in power generation, via the pre-mature retirement of Indian Point, will lead to a system overload that could trigger rolling blackouts. They conclude that transmission solutions may lessen the impact of the loss of the nuclear plant's power, but it will not solve the problem.

Issue Brief Summary Page

New York AREA publishes policy position papers on a frequent and routine basis. Below is a selection of important and timely research on topics that are applicable to today's energy challenges.

August 14, 2014 – Anniversary of the 2003 Black Out
Read the Blog here: http://bit.ly/1pJ90Kb

Read the full report here: http://bit.ly/1wb2fgY

May 27, 2014 – How To Really Reduce New York's Electricity Costs
http://bit.ly/SLVzJK

May 15, 2014 – What Is the Capacity Zone
http://bit.ly/1nTBjAC

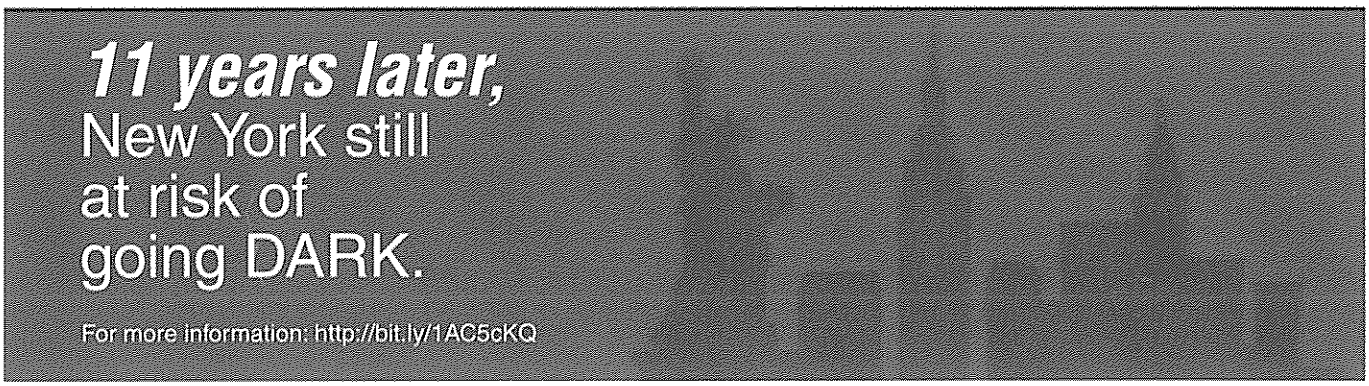
April 30, 2013 – New York: America's Low-Carbon Leader
http://bit.ly/1GIyk8c

December 19, 2012 – Shoreham's Continuing High Cost and Impact
http://bit.ly/1wb2tEC

May 7, 2012 – New York's Transmission Challenges and Opportunities: An Overview
http://bit.ly/1GIyw7I

May 10, 2010 – DEC's Water Intake Proposal: Bad Policy for New York State
http://bit.ly/1oCWf30

April 27, 2009 – Plug-in Hybrid Electric Vehicles – What the Future Holds
http://bit.ly/1xmv0u1



Quick Facts to Figure

- In 2013, New York City consumed 53.5 million megawatt hours of electricity, of which 27.5 million (51.4%) was generated in New York City and 12 million (22.4%) sourced from the Hudson Valley region. [1]

- Long Island imports 2,994 MW of electricity, of which 47% originates from out of the state. This contributes to why Long Island ratepayers have some of the highest electricity costs in the nation. See our Shoreham Issue Brief for more information.

- The New York Building Congress reported that NYC construction is projected to eclipse 24.4 million square feet by 2019. This does not include Mayor Bill de Blasio's bold housing initiative to add 200,000 units of affordable housing to the market.

- According to the U.S. Energy Information Administration, New York's residential electricity costs were 68% higher than the national average in January and 53% more than neighboring Pennsylvania. According to the New York Independent System Operator, some 15% of New York's power is imported. To manage our own economic and energy destiny, it is better to control the future and create jobs by generating electricity in-state to create jobs.

- Hunts Point is home to many employers, and it's been subjected to significant peaker power plant usage, 2005-2007. These mini power plants are scattered throughout the city, often tucked away in industrial and low income areas, and are legally permitted to produce up to 60 megawatts of power without environmental permits or community input. While they help generate power when needed most, there is concern about their negative environmental footprint.

- A report from New York State Comptroller DiNapoli found that 1.4 million adults and 315,000 children battle asthma daily, and the Bronx is among the hardest hit with an average of 57 deaths per year attributed to asthma. The report puts the cost to treat asthma at $1.3 billion annually, a 61% increase since 2002. Source: "The Prevalence and Cost of Asthma in New York State," NYS Comptroller Thomas DiNapoli, April 2014

- Indian Point, a 2,000 megawatt nuclear plant in northern Westchester, supplies approximately 25% of New York City's electric demand and 11% statewide with virtually zero emissions. The US Nuclear Regulatory Commission awards the facility its highest safety rating, "green," ten years consecutively and recommended license renewal.

- The 2014 winter energy cost crisis was a result of limited natural gas pipeline infrastructure in New York and nationally. The problem can only be solved by investing in infrastructure upgrades that expand access to natural gas.

- According to the Independent Power Producers of New York (IPPNY), the cost to generate electricity in New York has dropped 30% since deregulation of New York's wholesale energy markets; however, those reduced costs have not reached ratepayers in New York mainly due to energy taxes and fees that make up over 25% of utility bills.

- The City of New York appropriated $944.5 million for its 2014 energy needs. Approximately $144.5 million is funded through state funds, user charges, and other sources. Source: NYC Citywide Administrative Services.

[1] " New York City Construction Outlook Update," New York Building Congress, June 16, 2014, : Link: http://www.buildingcongress.com/outlook/061614.html

Natural Gas Spotlight

The U.S. Energy Information Administration (EIA) estimates that there are 2,203 trillion cubic feet (Tcf) of natural gas that is technically recoverable in the United States, enough to last for generations to come. The nation consumes 24 Tcf on annual basis which is broken down as follows:

US Natural Gas Consumption	2008	2009	2010	2011	2012	2013
Volumes Delivered to Consumers	21,409,349	20,964,665	22,127,046	22,467,053	23,409,012	23,879,234
Residential	4,892,277	4,778,907	4,782,412	4,713,777	4,148,970	4,940,063
Commercial	3,152,529	3,118,592	3,102,593	3,155,319	2,895,358	3,290,448
Industrial	6,670,182	6,167,371	6,826,192	6,994,120	7,223,835	7,462,587
Vehicle Fuel	25,982	27,262	28,664	29,974	30,056	32,850
Electric Power	6,668,379	6,872,533	7,387,184	7,573,863	9,110,793	8,153,285

Source: U.S. EIA, "Natural Gas Consumption by End Use," http://www.eia.gov/dnav/ng/ng_cons_sum_dcu_nus_a.htm

By comparison, New York State used 1.2 trillion cubic feet of natural gas in 2012, and New York City consumed 545 billion cubic feet in 2012.[2] The below table illustrates the breakdown by end use through 2013.

NY Natural Gas Consumption	2008	2009	2010	2011	2012	2013
Volumes Delivered to Consumers	1,167,082	1,129,248	1,182,432	1,197,990	1,205,026	NA
Residential	394,196	404,868	390,491	393,825	357,709	421,852
Commercial	290,150	280,763	287,389	291,118	270,232	NA
Industrial	79,966	72,166	75,475	75,162	74,133	NA
Vehicle Fuel	3,386	3,098	3,589	3,866	3,877	4,165
Electric Power	399,385	368,353	425,488	434,019	499,074	448,293

Source: U.S. EIA, "NY Natural Gas Consumption by End Use," http://www.eia.gov/dnav/ng/ng_cons_sum_dcu_sny_a.htm

New York Natural Gas System Constraints and the Ratepayer Impact

While natural gas supplies are at an all-time high, transportation constraints limit access making the abundant fuel source scarce and expensive during periods of high demand.

New York City natural gas prices for heating in January 2014 rose to $27.43/MMBtu, up 394% from $5.55/MMBtu in December 2013. EIA data shows electric prices for natural gas in January 2014 was $233.59/MWh which is 252% higher than $66.39/MWh in December 2013 and 192% higher than 79.77/MWh in January 2013.

[2] NYC 2012 natural gas use obtained from, "Inventory of New York City Greenhouse Gas Emissions," City of New York, December 2013

According to the *Montreal Gazette*, Hydro-Quebec was nearly unable to meet its demand and required some New York-generated electricity to rescue its ratepayers from rolling blackouts during the deep freeze. At the same time, the New York Independent System Operator (NYISO), New York's non-profit, federally regulated grid operator, reported that New York set a new winter electric demand record of 25,738 megawatts (MW) of electricity on January 7, 2014, eclipsing the 2004 record of 25,541 MW. New York not only sent power north of the border, but southwest to Pennsylvania as well, proving that the Empire State could and should become a net energy exporter.

The Arctic temperatures were followed by a nasty set of sudden snow storms. These weather events complicate travel, diminish regional economic activity, and strain our energy infrastructure. The cold snap and snow combo caused an unusual price spike in ratepayer bills that prompted the NYS Public Service Commission to freeze National Grid's rates in upstate New York. Con Edison estimated that the average residential customer downstate would see a $55 increase (16.5 percent) in their gas heating bill and a $27 increase (21.8 percent) in their electric bill for January and February. Con Ed also reminded customers that they can spread the increased costs over a 12 month period.

The U.S. EIA attributes natural gas price volatility in the northeast to pipelines constraints heading into New York and New England from the West and South. On January 8, 2014, the EIA noted that that liquefied natural gas (LNG) and natural gas imports into the Northeast United States from eastern Canada "are expected to decline 49%." This was largely due to Canada's need for the resource to supply Canadian ratepayer needs. It is important to emphasize that the drastic reduction in Canadian imports occurred during "critical notices" for the Algonquin and Tetco pipelines that serve the NYC and Boston markets.

The pipeline constraints will persist for the foreseeable future as the system is designed to fulfill contractual arrangements. This means that if demand exceeds pipeline supply, the demand will likely not be met unless the contracts permit service to be interrupted. Without such firm commitments and arrangements, pipeline projects cannot proceed given required capital investment and operating costs.

A Closer Look at New York's Ratepayer Bills

New York State has among the highest electric prices in the nation. EIA data illustrates that New York's residential electricity costs were an average of 21.75 cents per kilowatt hour, 83 percent above the national average of 11.88 cents/kwh and 62 percent higher than the average rate of 13.43 cents/kwh in Pennsylvania. While the Empire State received billions in Superstorm Sandy aid, Con Edison, which sustained over $300 million in damages, has not received any state or federal funds to address electric infrastructure damages caused by the storm.

This is characteristic of New York State, which seemingly prioritizes energy taxes over long term investments in the system. Using publicly available information from the New York Public Service Commission, the bottom line is this: since 2008 the cost to produce electricity has stayed the same or been reduced while transmission costs and taxes have shot up dramatically.

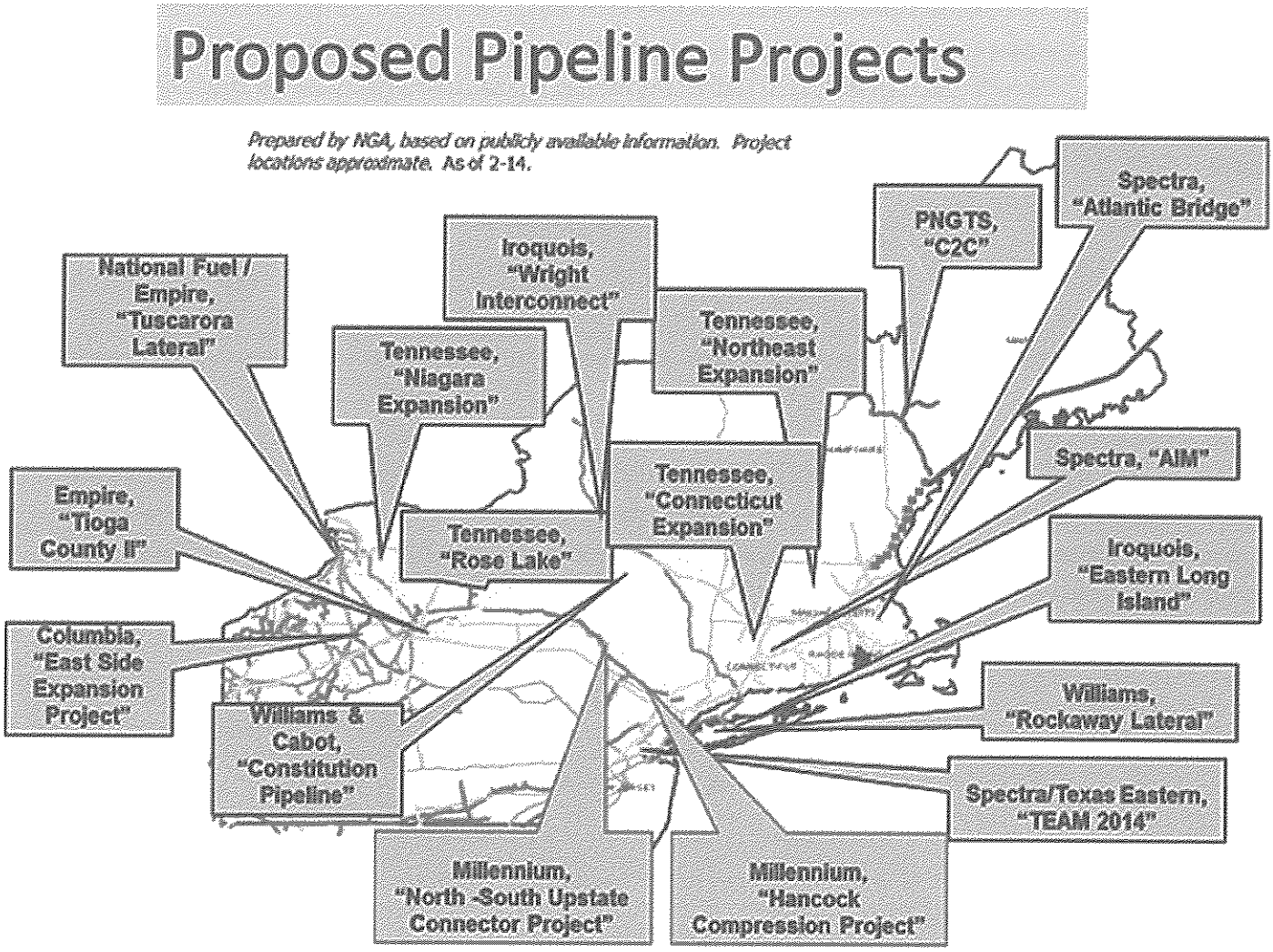
Virtually none of these arcane state-related taxes pertain to the maintenance, operation, or expansion of New York's energy infrastructure. The state initially denied, then delayed by two years, Con Edison's request to increase rates by 3-4% to fortify vital areas for storm preparedness and resiliency purposes. Instead, New York recently increased the "Renewable Portfolio Charge" by an addition $1 billion for 3,000 megawatts (MW) of solar energy projects over the next seven years. This amounts to $333,000/MW of solar versus on $232/MW of natural gas.[3, 4]

Simply put, redirecting resources away from much needed energy infrastructure improvements is bad for New York.

The matter is one of urgency. High electricity costs are a de facto regressive tax, which impact working class New Yorkers and the poor most significantly. The funds from reduced electricity taxes will also serve to stimulant New York's economy, as consumers spend this money on other important, necessary household items.

Regional Natural Gas Expansion Projects

According to the Northeast Gas Association, there are 17 proposed pipeline projects to add capacity to the northeast region.



Source: Northeast Gas Association Issue Brief: Pipeline Expansion Projects, April 2014, http://www.northeastgas.org/pipeline_expansion.php

[3] "Average Energy Prices, New York-New Jersey-Long Island – January 2014," US Bureau of Labor Statistics, http://www.bls.gov/ro2/avgengny.htm

[4] Ibid., natural gas for electricity in New York averaged $0.232/KWh. To convert KWh to MWh, multiply by 1,000.

The Constitution Pipeline will alleviate constraints in western and Central New York. The "Rockaway Lateral" project is advancing to serve National Grid gas customers. Another project of importance is the deepwater port project called "Port Ambrose" by Liberty Natural Gas, a New York AREA member. The proposed site is located approximately 18.5 miles off the coast of New York and 28.7 miles off the coast of New Jersey that will be used to import liquefied natural gas (LNG). The project is a mobile natural gas delivery system, designed to import natural gas to the New York area during peak demand in the winter and summer months. The facility will utilize submersible buoys that will tie into existing infrastructure on the sea floor. This structure will withstand hurricane conditions, meet all safety requirements, and not be visible from the shore.

The Port Ambrose project will provide significant economic benefits to the region. According to ICF International, the company that heavily contributed to the New York State Energy Plan, estimates that Port Ambrose will reduce the average annual price of natural gas across New York metropolitan area, creating up to $325 million per year in direct savings to natural gas customers. The project will bring hundreds of union jobs and $90 million in direct investments in local goods and services. More importantly, no taxpayer, utility rate increases, or public money of any kind will be used to pay for the project.

Conclusion

Policymakers should heed the sound advice of Aswath Damodaran, finance professor at NYU Stern School of Business, who said, "The tax code is first and foremost a revenue-generating device and not an instrument for social change or punishing bad behavior." Energy taxes should not be used to impose or accomplish short term political objectives over long term sound energy policy needs.

New York has an opportunity to lower electric rates and heating bills while revitalizing the state economy. During the cold snap, the state temporarily acted as a net energy exporter and should vigorously pursue this goal over the long term. The state should also pursue moving forward with the Port Ambrose project and other pipeline expansion efforts to meet growing demand. These approaches are sensible ways to light and heat our homes reliably and affordably while creating jobs and economic growth for New Yorkers.

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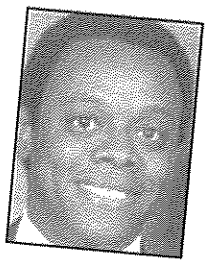
AAEA, an environmental organization founded in 1985, is dedicated to protecting the environment, enhancing human, animal and plant ecologies, promoting the efficient use of natural resources and increasing African American participation in the environmental movement. One of the AAEA's main goals is to deliver environmental information and services directly to African American communities.

Coal for New York, An Earth Day Failure



By Norris McDonald

To celebrate Earth Day on April 22, New York State should take a few lessons from New York City on combatting climate change. The Big Apple adopted climate change legislation in 2013, advancing the goals of PlaNYC and making significant headway to realize its cleanest air in five decades.

For years Albany led attacks on other states for sending pollution across the New York border; however, recent actions by the New York State Public Service Commission will allow a dirty coal plant to choke the Hudson Valley once again.

New York Attorney General Eric Schneiderman said, "Coal-fired power plants make the largest contribution to air pollution in New York's skies. Continuing to cut emissions is crucial to protecting New Yorkers' health and environment." But with Superstorm-Sandy-damaged Danskammer scheduled to start burning coal as early as July 1, Mr. Schneiderman has yet to act.

A new report from New York State Comptroller DiNapoli puts the cost to treat asthma at $1.3 billion annually, a 61 percent increase since 2002. According to the report, 1.4 million adults and 315,000 children battle asthma daily, and the Bronx is among the hardest hit with an average of 57 deaths per year attributed to asthma.

More work needs to be done to mitigate air pollution that claims the lives of vulnerable populations. Solutions include embracing liquefied natural gas to significantly lower vehicular emissions on congested transit routes as well as converting more buildings away from fuel oil to cleaner natural gas.

Maintaining access to clean and reliable electricity generators will also help New Yorkers breathe cleaner air. This includes the continued operation and license renewal of Indian Point, a 2,000 plus megawatt nuclear plant that supplies 25 percent of New York City's and 10 percent of New York State's power with virtually zero emissions. Numerous independent studies reveal that without Indian Point, New York's air quality would be significantly degraded. A study by the City of New York found that carbon pollution would increase by 15 percent, sulfur dioxide up to 12 percent, and nitrogen oxide by 7-8 percent.

As we near Earth Day, Attorney General Schneiderman remains remarkably silent on New York's decision to allow Danskammer to darken the sky, clog the air with toxic emissions, and threaten countless people fighting respiratory ailments in the region.

Breathing clean air should not be reserved for the privileged. It is essential that New York State policies protect the environment and all New Yorkers' health every day, especially on Earth Day.

__Norris McDonald__ is the President of the African American Environmentalist Association and an Advisory Board Member of New York AREA.

Meat, Jobs & the Cost of Energy

By Bruce Reingold

The Bronx is famous for many things: Yankee Stadium, the Bronx Zoo, the Botanical Gardens, top universities, and Hunts Point, home for nearly 40 years to the Hunts Point Cooperative Meat Market, a cornerstone of the New York City economy.

The 39 businesses at the Meat Market employ nearly 2,000 workers, 80% of whom are New York City residents, the majority are unionized and earn almost double the region's "living wage" ($116 million total wages and benefits annually). These businesses directly and indirectly foster $670 million in economic activity in the city annually and support over 1,200 jobs in the city's food service, transportation and other economic sectors.

Meat Market products go to thousands of regional supermarkets, butcher shops, hotels, restaurants, hospitals and nursing homes, supplying 50% of the city's meat demand. Given that the city's restaurant and hotel industry hosted some 53 million tourists in 2013, the economic impact on the city is enormous and vital.

Electricity is indispensable to ensuring food quality and safety, our top priority. The Meat Market's seven buildings contain 1 million square feet of refrigerated and freezer space essential to keeping our products at the proper temperatures. Refrigeration must be provided 24 hours a day, 365 days a year, which results in monthly electricity bills that average more than $400,000 a year and exceed $550,000 a month during the summer, more than double the cost 2 years ago – a distinct competitive disadvantage.

Not surprisingly, we are vocal advocates for policies and programs that promote efficient, low-cost and reliable electricity and are seeking to implement electricity conservation measures at our aging facility.

We are grateful to Governor Cuomo and his staff who proactively reached out to find ways to help reduce the Market's energy costs and, ultimately, the cost of providing food product to consumers. Programs like the Governor's energy regulation initiatives will help us and other energy consumers reduce energy costs while protecting the environment. Only by collaboration among state and city agencies, the private sector and direct investment, will we achieve our goals and preserve the irreplaceable economic benefits which our businesses provide to the city every day of the year.

***Bruce Reingold** is the General Manager of the Hunts Point Cooperative Market.*

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The Hunts Point Cooperative Market, originally built in 1972, is the largest meat distribution center of its kind in the world. The Market serves as the major distribution hub for the New York City metro area and has channels nationwide.

The market operates within the Hunts Point section of the Bronx for its 38 shareholders and other tenants, all of which are primarily involved in the processing and distribution of meat and meat products in the Northeast.

The companies that make up the Hunts Point Cooperative Market provides 1,800 direct jobs, $120 million is paid each year in wages and benefits and 77% of jobs belong to NYC residents.

The market distributes 50% of meat consumed in the NYC region and supports over $650 million of direct and indirect economic activity in New York City.

As seen in *City & State*, May 2014

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Founded in 1860, New York Medical College is chartered by the Regents of the State of New York and accredited by numerous associations and professional organizations, including, but not limited to, the Middle States Association of Colleges and Secondary Schools; the Council on Education in Public Health; the Commission on Accreditation in Physical Therapy Education; and the Commission on Dental Accreditation of the American Dental Association.

New York Medical College joined the Touro College and University System in May 2011, creating one of the United States' largest biomedical higher education consortiums under one institutional banner. The campus serves as the academic health sciences center and principal academic public health resource for eight county health departments in New York's Hudson Valley region, one county health department in central New York, and one county health department in southwestern Connecticut.

Incubators Sustain Growth of NY's Life Science Industry

By Robert W. Amler, MD, MBA

New York Medical College (NYMC) is proud to have played a role, through its comparative medicine facilities, in accelerating the growth of Regeneron Pharmaceuticals, Inc., one of the nation's fastest-growing pioneers in commercializing innovative new medicines. In 1989, Regeneron had four employees and opened a 10,000 square-foot laboratory near the NYMC campus in Westchester County, New York. Twenty-five years later, the company employs more than 2,000 people with headquarters and research laboratories located in Westchester and a large-scale manufacturing facility in Rensselaer, New York.

NYMC is equally excited about the future success stories that will follow Regeneron's example and are poised to emerge from BioInc@NYMC, the biotechnology incubator on the NYMC campus.

According to NewYorkBIO, "the New York area is the largest and richest bioscience community in the world." More than 60% of "Big Pharma" firms are headquartered in the area. The industry supports more than 75,000 direct jobs and the metropolitan area was named Genetic Engineering News' #1 region in the US to find a biotech job.

Westchester is home to some 8,000 biotechnology professionals, representing 20% of the industry workforce and largest concentration in New York. The Hudson Valley biotech cluster already makes a substantial contribution to economic development and is projected to grow.

With the help of various partners in New York State, in particular Empire State Development and the US Department of Commerce, NYMC is expanding its facilities to encourage small start-up biotech firms to advance development and commercialization for candidate drugs and vaccines, in support of the NY BioHud Valley initiative.

Biotech start-ups in the incubator can readily access university scientists and sophisticated equipment at a fraction of the usual costs, as well as focused training in business skills. Their innovative processes also require a steady flow of electricity. The facility itself needs to maintain acceptable levels of heating, ventilation, and air conditioning to ensure that lab conditions meet health and safety standards. A voltage fluctuation, brownout, or blackout could threaten millions of dollars invested and years of medical research. For these reasons, it is important that New York maintain its commitment to a diverse energy portfolio and strengthen in-state energy infrastructure to power the next generation of medical innovation.

Robert W. Amler, M.D., M.B.A., *is the vice president of government affairs for New York Medical College and dean of the School of Health Sciences and Practice, and Institute of Public Health. He has served as Regional Health Administrator for the US Dept. of Health and Human Services and has a well established career as a thought leader in the medical and health care industry.*

Lower Natural Gas Prices on the Horizon

By Joseph Vaszily

It was a pretty cold winter wasn't it? How cold? Here are some interesting statistics.

The U.S. Energy Information Administration (EIA) estimated the nation consumed 24 trillion cubic feet of natural gas in 2012. By comparison, New York State used 1.2 trillion cubic feet and New York City consumed 545 billion cubic feet.

An analysis commissioned by the NYC Mayor's Office of Long-Term Planning and Sustainability noted that the demand for natural gas in NYC and Long Island is expected to grow by 1.5% annually. The report added that, "The peak day requirements of both [Con Edison and National Grid] are already estimated to be greater than their existing pipeline capacity."

Winter's Polar Vortex proved this prediction as New York City natural gas prices for heating in January 2014 rose to $27.43 / MMBtu, up 394% from $5.55 /MMBtu in December 2013. The cold snap and snow combo caused an unusual price spike in ratepayer bills that prompted the NYS Public Service Commission to freeze National Grid's rates in upstate New York. Con Edison estimated that the average residential customer downstate would see a $55 increase (16.5%) in their gas heating bill and a $27 increase (21.8%) in their electric bill for January and February.

As the summer sauna approaches and winter's skyrocketing utility costs are still being felt, it is important to prioritize access to reliable flows of natural gas. The deepwater port project called "Port Ambrose" can assist by adding capacity and reducing price volatility of natural gas in the New York City region.

According to ICF International, Port Ambrose will reduce the average annual price of natural gas across the New York metropolitan area, creating up to $325 million per year in direct savings to natural gas customers. The project will bring hundreds of union jobs and $90 million in direct investments in local goods and services. More importantly, no taxpayer, utility rate increases, or public money of any kind will be used to pay for the project.

The proposed site is located 18.5 miles off the coast of New York and designed to withstand hurricane conditions, meet all safety requirements, and not be visible from the shore as it will tie into existing infrastructure on the sea floor.

Moving forward with the Port Ambrose project is a sensible way to light and heat our homes reliably and affordably while creating jobs and economic growth for New Yorkers.

***Joseph Vaszily** is an advisory board member of New York AREA. He is the managing director of commercial development for Liberty Natural Gas, the developer of the Port Ambrose deepwater liquefied natural gas import terminal. Mr. Vaszily has over 35 years of leadership and technical experience in the natural gas infrastructure/LNG energy sector.*

Port Ambrose

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Liberty Natural Gas, LLC, is a portfolio company of a fund advised by West Face Capital, a Toronto based investment management firm.

Liberty Natural Gas is the developer of the Port Ambrose Project, an offshore energy infrastructure project designed to deliver natural gas to the New York and New Jersey regional market during times of peak demand, primarily in the winter heating season.

As seen in *City & State*, May 2014

Richard Roberts

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Founded in 1884, the Enterprise Association of Steamfitters Local Union 638 work to construct, modernize and update New York's building infrastructure to make them more efficient both economically and environmentally. Local 638 represents nearly 8,000 members in New York.

Make it Proudly in New York!

By Richard Roberts

The Brookhaven, NY, Town Board recently voted, 6 to 1 in favor of the environmental impact statement for the proposed 752-megawatt (MW), Caithness II power plant in Yaphank.

The project will result in an investment of $1.09 billion by Caithness Energy and supply needed electricity to the Long Island Power Authority (LIPA) by 2018. LIPA says the plant, to be built next to an existing 350-MW Caithness plant, is necessary to meet capacity shortfalls of up to 1,200 MW.

Caithness says the plant will save ratepayers $1.4 billion in fuel costs over 20 years. Once operational, and coupled with the existing facility, it would generate 1,100 MW.

While some see Caithness II as just part of the State Public Service Commission (PSC) plan to introduce new energy technology and supply to meet growing electricity demand, it will be much more. It will produce good-paying construction and permanent jobs at the plant, and generate significant economic development and tax revenue for years to come. Caithness II results in vital and new in-state power generation.

New York is already too reliant on out-of-state and non-U.S. electricity sources, including Canada. Being one of the U.S.A.'s largest electricity importers might be why New York's residential electricity costs are 68% higher than the national average and over 50% more than in Pennsylvania.

The Polar Vortex that led to brutally cold temperatures this past winter caused natural gas and electricity prices to soar as much as 394% in January. It also resulted in Hydro-Quebec – which is now petitioning our state to build a 1,000 MW one-way power cord to export electricity from Quebec to Astoria – not having enough electricity for its Canadian customers.

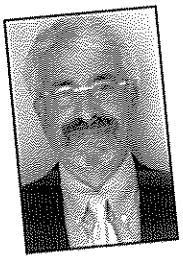
New Yorkers are right to be concerned about whether our power needs will be met if Hydro-Quebec and other out-of-state suppliers cannot meet their own customers' peak electricity demand.

Instead of exporting our power-generation jobs and energy dollars, let's build capacity and produce power here to help Long Island's economy. Caithness II is the type of project that helps us retake control of the power supply we depend upon and keep businesses from fleeing our region, as we saw when both the NY Islanders and NY Jets decided to pick up and leave.

The Polar Vortex may have been responsible for record-cold temperatures and rising energy costs last winter, but keeping New York dependent on other states and countries for our energy is the polar opposite of what we need to create and maintain jobs, keep our state competitive, and prosperous.

***Richard Roberts** is Business Agent at Large of Steamfitters Local 638.*

Bringing Consensus to the US Energy Debate



By Michael Schwartz

When I began my career in the US energy industry following the 1973 OPEC oil embargo the call for "US Energy Independence" rallied a nation. Today, more than 40-years later, despite multiple embargos, oil price induced recessions, military involvements and growing environmental concerns, the US has yet to develop a sustainable national energy policy. The issues dominating the energy debate in 1973 were simple compared to 2014. However, this complexity provides a potential opportunity for developing a consensus.

The Obama Administration has directed the Environmental Protection Agency (EPA) to significantly reduce carbon emissions from power plants under the Clean Air Act. Unfortunately, this approach will perpetuate the Balkanization of US energy policy and will likely lead to years of litigation that may prevent making real progress on major energy and environmental issues.

States need to ensure that they pursue strategies that result in a diversified portfolio of reliable, clean and affordable energy resources. For New York, such a strategy must reflect the reality that most of the state's coal generation has already been retired, nuclear plants such as Indian Point are under pressure and natural gas is not sufficiently low in carbon to achieve the required 44% emissions reduction by 2030 that is called for in the EPA rule. This will seriously challenge the state to achieve mandated reductions while preserving affordability of electric service and grid reliability.

It's time to think about a national, market based Clean Energy Standard (CES) that would be off-budget to the federal government, technology neutral and built upon the principle of federalism. The program could complement existing state renewable portfolio standards, allow transition from a diet of federal renewable energy tax credits, and permit states to determine their own preferred clean energy technologies including clean coal, nuclear, renewables and energy efficiency under a broadly based national market framework.

Reconciling the potential environmental benefits with the high costs associated with new energy infrastructure will not be easy; however, we need innovative leadership and approaches that will permit the US to effectively manage the transition to a clean energy economy. Empowering states with a national framework such as the CES can be an important tool to achieve climate goals and cost efficiencies.

__Michael Schwartz__ is the Gerhard R. Andlinger Visiting Professor in Energy and Environment at Princeton University and a senior advisor to Black & Veatch Management Consulting.

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AFL-CIO
HOUSING
INVESTMENT
TRUST

Carol Nixon

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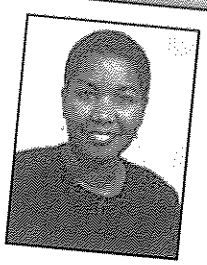
The AFL-CIO Housing Investment Trust (HIT) objective is to generate competitive risk-adjusted returns for investors while creating union jobs and affordable housing.

The HIT's strategy is built on a cycle of sustainable investment:

1. Union pension plans invest capital in the HIT.
2. Capital allows the HIT to finance multifamily development projects through investment in government/agency multifamily construction-related securities.
3. Investments help provide pension plan investors with competitive returns.
4. Projects create good union construction jobs.
5. As workers on these projects earn income, pension plan contributions increase. Pension plans then have more capital to invest in the HIT, and the cycle continues.

Unions, Pensions Are Ready to Build Affordable Housing



By Carol Nixon

Over the past several months, the need for more affordable housing units in New York City has been widely discussed.

The AFL-CIO Housing Investment Trust (HIT) has a long record of financing affordable housing in New York City through its investment of union and public employee pension capital from investors such as the New York City Retirement Systems. Since 2002, the HIT's New York City Community Investment Initiative and Workforce Housing Initiative have invested more than $830 million of union and public employee pension capital to support 29,400 housing units with a total estimated real estate value of $4.7 billion; 96% of the projects are affordable to low and moderate income families. HIT refinancing of older properties has helped extend affordability for some 27,000 households.

Those projects created over 6,000 jobs, including 3,600 on-site union construction jobs. The HIT investment is part of the labor movement's long tradition of working to advance the welfare of New York City's working families.

According to a study by the Furman Center at New York University, income inequality has grown in New York City and rental housing has become increasingly unaffordable since 2000. The report found that, over the past decade, the number of housing units available to low-income households plummeted to 622,746 from 833,422, a 25% reduction, while the amount of low-income households shot up to 969,224 from 792,857, a 22% increase.

New York City Mayor Bill de Blasio's plan to build and preserve 200,000 affordable housing units offers a much-needed opportunity to boost the regional economy, create quality union jobs and provide housing for working families.

If the city's population grows as projected, its energy needs will also increase. The Mayor's plan commits the city to being a leader in new technologies that will achieve environmental sustainability as part of the city's housing goals.

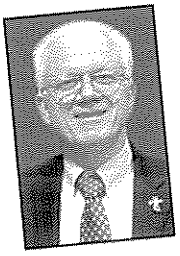
Additional investments in New York's aging infrastructure are important as the effects of high energy costs, reduced grid reliability, and poor air quality have disproportionate impact on New York's economically disadvantaged.

That is one reason the HIT has been investing in this city's aging affordable housing stock. A combination of upgrades and retrofit work has made these homes safer, healthier places to live, while conserving power, cutting operating costs, reducing their environmental impact, and maintaining affordability.

As New York City's leaders prepare to move forward with construction of 200,000 new affordable housing units, union members and the AFL-CIO's HIT are prepared to support and build those units.

***Carol Nixon** is the director of the New York City regional office of the AFL-CIO Housing Investment Trust. The AFL-CIO HIT is a fixed-income investment company registered with the SEC. It manages $4.6 billion in assets for more than 360 investors, which include union and public employee pension plans across America.*

DEC Mandate to Close Indian Point Lacks Logic, Sound Science



By John Kelly

On July 22, 2014, the New York Department of Environmental Conservation (DEC) will hold a public hearing on their proposals to close down one or both units of the Indian Point nuclear power plant for the summer months so fish can propagate. This also includes shutting the plant down until two Yankee Stadium size cooling towers can be constructed on the banks of the Hudson. They contend this is necessary despite numerous independent and government related scientific studies refuting the need for these selective and arbitrary requirements.

If the health of the Hudson River is truly the goal, then DEC should be adamantly in favor of power sources such as Indian Point that produce no carbon pollution, or smog and particulate matter that can sicken and kill people. Their approach threatens grid reliability and will cause electric rates to increase. It is clear that the DEC's proposal creates far more environmental problems than it solves.

The DEC should consider creating an equal playing field. For example, hydro facilities essentially destroy aquatic habitats and some downstate fossil fuel fired electric generating plants use huge quantities of water a day without any water intake mitigation measures.

With this in mind, it is most peculiar that the DEC also opposes Indian Point's proposal to use wedge-wire screens, an effective environmental protection approach used elsewhere in the Hudson with DEC approval including, but not limited to:

- IBM Poughkeepsie Facility
- Bethlehem Energy Center
- Charles Point Resource Recovery Facility
- Athens Combined Cycle Generating Facility
- Westchester Resource Recovery at Peekskill
- World Trade Center

Wedge wire screens would further reduce the already low fish mortality rates at Indian Point's cooling water intake. Decades of research have been performed and tens of million dollars have been spent monitoring fish populations in the Hudson. This research has been funded by the Indian Point owners and performed under direction of the DEC. The results of this research, published in peer reviewed journals, have demonstrated that the Indian Point plants have not had a deleterious impact on the fish populations in the river.

Indian Point is safe, earning the U.S. Nuclear Regulatory Commission's highest safety ratings for 10 years straight, and complies with all state and federal laws. Further, the NRC recommended license renewal. Rather than advocating policies that take us backwards, the DEC and plant opponents should support Indian Point's continued operation.

***John Kelly** is a certified health physicist and retired as Director of Licensing for Entergy Nuclear Northeast. He worked in the nuclear industry for 40 years, including years at Indian Point and other nuclear plants in the Northeast.*

John Kelly

Certified Health Physicist

John Kelly is a certified health physicist with more than 40 years of experience in the nuclear industry – much of it onsite at Indian Point-and retired as the Director of Licensing for Entergy's northeast operations in 2003. He was responsible for, among other things, licensing, regulatory compliance, radiation protection, and emergency preparedness. He has also provided consulting services, instructions, teaching, and general contracting on environmental protection, radiation protection, emergency planning, chemistry, radiochemistry, environmental radioactivity and nuclear power plant operations and regulatory oversight.

Brick Investment Partners LLC

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http://brickipllc.com

Founded in 2013, Brick Investment Partners LLC (BIP) seeks to invest in small and middle market private businesses. BIP primarily focuses on three industries: chemicals and materials, energy (oil field services and equipment, midstream and downstream fuels), transportation and logistics.

Mr. Thorpe is a registered commodity trading advisor and financial advisor who appears regularly on *Fox Business* and *Fox Business Canada* providing commentary on the financial markets and investment trends.

Green Bank Should Bet on Basic Energy Needs

By Chris Thorpe, CFA

New York's Green Bank, a state-led initiative to raise $1 billion in taxpayer dollars to bridge gaps in financing for renewable energy technologies, finally released its business plan for public comment. The provisions outline lofty goals such as eliminating market barriers and standardizing procedures to help the renewable industry mature versus empowering small and medium size businesses to access growth opportunities.

To date, the Green Bank has been capitalized by $165.6 million in uncommitted funds from various New York State Energy Research and Development Authority programs and $45 million from the Regional Greenhouse Gas Initiative. Details on how the Green Bank intends to raise the remaining $790 million are simply not available.

There are more questions than answers, particularly given the source of the Green Bank's initial funds. Should the state be picking market winners and losers with taxpayer dollars in the first place?

The fact that NYSERDA funds were left uncommitted should motivate lawmakers to understand why carefully designed programs are failing to achieve their investment goals. Further, New York's energy taxes should be scrutinized and re-assessed for their effectiveness as the Public Service Commission recently revealed that $2.9 billion was collected from ratepayers for the 18-a assessment since 2009 to plug Albany's budget gaps.

The Green Bank should not try to reinvent the wheel. Perhaps, it can fix the state's flat tire by emulating the federal Small Business Investment Company program? This approach will narrow the mandate to help less risky businesses, while giving private capital a voice alongside government financing support. It will also optimize selection of the best renewable projects, and yield market returns for both private investors and taxpayers.

New York may also be better off focusing on expanding its competitive advantage provided by a virtually endless supply of shale gas and a diverse energy portfolio including hydro and nuclear power. Utilizing these resources more efficiently could create the cost savings ratepayers need and attract employers and investors back to the Empire State.

The New York Independent System Operator forecasts that New York's electricity demand will continue to increase at an annual rate of 0.83 percent through 2024. The record setting heat wave and polar vortex each proved that New York needs more pipeline capacity for gas and must retain Indian Point's 2,000 megawatts of decarbonized power for price and grid stability.

The market signals are clear. Investing in basic energy needs should be the priority. With the above adjustments, the Green Bank can support business growth, create jobs, and protect our own backyard.

***Chris Thorpe, CFA** is an advisory board member of New York AREA and managing partner of Brick Investment Partners LLC, a private equity firm which seeks to acquire middle market energy and related businesses. He is a finance and investment professional with experience in commodity derivatives, petroleum, fuels and chemicals.*

Prudent Planning, Energy Policies Can Keep Transit on Track

By Lenore Janis

The Metropolitan Transit Authority operates one of the most extensive and expensive transportation systems in the world. It is a vital part of New York's infrastructure; according to the American Public Transportation Association, the MTA was responsible for 3.5 billion trips in 2013. In its recent annual report, the Authority highlighted record ridership numbers with growth averaging above 2.0 percent annually.

These days, travel in the New York region no longer conforms to a 9 to 5 construct nor is it restricted to travel between the "burbs" and Manhattan. The workforce includes reverse commuters to Westchester and Long Island and to tech centers in Queens and Brooklyn. Workers traveling 24/7 results in daily ridership eclipsing 8.5 million people, up 58 percent since 1992.

The forecast of more volatile weather conditions looms on the horizon, placing greater demands on the MTA. Superstorm Sandy paralyzed transit with unprecedented flooding amounting to $5 billion in damage. The MTA will need a more resilient system. This includes hardening subways to water intrusion and other measures to absorb systemic shocks caused by Mother Nature and unplanned challenges. Protecting passengers with strengthened security, replacing obsolete signals, redesigning stations to better accommodate the elderly and disabled will contribute toward enhanced safety.

Utilizing alternative fuel and electric buses should also be a top MTA priority to reduce its carbon footprint. Furthermore, the most recent $15 billion capital plan along with the MTA's commitment to diversity contracting offers promising opportunities to accomplish these goals in collaboration with small, woman, and minority-owned businesses.

Bringing these concepts to construction is going to take strategic planning, and fiscally prudent energy policies to ensure projects don't get off track. Power supply problems plagued Metro-North commuters in September 2013; however, after a close review of the MTA's balance sheet we learn that commuters system wide are being crushed by out-of-control electric costs. Since the state stopped purchasing power from Indian Point in 2012, the MTA's "traction and propulsion power costs" have skyrocketed by $190 million. This is an average of $63 million per year of diverted monies that could have been reinvested into infrastructure repairs following Superstorm Sandy, or simply funding debt service or workforce needs.

Given that 19 million sq. ft. of new offices and the jobs to fill that space will be here by 2018, expanding the capacity and reliability of our transportation systems is a priority. Proper planning and energy management will help New Yorkers continue to roll.

***Lenore Janis** is president and a co-founder of Professional Women in Construction, www.pwcusa.org, a nonprofit organization established in 1980. A member of New York AREA, PWC is committed to advancing entrepreneurial, professional and managerial opportunities for women and other "non-traditional" populations in construction and related industries.*

PWC
NATIONAL ASSOCIATION OF PROFESSIONAL WOMEN IN CONSTRUCTION

Lenore Janis

President and Co-Founder
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With six chapters and over 1,000 members, the Professional Women in Construction serves a constituency of close to 15,000, representing a broad spectrum of the industry. The PWC was founded in 1980 with a commitment to advancing professional, entrepreneurial and managerial opportunities for women and other "non-traditional" populations in construction and related industries.

PWC was designed to help foster opportunities for women in the higher ranks of the construction industry. Members include real estate owners and developers, property managers and public agencies.

As seen in *City & State*, July 2014

NY AREA
AFFORDABLE RELIABLE ELECTRICITY ALLIANCE

Arthur "Jerry" Kremer
Chairman

New York AREA
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New York, NY 10017

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Arthur "Jerry" Kremer is a 23-year veteran of the New York State Assembly and former Chairman of the prestigious Ways and Means Committee. He also served on the Metropolitan Transportation Authority's Capital Review Board and the Public Authorities Control Board.

Mr. Kremer is the Chairman of the New York Affordable Reliable Electricity Alliance (New York AREA), an organization with more than 150 members that promotes energy issues throughout the state. Under his leadership, New York AREA supported the passage of the state's new Article X Power Plant Siting Law in 2011 after several years of advocacy on the issue, and continues to serve as a leading voice on energy issues facing New York.

New York: Frozen in Time on Energy

By Arthur "Jerry" Kremer

Yogi Berra use to say, "when you come to a fork in the road, take it;" New York State is at those crossroads but has yet to make a binding commitment.

The process of hydro fracking in New York appears dead, taking with it opportunities for jobs, economic development and building out an energy industry in areas that are starved for growth. Pipelines aimed at expanding capacity to deliver fuel sources over land or under sea are under attack, despite clear supply needs following the unforgettable polar vortex price spikes. Scientifically speaking, we cannot count on solar or wind to reliably meet large scale demand. After hundreds of millions of energy taxes and fees poured into New York's renewable programs, the technologies remain in a steady state of uncertainty.

New York's electric grid is in need of $25 billion in maintenance and upgrades just to keep the system the same. When accounting for population growth, record ridership on NYC mass transit, and electricity costs hovering 68 percent above the national average, New York needs to establish clear energy priorities to improve energy infrastructure and maintain access to affordable, reliable sources of in-state energy and not import foreign power.

Overall New York State is frozen in time. The campaign to close Indian Point, a 2,000 plus megawatt nuclear plant that provides over 25 percent of New York City's power and 11 percent statewide with virtually zero emissions is not only shortsighted but it will take New York further backwards.

Leaders and policymakers need to step up to the plate and make positive things happen, without just heaping more costs onto ratepayers. It is a dire time for energy and electricity supply in New York. The opposition to any type of fossil fuel energy is stronger than ever and the not in my backyard groups also object to hurricane proof utility poles or windmills in the ocean.

Today, demand for energy is 24/7, 365 days a year is enormous. We need power to run smartphones, flat screen televisions, computers, tablets, refrigerators, air conditioners, and electric cars. Balancing our dependence on electricity with efforts to address climate change concerns will become more complicated as in-state resources dwindle.

In looking ahead, New York needs to reverse this trend and double down on supporting in-state projects like Caithness II, Constitution Pipeline, Port Ambrose, and keeping Indian Point open for business. These facilities will ensure that "when we hit the switch," the lights come on so our homes can be air conditioned in summer and warm in winter and affordably and reliably for years to come.

***Arthur "Jerry" Kremer** is the former chairman of the Assembly Ways and Means Committee and a principal author of the state's power plant siting law. He now is the chairman of the New York Affordable Reliable Electricity Alliance.*

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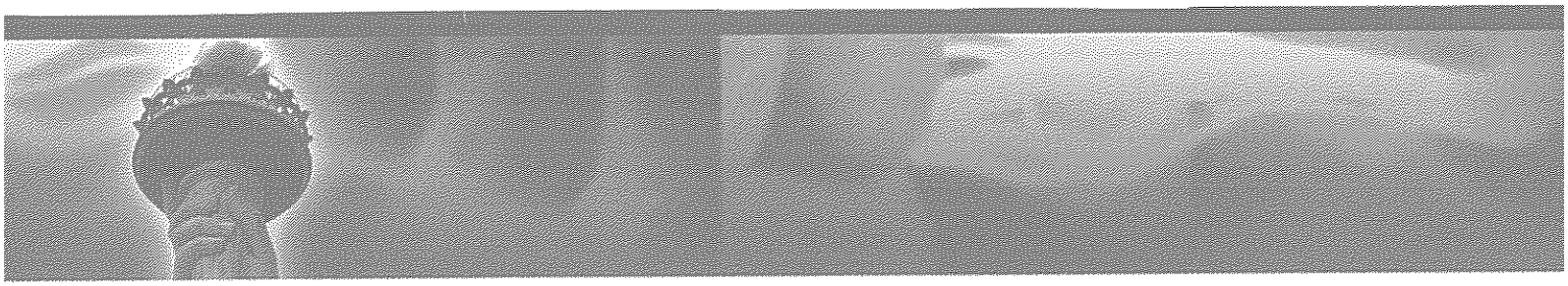

New York's Business, Labor and Environmental Leaders Speak Out on Energy

2014

To learn more about New York AREA advocacy, educational programs, events, membership or sponsorship opportunities, contact us at 212-683-1203, info@area-alliance.org or visit us at www.area-alliance.org

TESTIMONY OF THE
NEW YORK PUBLIC INTEREST RESEARCH GROUP
BEFORE THE
COMMITTEES ON ENVIRONMENTAL PROTECTION AND WATERFRONTS OF
THE NEW YORK CITY COUNCIL
REGARDING RESOLUTION 549-2015
APRIL 1, 2015
MANHATTAN, NY

Good afternoon and thank you for the opportunity to testify at today's hearing. My name is Aileen Sheil and I am the Chairperson of the Board of the New York Public Interest Research Group (NYPIRG). NYPIRG is a student-directed, non-partisan, not-for-profit research and advocacy organization. Our board of directors consists of college and university students elected from campuses with NYPIRG chapters from across the state.

We thank Councilmembers Donovan Richards and Deborah Rose for holding this hearing and applaud the growing list of 23 cosponsors of resolution 549, calling on Governor Cuomo to veto the application by Liberty Natural Gas to construct Port Ambrose liquefied natural gas (LNG) terminal.

NYPIRG has serious concerns about Port Ambrose, a potentially dangerous and polluting project that would send New York in the wrong direction. To meet the climate change goals shared by New York City, New York State, and scientists, we need to keep fossil fuels in the ground and invest in renewable energy. Students stand with the City Council in urging Governor Cuomo to veto Port Ambrose.

Liquefied Natural Gas is Dangerous and Dirty

New York's *Liquefied Natural Gas and Petroleum Gas Act*, passed after a tragic LNG explosion on Staten Island which killed 40 workers, recognizes that LNG "is an extremely volatile, highly flammable and dangerous substance" that can cause severe damage when released under

unfavorable atmospheric conditions. Such danger has no place just miles from New York Harbor, one of the busiest ports in the world.

Furthermore, natural gas is a climate killer. LNG is made primarily of methane, which is 86 times as potent as CO_2 over a 20-year period.[1] Port Ambrose's vaporization operations alone would emit 183,420 tons of CO_2 equivalents per year.[2] The United Nations' Intergovernmental Panel on Climate Change recently stated that given the threats posed by greenhouse gases, the best strategy is to keep fossil fuels in the ground.[3] It's time to take a new path – one away from fossil fuels and towards renewable energy.

We Cannot Meet Our Climate Change Goals With Port Ambrose

While there is consensus that we need to move away from fossil fuels, New York still lags behind its commitment to renewable energy. New York State is well behind its renewable portfolio standard (RPS) that calls for 30% of our energy to be supplied by renewable sources by 2015. We must do better.

Offshore wind has only a fraction of the life cycle greenhouse gas emissions of fossil fuels. And much of the air pollution reductions are felt locally. Offshore wind is just the kind of clean, renewable energy that can help NY meet its climate pollution reduction goal of 80% by 2050 and our renewable energy goal of 50% by 2025.

However, large-scale wind farms cannot move forward unless Port Ambrose is prohibited. The proposed Port Ambrose site would directly compete for limited leasable ocean surface with wind installations, such as the one previously proposed by the Long Island-New York City Offshore Wind Collaborative.[4] Our climate change goals are only doable with renewables!

To Conclude

Students are standing up in opposition to Port Ambrose because our generation has the most to lose; the effects of climate change will play out over the course of our lives. Port Ambrose would be dirty and dangerous in the short-term, and obsolete in the long-term. It is critical that Governor Cuomo enable NY to leave behind dirty fossil fuels and move forward with clean, renewable energy like offshore wind. We thank the Council Committees on Environmental Protection and Waterfronts for hosting this hearing. We urge you to pass resolution 549 without delay, and move for a full Council vote before this year's Earth Day, April 22.

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[1] Climate Change 2013: The Physical Science Basis. Working Group I to the Fifth Assessment Report. (7 June 2013) Intergovernmental Panel on Climate Change. http://www.climatechange2013.org/images/uploads/WGIAR5_WGI-12Doc2b_FinalDraft_All.pdf.

[2] Liberty LNG Application, Volume 2, Report 9, Table 9-12.

[3] Intergovernmental Panel on Climate Change, "Climate Change 2014: Impacts, Adaptation, and Vulnerability," see: http://www.ipcc.ch/report/ar5/wg2/.

[4] BOEM Port Ambrose Comments at 2.

They say it will reduce energy bills. They say it will not become an export terminal. They say it can coexist with the wind farm. They say and do whatever they need to get in the door, without accountability to the people of the regions they operate in. According to Soucewatch, a project of the Center for Media and Democracy (1), six LNG terminals that began as import terminals have switched to export terminals. Yes, there are additional paperwork and licensing fees, but if and when it becomes more profitable to export gas from the Northeast to Port Meridian in the UK than it is to export gas from Trinidad to New York, Liberty - West Face - Hoegh LNG - Excalibur Energy, whatever their name is, will change their tune and go where the money is. They will have a PR team explain things and they will not feel any sense of accountability to what they're saying right now.

We are truly at a crossroads about our energy choices. Please, trust those who care deeply about New York, not the PR stunts of a Toronto hedge fund. What is New York? Are we part of a chess board to be to be manipulated by billionaires? Do we consent to handing over the South Shore of Long Island, where I learned to love water, to mysterious entities that seek only profit?

I'd like to close with a few sentences from a paper titled "The Political Economy of Natural Gas in Trinidad and Tobago". (2) After the construction phase, "LNG plants, offshore gas developments and chemical facilities are not significant generators of employment when operating (Shepherd and Ball 2006)". The scant employment that results is mostly given to foreign corporations, and local citizens don't see much benefit/ employment, yet suffer with health problems and forced relocation. "The problem is that the overriding concern of corporations is net gain, which will inevitably be privileged over the long-term capacity building of its host nation." **Liberty, whatever your name is, the coastal waters of NY and NJ will not be your host nation.** I hope you agree and I urge you to vote in support of Resolution 549.

Thank You,
Ellen Osuna
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917-673-6069

Footnotes –

(1). Sourcewatch / The Center for Media and Democracy, "LNG Terminals"
http://www.sourcewatch.org/index.php?title=LNG_Terminals

(2). The Political Economy of Natural Gas in Trinidad and Tobago
http://ufdcimages.uflib.ufl.edu/CA/00/40/03/29/00001/PDF.pdf

Thank you for holding this hearing today. Ansel Adams, photographer and environmentalist, said, "It is horrifying that we have to fight our own government to save the environment." Perhaps, finally, at least in New York, thanks in large part to the efforts of this City Council, that is no longer true. I urge you to support Resolution 549 and send a united message to Governor Cuomo that Port Ambrose is not wanted nor needed.

My name is Ellen Osuna, I was born in Manhattan and grew up in Eastern Queens. I'm very concerned about the direction our country is going in terms of energy choices. "All of the above" is no longer viable at this climate tipping point. It's imperative to move entirely away from fossil fuels and nuclear and follow the roadmaps to 100% renewable energy, such as The Solutions Project. (Card attached, also see TheSolutionsProject.org)

Not only that, it's imperative to be aware of what entities we are entrusting our land, water, safety, and energy future to.

Who is Liberty Natural Gas? "A portfolio company of a fund advised by West Face Capital, a Toronto, Canada based investment management firm." Is Liberty Natural Gas a company with a bank account in the Cayman Islands, or are they *entirely* a bank account in the Cayman Islands? Do they have the interests of New Yorkers truly at heart or do they talk big while caring only about profits?

Research on West Face Capital reveals them to be a coldly calculating hedge fund that will do anything to be profitable. This quote is so out of touch with New York's vision and potential it could be a cartoon -

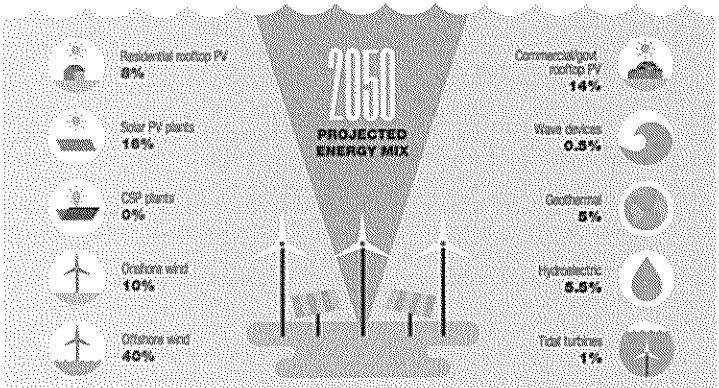
"The fact is we have always viewed the Port Ambrose project as an alternative to fracking," said Liberty CEO Roger Whelan. "We will be importing traditional natural gas (non-fracked) from conventional large gas fields in Trinidad and elsewhere. This project is entirely consistent with Gov. [Andrew] Cuomo's recent ban on fracking in New York State. Port Ambrose proves that you can supply New York State with cleaner, cheaper natural gas that is not the result of fracking."

Trinidad is 2,235 miles away from New York. Of course fracked gas has more environmental problems than gas not trapped in shale. But New Yorkers know it's time to move beyond fossil fuels and to work together to build a renewable NY – *that is the deeper meaning behind the fracking ban.* The true alternative to fracking is renewable energy. The insanity of directing energy and resources into a deep water port to receive gas, fracked or not, that traveled 2,235 miles by huge dangerous tanker ship, when we have the ability to roll up our sleeves and generate 100% of our states' energy needs, for all purposes, from wind water and sunlight, only makes sense from the view of those who profit from that gas and its transport.

NEW YORK **CAN** GO 100% RENEWABLE

THE SOLUTIONS PROJECT: NEW YORK

Transition to 100% wind, water, and solar (WWS) for all purposes
(electricity, transportation, heating/cooling, industry)



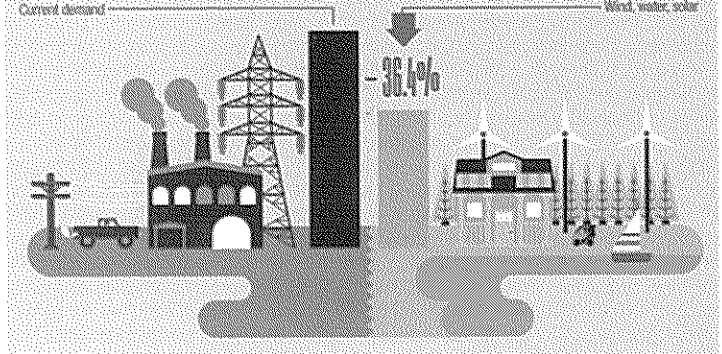
40-Year Jobs Created

Number of jobs where a person is employed for 40 consecutive years

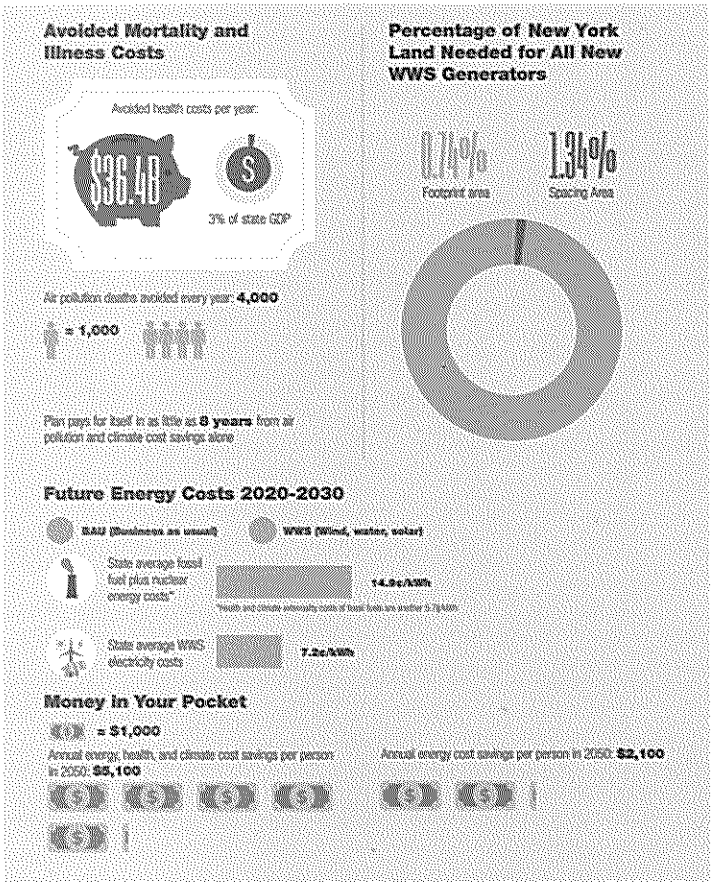
Construction jobs: **238,900**

Operation jobs: **107,900**

Using WWS electricity for everything, instead of burning fuel, and improving energy efficiency means you need much less energy



RENEWABLE ENERGY COSTS **LESS**



The Solutions Project is based on studies by Professor Mark Jacobson, of Stanford University, that show how every state in America can become 100% renewable.

Sane Energy Project advocates for a fully renewable New York by 2050. For more information:

www.thesolutionsproject.org www.saneenergyproject.org

Port Ambrose Problems

SUPPORT RESOLUTION 549 to stop it.

A liquid natural gas facility has been proposed to be built, approximately 15 miles off the shore of Long Island. When Methane is chilled to -260 degrees, it becomes a highly-volatile, potentially explosive liquid. The port would allow two LNG vessels (which are as long as the Empire State Building is tall) to directly connect to the region`s natural gas system.

This capacity could be be increased. Port Ambrose has been presented as an importer of natural gas (Methane), but the United States is awash in natural gas and is looking for opportunities to export this fossil fuel. Prices for Methane abroad are higher than domestic prices. This facility can easily and will be used as an export facility. Liquifying and reversing to vapor form of natural gas is fossil-fuel intensive. Port Ambrose is a stimulus to the tracking industry in the Marcellus.

What are the dangers and problems with Port Ambrose?

This facility is within a few miles of three international airports and densely-populated areas.

It is located near highly-trafficked navigational areas, including tankers carrying chemicals and

petroleum. A collision could be disastrous. Hundreds of thousands of boats and ships navigate in the area of the proposed LNG. During Hurricane Sandy wave heights were nearly 30

feet. We are expecting more intense hurricanes. Scarce resources will be spend for security.

LNG tankers plus, the operation and construction of this facility will destroy billions of fish eggs and other benthic and marine life. Avian life will also be severely affected. The fishing industry

will be negatively affected. The quality and safety of fish caught in this region will also be

questionable. Whales species such as Fin and Humpback, Dolphin species and other marine mammals and reptiles, such as endangered sea turtles will be exposed to the harmful effects of

this LNG. Tourism and recreational use of the oceans will be curtailed.

WHO OWNS LIBERTY LNG, Port Ambrose?

Liberty Natural Gas is a foreign entity. The corporation may be licensed in Delaware. It has an

office in New York City, but managed by an investment group in Canada and ENTIRELY OWNED

BY A BANK IN THE CAYMAN ISLANDS. We do not know who is behind the company.

Port Ambrose can be stopped. If either Governor Cuomo or Governor Christie of NJ veto the project, it will not be built. RESOLUTION 549 in the NYC Council if passed will request Governor Cuomo to veto Port Ambrose

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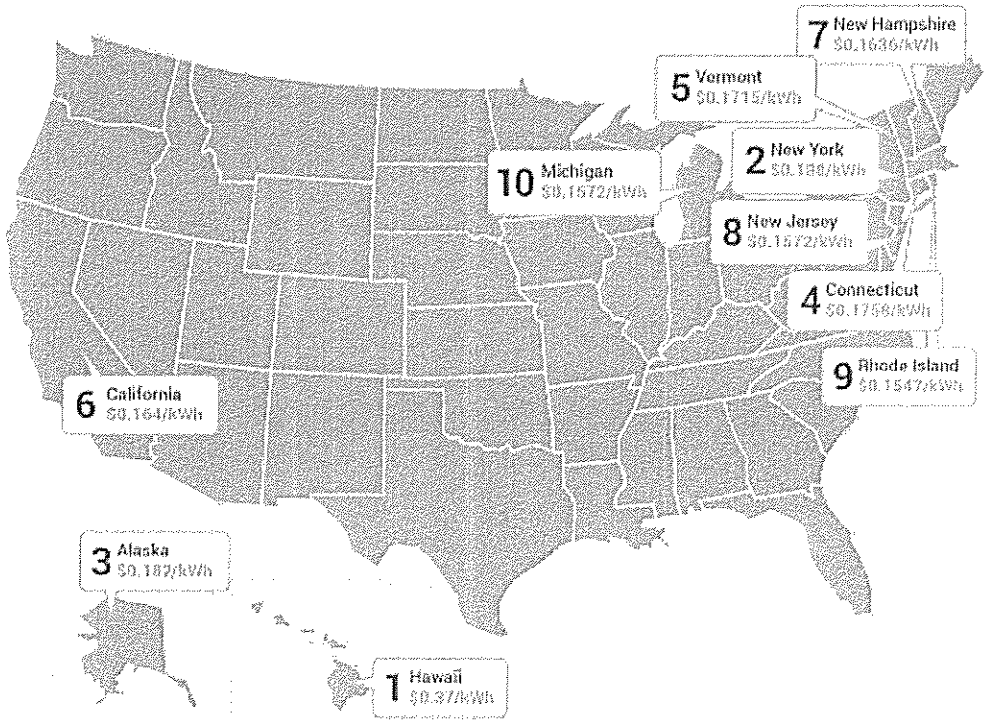
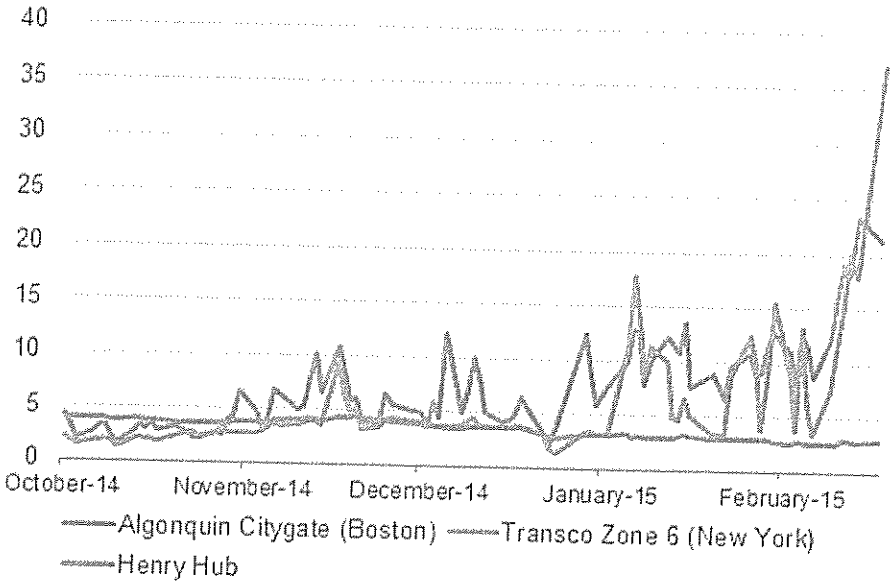
Top 10 Most Expensive States For Electricity



Data source:
Energy Information Administration, "Electricity Data Browser."
http://www.eia.gov/electricity/data/browser.

Regional gas prices this winter, October 2014 - February 2015

dollars per MMBtu



eia Source: *Natural Gas Intelligence*

Natural Resources Defense Council
Riverkeeper
Sierra Club

March 16, 2015

Comments filed electronically to Docket No. USCG-2013-0363

U.S. Department of Transportation
Docket Management Facility
West Building, Ground Floor, Room W12-140
1200 New Jersey Avenue SE
Washington, DC 20590-0001

Re: Port Ambrose Deepwater Port Application: Notice of Availability of the Draft Environmental Impact Statement (Docket No. USCG-2013-0363)

Dear Sir or Madame:

The Natural Resources Defense Council (NRDC), Riverkeeper, and the Sierra Club respectfully submit this letter in response to the request for public comments by the Maritime Administration (MARAD) and the U.S. Coast Guard (USCG), on the Draft Environmental Impact Statement (DEIS) prepared under the National Environmental Policy Act (NEPA) for the Deepwater Port License Application submitted by Liberty Natural Gas LLC (Liberty Natural Gas). Liberty Natural Gas proposes to construct, own, and operate the Port Ambrose deepwater port and liquefied natural gas (LNG) terminal in the New York Bight, approximately 16.1 nautical miles southeast of Jones Beach, New York, 24.9 nautical miles east of Long Branch, New Jersey and 27.1 nautical miles from the entrance to New York Harbor.

NRDC is a national non-profit environmental advocacy organization with its headquarters in New York City. NRDC has nearly 119,000 members and e-activists in New York State and over 41,000 members and e-activists in New Jersey. NRDC's top institutional priorities include curbing global warming, building the clean energy future, and protecting our oceans and ocean ecosystems. We are a leading advocate for sustainable and well-sited renewable energy, including the deployment of offshore wind energy off the Atlantic coast. NRDC is actively engaged in supporting clean energy policies across New York State and in New Jersey.

Riverkeeper is a member-supported watchdog organization dedicated to defending the Hudson River and its tributaries and protecting the drinking water supply of nine million New York City and Hudson Valley residents. Riverkeeper is actively involved in litigation, advocacy, and public education surrounding the issue of natural gas production and related infrastructure, particularly because of the potentially adverse impacts on New York State's drinking water supplies.

Founded in 1892, the Sierra Club is the nation's oldest grassroots environmental organization with approximately 600,000 members in all 50 states, including 40,000 members in the State of New York.

The Sierra Club's mission involves promoting the responsible use of the earth's resources and protecting and restoring the quality of the natural and human environments. In view of this mission, the Sierra Club seeks to ensure the availability of safe and reliable energy in a manner that protects human health and promotes a healthy environment.

Our organizations' comments focus on conflicts posed by the Port Ambrose LNG project to an offshore wind electricity project proposed for the same ocean area by the New York Power Authority (NYPA), Long Island Power Authority (LIPA), and Consolidated Edison. The federal government, New York State, and New Jersey should reject the Port Ambrose LNG facility because the facility would prevent or substantially complicate movement forward on what could be New York State's first offshore wind project. The United States, New York State, and the region should be working together to build a clean energy future dominated by renewable energy. It would be the height of irony – and a damaging energy policy – to privilege the construction of a fossil fuel import facility over a much-needed and overdue renewable offshore wind facility that represents a cleaner, healthier future for our children and future generations of New Yorkers.

Our organizations' comments also highlight data gaps and deficiencies within the DEIS, including inadequate analysis of the stated "need and purpose" for the Port Ambrose LNG project. Further, these comments discuss other potential environmental impacts that should be considered in further detail in the final EIS, as well as the appropriate scope for the alternatives analysis.

MARAD and USCG Responsibilities under the Deepwater Port Act

Under the Deepwater Port Act, before a deepwater port license may be issued to an applicant, MARAD must determine that "the construction and operation of the deepwater port will be in the national interest and consistent with national security and other national policy goals and objectives, including energy sufficiency and environmental quality."[1] Thus, the proposed Port Ambrose LNG import facility may only move forward if MARAD and USCG, based on the record, make a finding that the facility is "in the national interest." In the Final EIS, MARAD and USCG should explicitly make a determination whether or not the facility is in the national interest. In doing so, the agencies should consider the likely impacts of an LNG import facility, including continued reliance on greenhouse gas-emitting fossil fuels, the displacement of renewable energy investment and development, and the actual interference with a proposed offshore wind facility. All of these considerations weigh heavily against a finding that the Port Ambrose project is in the national interest.

Furthermore, MARAD and USCG must ensure that the proposed Port Ambrose LNG facility would be "consistent with national security and other national policy goals and objectives, including energy sufficiency and environmental quality." For years, the Obama Administration has made clear that the rapid and responsible development of offshore wind energy is a high priority initiative.[2] The fact that

[1] 33 U.S.C. § 1503(c)(3).
[2] DOI, Press Release, Salazar Launches "Smart from the Start" Initiative to Speed Offshore Wind Energy Development off the Atlantic Coast, Nov. 23, 2010, available at http://www.doi.gov/news/pressreleases/Salazar-

the Port Ambrose LNG facility may prevent what could be New York State's first offshore wind project suggests that Port Ambrose would not be consistent with national policy goals and objectives. Similarly, President Obama's Climate Plan and EPA's proposed carbon regulations demonstrate national policy efforts to curb global warming by reducing greenhouse gas emissions. Approving an LNG import facility that may lead to increased greenhouse gas emissions – while also slowing or preventing the development of clean, carbon-free electricity – clearly runs counter to the important national policy goal of reducing greenhouse gas emissions. To ensure compliance with the Deepwater Port Act, MARAD and USCG must disapprove the Port Ambrose LNG facility if the agencies find, as the evidence indicates, that the project would not be in the national interest and would in fact be inconsistent with national policy goals and objectives.

Conflict with the New York Power Authority Offshore Wind Lease Application

In September 2011, NYPA submitted an unsolicited request for a commercial wind lease offshore of New York to the Bureau of Ocean Energy Management (BOEM). NYPA submitted the request on behalf of itself, LIPA, and Con Edison, which together form a public-private entity known as the Long Island-New York City Offshore Wind Collaborative. The proposed Long Island-New York City Offshore Wind Project (NYPA Offshore Wind Project) would be located in the Atlantic Ocean in a long wedge-shaped area, with its westerly most point approximately 14 nautical miles due south of Nassau County, though its exact proposed location will not be known until the completion of feasibility, environmental and wind-strength studies. As proposed, the project is designed to generate 350 megawatts of clean electricity for the Long Island and New York City region, with the ability to expand generation capacity to as much as 700 megawatts, sufficient to power almost 250,000 homes.[3] Our organizations strongly support the NYPA lease application, with appropriate mitigation measures to protect the marine environment and wildlife.[4]

In May 2014, BOEM published a "Call for Information and Nominations" to obtain nominations from companies interested in commercial wind energy leases for the area proposed for the NYPA Offshore Wind Project.[5] BOEM also published a Notice of Intent to prepare an Environmental Assessment for the

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Launches-Smart-from-the-Start-Initiative-to-Speed-Offshore-Wind-Energy-Development-off-the-Atlantic-Coast.cfm; see also DOI, Factsheet on elements of Smart from the Start Initiative, available at http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&PageID=73317 ("A top priority of this Administration is developing renewable domestic energy resources to strengthen the nation's security, generate new jobs for American workers and reduce carbon emissions.").

[3] Long Island-New York City Offshore Wind Project, Frequently Asked Questions, http://www.linycoffshorewind.com/faq.html (last visited Mar. 5, 2015).

[4] Comments from the Natural Resources Defense Council on the January 4, 2013 Public Notice of an Unsolicited Request for a Commercial OCS Wind Lease, Request for Interest, and Request for Public Comment on a request submitted by the New York Power Authority on behalf of the Long Island-New York City Offshore Wind Collaborative (Mar. 5, 2013), available at http://www.regulations.gov/#!documentDetail;D=BOEM-2012-0083-0023 (last visited Jan. 5, 2015).

[5] BOEM, New York Activities, available at http://www.boem.gov/Renewable-Energy-Program/State-Activities/New-York.aspx (last visited Mar. 16, 2015).

proposed area.[6] Given that BOEM is moving forward to designate a Wind Energy Area offshore New York and has determined that NYPA is legally, technically, and financially qualified to hold a lease, USCG and MARAD must give due consideration to these developments and the fact that the siting of the proposed Port Ambrose LNG facility would pose a substantial conflict to the successful implementation of the NYPA Offshore Wind Project.

As illustrated by Figure 1[7] below, the lease area proposed by NYPA consists of a 127 square mile area forming a triangular wedge, the top third of which is located in shallower waters situated closer to New York City and Long Island, with the lower portion located in deeper waters (over 50 meters at the southeastern end) and substantially further from the metropolitan New York region. The upper third of the lease is thus the easiest and least expensive area for offshore wind development, both because, given current technologies, it is easier to build turbines in shallower waters and because areas closer to New York City and Long Island will require shorter transmission cables. The proposed NYPA lease area is also located between two shipping lanes for large vessels traveling to and from the Port of New York and New Jersey. To avoid the risk of collision, the USCG has initially recommended that there should be a minimum setback of one nautical mile between the proposed NYPA Offshore Wind Project and these shipping lanes.[8]

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[6] Id.

[7] Figure 1 is a map prepared by the Bureau of Ocean Energy Management (BOEM) and submitted as an attachment to its scoping comments on the Port Ambrose Project. See BOEM's Scoping Comments on Port Ambrose Deepwater Port Application, available at http://www.regulations.gov/#!documentDetail;D=USCG-2013-0363-0360 (last visited Jan. 7, 2015).

[8] Potential Commercial Leasing for Wind Power on the Outer Continental Shelf (OCS) Offshore New York, Request for Interest, 78 Fed. Reg. 760, 761 (Jan. 4, 2013).

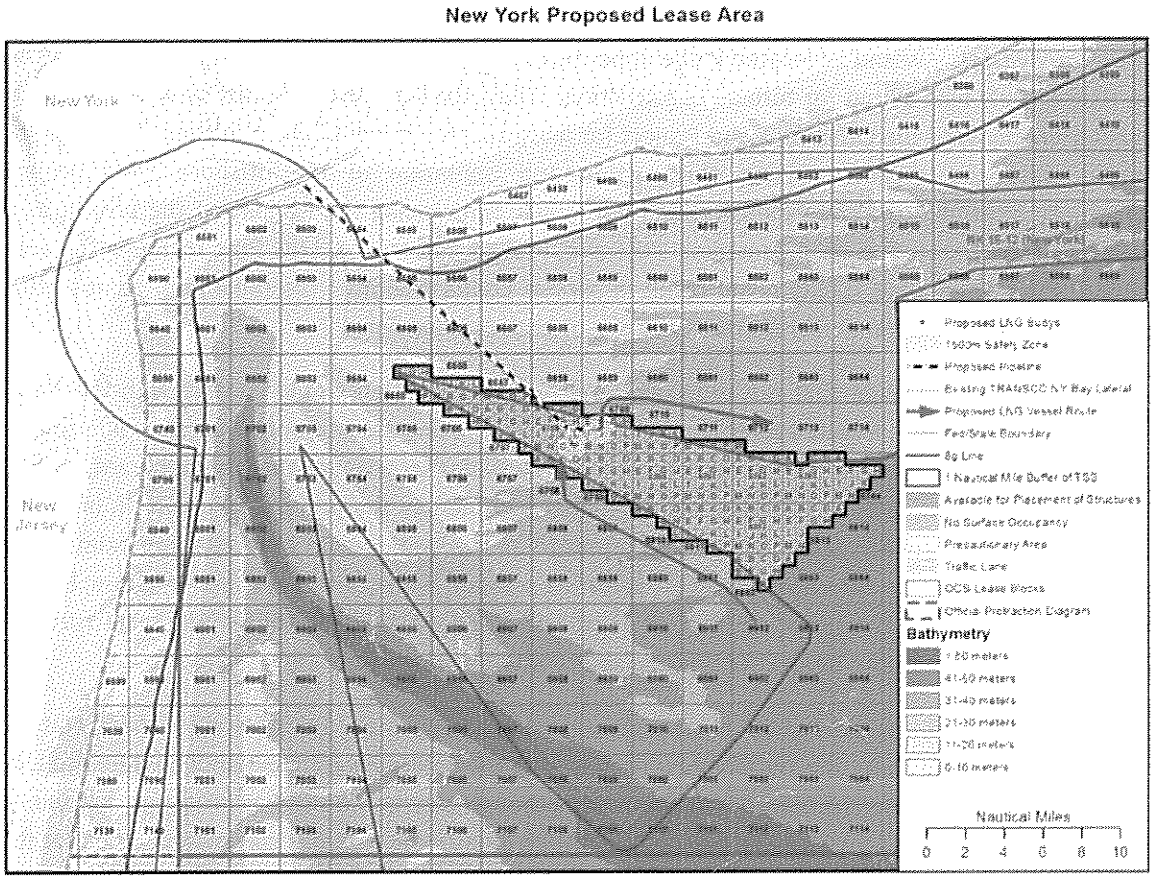

Figure 1 (Map prepared by BOEM).

The proposed Port Ambrose LNG facility would fall directly inside NYPA's proposed offshore wind lease area. The LNG facility consists of two buoy systems which would receive natural gas from LNG regasification vessels and send the gas via a pipeline to the Transco Lower New York Bay Lateral for delivery to shore. The LNG carriers would deliver an average of 400 million standard cubic feet of natural gas per day.[9] The Port Ambrose facilities are estimated to receive up to 45 deliveries annually, with deliveries taking between 5 and 16 days to complete.[10] According to BOEM – the federal agency charged with approving and siting offshore wind projects in federal waters – it may be necessary to require a safety zone of 1500 meters (almost a mile) around the buoy system when the LNG carriers are delivering LNG, for the same reason that a significant buffer is recommended for the wind turbines – to avoid collision and navigational risk.[11]

[9] Draft Environmental Impact Statement for the Port Ambrose Project Deepwater Port Application (hereinafter "DEIS"), Port Ambrose Deepwater Port Quick Reference, at xvi.
[10] Id.
[11] BOEM, Scoping Comments on Port Ambrose Deepwater Port Application.

The proposed Port Ambrose LNG facility – and the associated exclusion zone for the two buoys and the LNG delivery vessels – would be located in the upper northwestern third of the NYPA lease site – just the area that is likely best suited for turbine construction. Thus, the Port Ambrose facility would not only compete directly with the Offshore Wind Project for lease space – it would do so in the prime area for offshore wind construction, making construction and operation of the offshore wind project substantially more difficult and expensive, and potentially threatening the viability of the project as a whole. As BOEM stated in its comments: "the proposal to construct a LNG Port in the same area proposed for a large wind facility could result in serious conflicts – or at the minimum, complicating factors – that may impact the overall viability of one or both projects."[12]

The DEIS does acknowledge that the proposed Port Ambrose location would conflict with the NYPA lease area.[13] However, it largely avoids analyzing the conflict, citing assessment constraints due to lack of specific details regarding the NYPA Wind Project.[14] The DEIS also assumes that the applicant, Liberty Natural Gas, is correct in its calculations that "the area occupied by the proposed Port itself, including the Safety Zone, [no anchoring areas], and the [areas to be avoided], would eliminate approximately 1 percent of the lease for turbine installation."[15] With the addition of its setback recommendation, Liberty Natural Gas claims that the proposed Port and setbacks between shipping routes and wind turbines would take "approximately 4 percent of the available wind farm area."[16]

Elsewhere in the DEIS, the sizes of the likely exclusion zones are clarified. In addition to Liberty Natural Gas's proposed Safety Zone, the USCG would require that the Safety Zone be expanded when the LNG carriers are present and on the buoy.[17] Furthermore, although Liberty Natural Gas proposes that the no anchoring areas (NAAs) and area to be avoided (ATBA) be identical in size, it is common practice for the USCG to require the ATBA to have a radius longer than that of the NAA.[18] Given this information, Liberty Natural Gas appears to be substantially underestimating the exclusion zones likely to put in place around the Port Ambrose facility. These exclusion zones, along with the recommended setbacks, could very well take up more of the Wind Lease Area than Liberty Natural Gas is suggesting.

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[12] Id., at 2.
[13] DEIS, § 5.4.3, at 5-11 "(The proposed Project falls within the proposed area of interest for the wind energy project(s) proposed for offshore New York as described in the Bureau of Ocean Energy Management's (BOEM) Call for Information of May 28, 2014"); § 6.1.1.6, at 6-7 ("Should the Long Island-New York City Offshore Wind Project move forward, the proposed Port Ambrose Project would be located within some of the same lease blocks.").
[14] DEIS, § 5.4.3, at 5-11 ("[B]ecause of the lack of specific wind project details, the assessment is necessarily constrained in its ability to provide an analysis of the navigational safety risks that operation of the deepwater port may have on a future wind farm siting and operation.").
[15] DEIS, § 6.1.1.6, at 6-7.
[16] Id.
[17] DEIS, § 3.7.1.1, at 3-61. Liberty Natural Gas's proposed Safety Zone would encompass a combined area of approximately 388 acres or 0.6 square mile. When LNG vessels are present, the Safety Zone would be extended by a distance of 2,624 feet.
[18] Id. The NAA would expand the exclusion zone to a radius of 3,281 feet or 2.4 square miles around each buoy. The larger ATBA would further expand the exclusion zone to a radius of 4,101 feet.

Given these concerns, in the Final EIS, MARAD and USCG must take a hard look at the potential conflict between the proposed Port Ambrose LNG facility and the NYPA Offshore Wind Project. The current DEIS does not meet this standard as it makes conclusory assertions like "should both [projects] move forward, risk management strategies would be developed to address the coexistence and simultaneous activities of both projects"[19] and "careful siting would avoid potential impacts."[20] In terms of avoiding the conflict, the DEIS only provides some suggestions for risk management strategies, including "simultaneous operations procedures, communications and coordination plans, emergency response plans, LNG carrier tug-assist, and specialized equipment and training as required."[21] Additional analysis must be done to show the safety and navigational implications of siting Port Ambrose LNG facility in the lease area for the proposed NYPA Offshore Wind Project.

Both Liberty Natural Gas and the DEIS treat the entire lease area as equal for the purposes of offshore wind siting, which is incorrect for the reasons explained above. Moreover, Liberty Natural Gas appears to assume that its project would be the only conflict to be avoided within the entire lease area. Depending on the results of the environmental review process, however, it may well be that other areas within the lease area will be off limits or limited, including areas that may be significant for ecosystem uses, like fishing and other maritime or recreational purposes. Such limitations would heighten the conflict between Port Ambrose and the offshore wind project by further reducing the buildable portion of the lease. MARAD and USCG must consider these limitations more fully in the Final EIS.

Deficiencies and Data Gaps in the Needs Assessment

Under NEPA, a key aspect of a draft EIS is the statement of the underlying purpose and need.[22] This statement will inform the basis for identifying the reasonable alternatives that meet the identified purpose and need, often called the "heart of the NEPA analysis."[23] The DEIS prepared for the Port Ambrose LNG import facility states the purpose of licensing LNG deepwater ports is "to provide a reliable and timely supply of natural gas and increase energy diversity, while considering impacts on the environment, safety, and security."[24] The identified need is to "distribute the natural gas into the downstate New York City and Long Island markets to meet existing and future demand requirements, particularly during periods of peak winter and summer demand."[25]

While it is true that downstate New York City and Long Island markets can experience relatively high demand for natural gas during peak periods, this typically only occurs during periods of extreme cold weather, such as the highly publicized "Polar Vortex" of 2014.[26] During these times of increased

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[19] DEIS, § 5.4.3, at 5-11.
[20] DEIS, § 4.8.5.1, at 4-125.
[21] DEIS, § 5.4.3, at 5-11.
[22] CEQ NEPA Regulations, 40 C.F.R. § 1502.13.
[23] CEQ, A Citizen's Guide to the NEPA, 16, available at https://ceq.doe.gov/nepa/Citizens_Guide_Dec07.pdf.
[24] DEIS, § 1.0, at 1-3.
[25] Id.
[26] Denver Nicks, Polar Vortex Sends Natural Gas Prices on Rollercoaster, TIME, Jan. 7, 2014, available at http://science.time.com/2014/01/07/polar-vortex-sends-natural-gas-prices-on-rollercoaster/.

demand, the price of natural gas-driven electricity prices and/or the price of natural gas for heating may spike. Liberty Natural Gas asserts, and the DEIS accepts, that there is an unsatisfied demand for natural gas in the New York City and Long Island markets and that an additional supply of natural gas, in the form of imported LNG, could alleviate Polar Vortex-induced price spikes by providing more natural gas to a constrained market.[27] This assertion is unsupported for several reasons.

The DEIS relies on an outdated New York State Energy Plan from 2009, though it cites to the 2014 Draft New York State Energy Plan, for its assertion that there is unsatisfied demand

A significant portion of the "Purpose and Need" section of the DEIS discusses the Natural Gas Outlook for New York.[28] In this section, the DEIS makes several conclusions, supposedly relying on the Draft New York State Energy Plan that was released in 2014.[29] Oddly, the assertions made in the DEIS are nowhere to be found in the 2014 Draft New York State Energy Plan. Indeed, the 2014 Draft New York State Energy Plan provides information that contradicts the DEIS's analysis of demand for natural gas:

> "Another source of the U.S. natural gas supply is from imported LNG. However in 2012, U.S. LNG imports continued to decline with only 175 Bcf received. This is 23 percent of the 2007 levels which were at 771 Bcf. The 2012 annual LNG imports represent less than 1 percent of total U.S. natural gas requirements. The principal reasons for the decline include low domestic natural gas prices that made it difficult to attract LNG cargo to the U.S. Of 12 active U.S. terminals, only Everett LNG in Massachusetts and Elba Island in Georgia received regular LNG cargo throughout the year, albeit with lower frequency than in past years. Both have long-term contracts. Figure 24 illustrates LNG price variations around the world."
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> "The U.S. domestic production in the lower 48 states has increased with the development of new supply basins, so the need for substantial increased volumes of imported LNG has diminished for the near term. It is anticipated that if natural gas production from Shale basins outstrips demand in the U.S., LNG may be exported from the continental U.S. to Asia or Europe. This could cause price volatility in the future and should be monitored."[30]

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[27] ICF International, The Adequacy and Cost of Natural Gas Capacity Serving the New York and New Jersey Energy Market: Lessons from the Polar Vortex Winter of 2013/2014, prepared for Port Ambrose LNG, July 2014, available at http://portambrose.com/wp-content/uploads/2014/07/ICF-NY-NY-Polar-Vortex-Gas-Market-White-Paper-July-17-2014-Final.pdf (last visited Mar. 13, 2015).

[28] DEIS, § 1.0 Introduction, at 1-6, 1-8.

[29] Id. (citing "Draft New York State Energy Plan (NYSEP 2014)").

[30] 2014 Draft New York State Energy Plan. Volume 2: Sources, at 79-80, available at http://energyplan.ny.gov/Plans/2014.aspx (last visited Mar. 16, 2015).

The DEIS, despite its citations to the 2014 Draft New York State Energy Plan, is actually relying on outdated information from the ***2009*** New York State Energy Plan.[31] The fact that the DEIS is – whether purposefully or accidentally – relying on an outdated report from 2009 raises substantial questions regarding the accuracy of the analysis of the Need and Purpose for the Port Ambrose LNG import facility.

Indeed, as the actual 2014 New York State Energy Plan makes clear and as further explained below, there is substantial evidence that shows the need for imported LNG has diminished and the current trend is for LNG to be exported from the United States.[32]

Exports have displaced imports, numerous export facilities have been proposed, and many import facilities remain underutilized

Fourteen onshore LNG export facilities are currently proposed[33] with an additional thirteen potential export terminal sites identified.[34] Four export facilities have already received FERC approval.[35] One of these approved export facilities is the Dominion Cove Point LNG Terminal, which was originally an import facility but has switched to an export facility.[36] A deepwater port applicant, Freeport-McMoRan Energy (Main Pass Energy Hub), has received Department of Energy authorization for LNG exports from its offshore deepwater port.[37] The fact that facilities originally intended for importing LNG are switching to exports highlights concerns regarding the accuracy of the DEIS's needs assessment.

In addition to the clear trend toward export facilities, several LNG import facilities have either decommissioned or have not been utilized in recent years. Excelerate's Gulf Gateway Deepwater Port has been decommissioned, notably "due primarily to declining pipeline capacity issues, significant operational challenges, and changes in the global natural gas market."[38] Similarly, in July 2013, the Neptune Deepwater Port offshore of Boston, Massachusetts, petitioned for a license amendment (which was granted) to shut down operations for five years. MARAD explained that "...recent conditions within

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[31] 2009 New York State Energy Plan, available at http://energyplan.ny.gov/Plans/2009.aspx (last visited Mar. 16, 2015).

[32] 2014 Draft New York State Energy Plan. Volume 2: Sources, at 79-80.

[33] FERC, North American LNG Export Terminals – Proposed, Jan. 5, 2015, available at http://www.ferc.gov/industries/gas/indus-act/lng/lng-export-proposed.pdf.

[34] FERC, North American LNG Export Terminals – Potential, Jan. 5, 2015, available at http://www.ferc.gov/industries/gas/indus-act/lng/lng-export-potential.pdf.

[35] Maria Gallucci, Feds Approve Fourth LNG Export Terminal Amid Growing Pressure to Cash In On US Energy Boom, International Business Times, Sept. 30, 2014, available at http://www.ibtimes.com/feds-approve-fourth-lng-export-terminal-amid-growing-pressure-cash-us-energy-boom-1697255.

[36] James Polson & Mark Chediak, Dominion Cove Point LNG Terminal Wins Federal Approval, Bloomberg, September 30, 2014, available at http://www.bloomberg.com/news/articles/2014-09-30/dominion-cove-point-lng-terminal-wins-federal-approval.

[37] U.S. DOE, Freeport-McMoRan Energy LLC – FE Dkt. No. 13-26-LNG, available at http://www.fossil.energy.gov/programs/gasregulation/authorizations/2013_applications/Freeport-McMoRan_Energy_LLC_-_13-26-LNG.html.

[38] MARAD, Notice of Gulf Gateway Deepwater Port Decommissioning and License Termination, 78 Fed. Reg. 49603 (Aug. 14, 2013), available at http://www.gpo.gov/fdsys/pkg/FR-2013-08-14/pdf/2013-19687.pdf.

the Northeast region's natural gas market had significantly impacted the Neptune Port's operational status and its ability to receive a consistent supply of natural gas imports. As a result, the Neptune Port has remained inactive over the past several years and will likely remain inactive for the foreseeable future."[39]

Another deepwater port, Excelerate Energy's Northeast Gateway, only received one shipment this winter (December 2014), and this was the first shipment since March 2010.[40] While some have questioned whether LNG shipments to Boston's LNG import facilities have reduced peak price spikes in the market this year,[41] experts attribute the increased shipments to an abnormal change in the market, where worldwide LNG prices were unusually low last summer causing producers to enter into futures contracts with the Boston LNG terminals to provide LNG during this winter.[42]

Given the recent trend of LNG import facilities switching to export facilities, MARAD and USCG should view skeptically the purported need for an LNG import facility offshore of New York. Furthermore, given the significant environmental and economic impacts such conversions may cause, the agencies should clarify that, if the LNG import facility is approved (which it should not be), any future switch to an export facility would require a second full environmental review, with public participation and another opportunity for Governors Cuomo and Christie to exercise their disapproval power under the Deepwater Port Act.[43]

Price spikes and pipeline capacity would not necessarily be alleviated by an LNG import facility

Even with clear evidence showing increased supply in domestic natural gas and the national trend toward LNG exports – both of which would suggest decreasing natural gas prices – Liberty Natural Gas's application asserts that the Port Ambrose LNG facility could lead to "a $0.25 to $6.00 per MMBTu price savings" for New York consumers, relying on a report by ICF International that utilized outdated data.[44] The 2012 ICF report projected that Henry Hub gas prices "will decline to under $4.00 per MMBtu (in

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[39] MARAD, Notice of Amendment of the Neptune LNG LLC Deepwater Port License and Temporary Suspension of Operations at the Neptune LNG Deepwater Port, 78 Fed. Reg. 42587 (July 16, 2013), available at https://www.federalregister.gov/articles/2013/07/16/2013-17052/deepwater-port-license-amendment-of-the-neptune-lng-llc-deepwater-port-license-and-temporary.

[40] Jay Fitzgerald, No quick relief for electricity customers, Boston Globe, Jan. 25, 2015, available at http://www.bostonglobe.com/business/2015/02/25/wholesale-electric-prices-lower-that-expected-but-residential-rates-remain-high/MNwQJa1oERLXr1qJxBxVDO/story.html ("Excelerate Energy of Texas is finally using its $350 million offshore floating buoy system, which receives natural gas from LNG ships anchored about 13 miles off the coast of Gloucester and transports it via underwater pipelines into the land-based pipeline system. Excelerate's Northeast Gateway Deepwater Port, as the buoy system is known, hadn't been used since 2010; this year it has received one shipment of LNG.").

[41] Tux Turkel, Deliveries of liquefied natural gas take edge off region's supply gap, Press Herald, Feb. 1, 2015, http://www.pressherald.com/2015/02/01/deliveries-of-liquefied-natural-gas-take-edge-off-regions-supply-gap/.

[42] Rick Margolin, Another LNG Cargo Expected for New England Ahead of Next Week's Cold Snap, Genscape, Jan. 23, 2015, http://www.genscape.com/blog/another-lng-cargo-expected-new-england-ahead-next-weeks-cold-snap.

[43] 33 U.S.C. § 1508. ("The Secretary shall not issue a license without the approval of the Governor of each adjacent coastal State.").

[44] Liberty LNG Application, Volume IVb, at 2.

2010 constant dollars) in 2012 and increasing to $6.00 per MMBtu by 2020 and almost $7.50 per MMBtu by 2025."[45]

Recent data from the Energy Information Administration (EIA), however, confirms that in 2012, "high natural gas storage inventories[] and high natural gas production that put significant downward pressure on domestic natural gas prices ... contributed to a decrease in natural gas prices at the Henry Hub to about $2.75 per thousand cubic feet (Mcf) on average in 2012, the lowest level since 1999."[46] Such low domestic prices would not justify the increased cost of $2-$4 per MMBtu on imported LNG (imported LNG is typically $2-$4 per MMBtu more than pipeline-delivered natural gas due to costs of the liquefaction process and shipping).[47]

Furthermore, the claim that an offshore LNG import facility would alleviate pipeline capacity in the New York City and Long Island markets does not appear to be adequately supported. The DEIS states that two submerged turret loading buoys would be the receiving connection for the natural gas unloaded from the LNG regasification vessels and delivered to the proposed Mainline, which will then connect to Transco's Lower New York Bay Lateral for delivery to shore.[48] Because the natural gas will be delivered to an existing pipeline that currently transports about half of the natural gas consumed in New York City, it is not clear that Port Ambrose would provide a new "delivery point."[49] MARAD and USCG should closely analyze whether Port Ambrose would in fact alleviate pipeline capacity restraints or whether it would merely provide additional supply to an existing pipeline.

Even assuming without conceding that an LNG import facility could relieve heightened demand during these relatively rare occasions, it still does not make financial sense to invest in a facility that will be rarely used, especially when alternatives such as adequate natural gas storage, expanded pipeline capacity, and decreased natural gas demand through energy efficiency measures and increased renewable energy dispatch could also meet this need.[50] An adequate analysis of the identified need, as

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[45] Liberty LNG Application, Volume IVb, at 11.

[46] U.S. Natural Gas Imports & Exports 2012, available at http://www.eia.gov/naturalgas/importsexports/annual/archives/2013/ (last visited Feb. 26, 2015).

[47] FERC, Energy Primer, July 2012, available at http://www.ferc.gov/market-oversight/guide/energy-primer.pdf ("The cost of the LNG process is $2-$4 per million British thermal units (MMBtu), depending on the costs of natural gas production and liquefaction and the distance over which the LNG is shipped.").

[48] DEIS, § 2.0, at 2-1.

[49] DEIS, § 1.0, at 1-6 (claiming that "[n]ew delivery points at New York City market locations would relieve existing capacity constraints and increase the reliability of the gas system").

[50] For example, the DEIS, at 2-54, 2-55, recognizes that the Transco Rockaway Delivery Point Project and the Iroquois Eastern Long Island Project are expected to deliver additional natural gas to meet market need and location. See also FERC, Winter 2014-15 Energy Market Assessment, available at http://www.ferc.gov/market-oversight/reports-analyses/mkt-views/2014/10-16-14-A-3.pdf ("The Transco Rockaway Delivery Project will enable Transco to deliver an additional 647 MMcfd into the New York City distribution system, which is fully contracted by local distribution companies. The project will work directly with Transco's 100-MMcfd Northeast Connector Project adding capacity from the mainline at Station 195 near the Pennsylvania-Maryland border to delivery points at Long Island."); ICF International, 2012 Assessment of New York City Natural Gas Fundamentals and Life Cycle Fuel Emissions, 25, available at http://www.nyc.gov/html/om/pdf/2012/icf_natural_gas_study.pdf ("Spectra and

well as Liberty Natural Gas's claim that Port Ambrose would fulfill that need, requires the Final EIS to adequately assess impacts from the following: (1) contracting practices (whether the LNG would be purchased on the spot market or through long-term supply contracts); (2) the effect of increasing domestic gas production; (3) declining natural gas demand due to energy efficiency programs; and (4) declining demand for natural gas-powered electricity due to displacement of natural gas with renewables. The Final EIS developed for Port Ambrose must take a hard look at all of these considerations.

Insufficient Alternatives Analysis

Under NEPA, reasonable alternatives "include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant."[51] The alternatives considered in the DEIS prepared for the Port Ambrose LNG facility are limited in scope and most are deemed "outside the scope" of the deepwater port application for Port Ambrose.

For example, regarding the alternative of non-renewable sources of energy that could be used to meet the lower New York and Long Island market's energy needs, the DEIS states that "United States domestically sourced gas is not an alternative energy source for the Port Ambrose project" because the purpose of the "proposed project, as stated in [Liberty Natural Gas's] application, is to supplement U.S. domestic supplies delivered through existing land-based pipelines with natural gas from foreign sources."[52] Earlier in the DEIS, however, the identified purpose of deepwater port licensing is "to provide a reliable and timely supply of natural gas and increase energy diversity, while considering impacts on the environment, safety, and security."[53] Because the appropriate scope of the alternatives analysis largely depends on the stated purpose of the proposed federal action, MARAD and USCG should clarify that the purpose of the proposed federal action is the one supported by the Deepwater Port Act's text, and not the excessively narrow and transparently self-serving purpose put forth by Liberty Natural Gas in its application.

Even where the DEIS does recognize that other alternatives would meet the purpose of the Port Ambrose facility, it dismisses those alternatives by relying on outdated "projections that indicate a continued increase in demands, requiring further expansion and diversification of the natural gas supply."[54] For example, although the completion of Spectra Energy's New Jersey-New York Expansion Project would meet the same need as an LNG import facility by improving "reliability and diversity of gas supplies for the region," the DEIS concludes that the need for Port Ambrose would still not be satisfied

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Williams expansions into Transco Zone 6-NY, which also interconnect with New York City LDCs, will alleviate gas pipeline constraints and reduce gas prices in the region relative to Henry Hub.").

[51] CEQ, A Citizen's Guide to the NEPA, 16, available at https://ceq.doe.gov/nepa/Citizens_Guide_Dec07.pdf.

[52] DEIS, § 2.2.3.1, at 2-51.

[53] DEIS. § 1.0, at 1-3.

[54] DEIS, § 2.2.3.3, at 2-55.

because "demand for natural gas continues to increase."[55] Based on this reasoning, seemingly any infrastructure project that would deliver natural gas to the New York region would be approved, without regard to sufficient existing infrastructure or other, more cost-effective and environmentally-friendly alternatives.

The DEIS's analysis of alternatives such as renewable energy sources and energy conservation measures is also insufficient. For example, the DEIS summarily dismisses renewable energy sources, such as wind power, as an alternative to an LNG import facility because "[w]ind power, like solar, is intermittent and cannot be scheduled based on demand. Therefore, it is likely that during times of peak energy needs, these sources would not be available to provide the additional energy required."[56] In making this conclusion, the DEIS fails to consider significant data that suggests renewable energy sources, especially offshore wind power, do in fact provide additional energy during times of peak energy needs.[57] The final EIS must recognize, as New York State has, that renewable energy has the potential to meet a significant portion of New York State's energy needs.[58] And with New York's technical potential for offshore wind power estimated at 146 GW, this single resource has the potential to provide enough energy to exceed New York's total energy needs.[59] Additionally, the NY-Sun initiative, launched by Governor Cuomo in 2012 and expanded in 2014, is expected to result in 3 GW of installed capacity by 2023.[60] The fact that renewable energy is already meeting significant portions of New York State's energy needs[61] and is expected to grow, demonstrates that the final EIS must include renewable energy as a true alternative to Port Ambrose.

Furthermore, the DEIS ignores recent advancements in energy storage technologies for intermittent renewable energy sources. New York State has recognized the promise of energy storage and recently committed $65 million to Brookhaven National Laboratory to help commercial developers expand battery storage research and development.[62] Likewise, the Long Island Power Authority (LIPA) has made

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[55] DEIS, § 2.2.3.3, at 2-54.
[56] DEIS, § 2.2.3.1, at 2-53.
[57] National Wildlife Federation, Catching the Wind: State Actions Needed to Seize the Golden Opportunity of Atlantic Offshore Wind Power, 2014, at 2, http://www.nwf.org/~/media/PDFs/Global-Warming/Reports/Offshore-Wind/NWF_2014OffshoreWind7-9Pagesopt.pdf (noting that "meteorological towers have confirmed strong, consistent wind speeds off of New England and New York during critical high electricity demand periods when the most expensive and polluting power sources are used – afternoons, summer heat waves, and winter cold snaps.")
[58] NYSERDA, Energy Efficiency and Renewable Energy Potential Studies, July 2014, available at http://www.nyserda.ny.gov/Cleantech-and-Innovation/EA-Reports-and-Studies/EERE-Potential-Studies (last visited Mar. 16, 2015).
[59] National Renewable Energy Laboratory, U.S. Renewable Energy Technical Potential: A GIS-Based Analysis, July 2012, available at http://www.nrel.gov/docs/fy12osti/51946.pdf (last visited Mar. 16, 2015).
[60] New York State, NY-Sun Initiative Frequently Asked Questions, available at http://ny-sun.ny.gov/About/NY-Sun-FAQ (last visited Mar. 16, 2015).
[61] New York Independent System Operator, NYISO Marks New Wind Power Record, Mar. 9, 2015, available at http://www.nyiso.com/public/webdocs/media_room/press_releases/2015/Wind%20Peak%20-%20NYISO%20Marks%20New%20Wind%20Power%20Peak_3_5_15_DRAFT.pdf (last visited Mar. 16, 2015).
[62] Governor Andrew M. Cuomo, 2015 Opportunity Agenda, at https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/2015_Opportunity_Agenda_Book.pdf.

efforts to increase energy storage by requesting proposals for up to 150 MW of energy storage resources to complement planned increases in renewable resources.[63] Because renewable energy sources in conjunction with energy storage technologies could meet peak energy demand in the New York region, MARAD and USCG must reevaluate renewable energy sources and energy storage technologies as true alternatives to an LNG import facility.

The DEIS does recognize that "[e]nergy conservation measures will likely continue to play an increasingly prominent role in offsetting the target market's increasing energy demand."[64] Yet, it concludes that "energy conservation will reduce the energy demands of the target market by only a small fraction for the foreseeable future" and "[t]herefore, energy conservation would not replace the need" for Port Ambrose.[65] This conclusion, based largely on an outdated NYISO report from 2012,[66] ignores many studies that demonstrate the significant impact energy efficiency measures can have on reducing load growth and demand.[67] Indeed, a recent report by the International Energy Agency (IEA) found that the energy efficiency market is increasingly growing, with innovative new products and standards helping energy efficiency measures significantly reduce energy consumption.[68] The 2014 Draft New York State Energy Plan includes a state commitment to energy efficiency programs through 2020, though historical performance and various analyses demonstrate that a more ambitious goal of meeting roughly 20% of forecasted demand in 2025 through energy efficiency measures is both possible and desirable.[69]

Other Environmental Issues

As noted in the comments submitted by the National Oceanic and Atmospheric Administration,[70] the Port Ambrose project poses risks to the North Atlantic Right Whale, including the risk of vessel collision with whales and other impacts during construction, operation and delivery of LNG. The right whale is a

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[63] LIPA, Request for Proposal for New Generation, Energy Storage and Demand Response Resources, October 18, 2013, at http://www.lipower.org/proposals/GSDR.html.
[64] DEIS, § 2.2.3.2, at 2-53.
[65] Id.
[66] NYISO has since released a 2014 report that adjusts downward New York's projected electricity demand. See NYISO 2014 Reliability Needs Assessment, Table 3-1 at 7, available at http://www.nyiso.com/public/webdocs/media_room/press_releases/2014/Child_Reliability_Needs_Assessment/2014%20RNA_final_09162014.pdf.
[67] EPA, Energy Efficiency Fact Sheet, available at http://www.epa.gov/cleanenergy/documents/suca/consumer_fact_sheet.pdf ("Studies show that these efforts could help reduce the nation's total energy demand by 20 percent by 2025, cutting the expected growth in electricity demand in half and the growth in natural gas use by 50 percent or more."); see also McKinsey & Company, Unlocking energy efficiency in the US economy, July 2009, available at http://www.mckinsey.com/client_service/electric_power_and_natural_gas/latest_thinking/unlocking_energy_efficiency_in_the_us_economy.
[68] IEA, Energy Efficiency Market Report 2014, October 2014, available at http://www.iea.org/Textbase/npsum/EEMR2014SUM.pdf.
[69] Shaping the Future: 2014 Draft New York State Energy Plan, Vol. 1 January 2014, at 31; see also Testimony of Jackson Morris to the New York State Energy Planning Board, Mar. 6, 2014.
[70] NOAA Comments on the Port Ambrose Deepwater Port Notice of Intent, August 8, 2013, available at http://www.regulations.gov/#!documentDetail;D=USCG-2013-0363-0521 (last visited Mar. 13, 2015).

critically endangered species with an estimated global population between 450-500 individual animals. Right whales may migrate through the area proposed for the Port Ambrose project (as well as the lease area for the NYPA Offshore Wind Project) while traversing between their southern calving grounds and northern feeding and mating grounds.

The DEIS concludes that both the preferred project and its alternatives "may affect, but [are] not likely to adversely affect" the North Atlantic right whale.[71] This is found to be the case for potential impacts during construction from vessel traffic[72] and potential entanglement,[73] and noise.[74] In order to further minimize potential impacts, MARAD and USCG should require effective measures such as limiting vessel speeds, requiring enhanced marine mammal monitoring, and limiting construction activities and LNG deliveries during periods when right whales are particularly vulnerable and are likely to be in the area.

The final EIS should further evaluate the Port Ambrose location in terms of the substrate the facility would be constructed on and adjacent to, relative to other potential uses for the area. The DEIS claims that the only substrate disturbed by the Port Ambrose facility would be soft bottom.[75] It appears, however, that the facility might sit within a patch of coarse sand substrate,[76] which could become an increasingly valuable resource for beach and coastal restoration in the face of a predicted increase in Atlantic seaboard hurricane occurrence and intensity.[77]

The final EIS for Port Ambrose should also more closely analyze the impact that Port Ambrose's exclusion zones would have on the commercial and recreational fishing industries during any Shuttle and Regasification Vessel (SRV) activity, particularly during the winter and summer seasons when Port Ambrose would receive the bulk of its expected 45 yearly deliveries.[78] The DEIS acknowledges that the exclusion zones around the Port Ambrose facility, including the safety zone, NAAs, and the ATBA, would restrict commercial fishing operations.[79] The DEIS also claims that "recreational fishers are unlikely to fish in close proximity to the proposed Port site due to the lack of relief or structure on the ocean bottom in this area" even though remote sensing data has shown the presence of miscellaneous debris from potential shipwrecks.[80] Additional analysis should be done to estimate how large of an impact Port

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[71] DEIS, Table 4.3-1, at 4-64.
[72] DEIS, § 4.3.2.1, at 4-67 ("The short-term and minor increase in vessel traffic associated with construction activities may affect, but not likely to adversely affect ESA-listed marine mammals.").
[73] Id., at 4-69 ("With adherence to best management practices for detection of ESA-listed marine mammals in the area, the potential for entanglement associated with construction activities can be minimized.").
[74] Id., at 4-66 ("The short-term and moderate increase in noise associated with construction activities may affect, but not likely to adversely affect ESA-listed marine mammals.").
[75] DEIS, § 4.5.1, at 4-100.
[76] New York State Department of State, Offshore Atlantic Ocean Study, July 2013, available at http://www.eenews.net/assets/2013/07/11/document_gw_01.pdf (last visited Mar. 13, 2015).
[77] Cornelia Dean, Costs of Shoring Up Coastal Communities, The New York Times, Nov. 5, 2012, available at http://www.nytimes.com/2012/11/06/science/storm-raises-costs-of-shoring-up-coastal-communities.html?pagewanted=all&_r=2& (last visited Mar. 13, 2015).
[78] DEIS, § 2.1.4, at 2-7.
[79] DEIS, § 4.8.2.2, at 4-118.
[80] DEIS, §§ 4.8.2.2, at 4-119, and 4.6.2, at 4-104.

Ambrose and its exclusion zones would have on fishing industries. Finally, while Port Ambrose's ballast water cooling system would recirculate onboard the vessels, it may be possible for invasive species to enter the waters by attaching to boat hulls, which should be addressed in the final EIS.

Alternative Proposed Location

The alternative proposed location, referred to as Study Area D, also raises serious concerns. While Study Area D does not conflict with the lease area for the proposed NYPA Offshore Wind project, it does conflict with military operations, as it is located within a Restricted/Prohibited Airspace. In addition, the alternative proposed location would require LNG vessels to cross the incoming TSS lane when the vessels depart from the Port, thereby creating additional safety concerns. Another potential concern is that the alternative proposed location would place the project within or at least near a large sport fishing ground known as the "Yankee Spot." Given these concerns, the final EIS should more thoroughly analyze the viability of the alternative proposed location, in addition to the preferred proposed location.

Conclusion

New York State has worked hard to recover from the devastating impacts of Superstorm Sandy and has adopted new climate resilience strategies for the future. In addition, President Obama's Climate Plan has injected new energy into federal efforts to curb global warming. We urge the federal government to work with New York State and neighboring states to double-down on renewable energy solutions such as the NYPA Offshore Wind Project and to reject alternatives that would stand in the way of, or pose distractions to, a clean energy future. Because evidence shows that the Port Ambrose LNG project is not needed to meet the energy needs of the New York region and because the project would pose a significant obstacle to the development of the NYPA Offshore Wind Project, MARAD and USCG should reject the Port Ambrose project application as not in the national interest.

Respectfully submitted,

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DCS DAMASCUS CITIZENS FOR SUSTAINABILITY
CLEAN WATER, AIR AND LAND ARE BASIC HUMAN RIGHTS

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March 31, 2015

Mr. Gary Altman
Legislative Council
Committee on Environmental Protection
Committee on Waterfronts
New York City Council
New York, NY

RE: Resolution No. 549 - calling on Governor Andrew Cuomo to veto the application by Liberty Natural Gas, LLC to construct the Port Ambrose liquefied natural gas terminal off the coast of New York.

Damascus Citizens for Sustainability asks that the New York City Council pass Resolution No. 549 - calling on Governor Andrew Cuomo to veto the application by Liberty Natural Gas, LLC to construct the Port Ambrose liquefied natural gas terminal off the coast of New York.

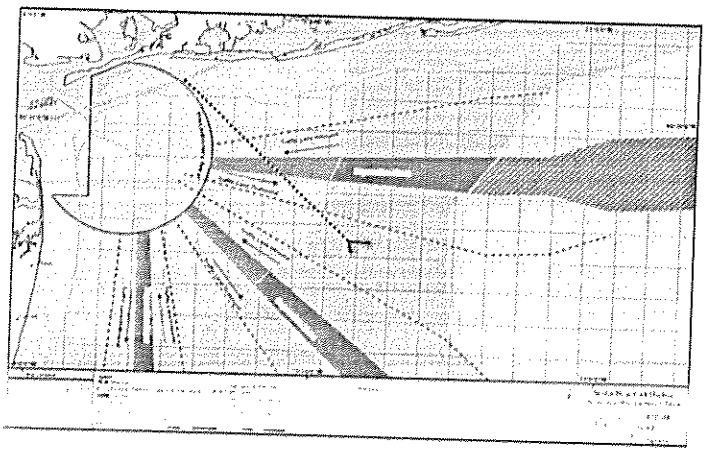
I will outline below the serious hindrances that the proposed Liquid Natural Gas (LNG) Port Ambrose will cause the region. My findings are based on Appendix N of this dEIS, from the Docket # USCG-2013-0363 issued by the US Department of Transportation. Appendix N is *The Final Report – Revision 3, Independent Risk Assessment for Port Ambrose LNG Deepwater Port, Phase I,* prepared for: Deepwater Ports Standards Division (CG-OES-4), Stop 7509, U.S. Coast Guard Headquarters, and prepared by: AcuTech Consulting Group and GexCon US on August 19, 2014. It is also based on Securities and Exchange Commission filing FORM D, Notice of Exempt Offering of Securities the issuer being West Face Alternative Credit USA, L.P. (Limited Partnership) founded by the West Face Capital in Toronto.

We base our position in favor of Resolution 549 opposing the Project Port Ambrose on the fact that the Department of Transportation, the Maritime Administration and the US Coast Guard have not issued an Environmental Impact Statement including regulations that would protect the health and environmental well-being of the citizens who reside in New York City and on Long Island. Commerce is important but the health and security of the area's residents which number in the millions, should not be sacrificed for the allure of profits. I am amazed that the process of Liberty Natural Gas and its main investor, WestFace Capital, based in Toronto, has gotten this far in their proposal to build

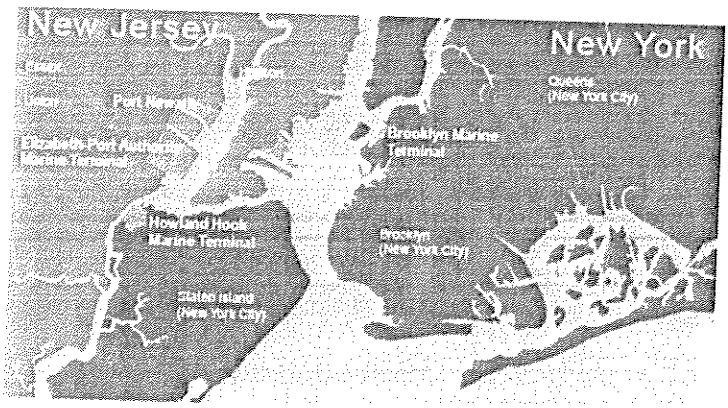
this dangerous, ill-conceived facility. Therefore, Governor Andrew Cuomo should veto this project.

No. 1 Marine Commerce

The presence of the Port Ambrose facility will crowd already existing Maritime traffic access to their destination ports in the lower Hudson River Basin. (See Map 1, from Appendix N page 19.) Map 1 indicates that the LNG Port Ambrose will connect to the Transco Lower New York Bay Lateral pipeline which is just outside the hub of New York Maritime traffic, and Map 2 indicates the current sites of the marine terminals in New York and New Jersey. (depicted in orange) A comparison of the two maps indicates the unwarranted and perhaps dangerous congestion that will occur not only from this Port facility but also from the servicing of the Liquid Natural Gas Regasification Vessels(LNGRV) which will number 45 vessel per year. These vessels are approximately 1000 feet long. This could have detrimental affect on the maritime trade of NY/NJ ports which currently tallies tens of billions of dollars in trade revenue. (See October, 2011, report from New York Shipping Association, Inc. entitled *The Economic Impact of the New York New Jersey Port/Maritime Industry 2010.)*, These figures are from 2010 when we were still deep into the great recession.



Map 1. The site of Port Ambrose which lies just outside the inner radius of Maritime traffic into NY/NJ.



Map 2. The Containerized Cargo Ports in the Port of New York and New Jersey. (See: http://www.panynj.gov/photo/port/map_about.gif)

The possibility that American commerce revenues can be put on the sacrificial table in favor of the business plan of Liberty Natural Gas, a foreign company, is incredulous. This makes no business sense. On this issue alone, this proposal should have been rejected immediately upon submission.

No. 2, Inadequate Independent Risk Assessment

On page ix in Appendix N, Port Ambrose DEIS the following is written regarding the study process of the Independent Risk Assessment (IRA), "The Deep Water Port (DWP) license application review process includes an analysis of the proposed project's impacts on public safety based on a large scale release of LNG. The reference to "public" refers to human and property not associated with the Deep Water Port(DWP). The scope of the Independent Risk Assessment (IRA) does not include the natural gas sub-sea pipeline or any additional onshore gas pipeline or facilities. As part of this analysis, a project's specific risk assessment is comprised of two parts:

Phase I is an independent risk assessment (IRA) that evaluates potential maximum hazards of Liquefied Natural Gas (LNG) releases from credible scenarios (identification of the bounding or worst-credible consequences), as required by 33 CFR Part 148.105(y), and is an input to the Environmental Impact Statement (EIS) process.

Phase II is a risk assessment (RA) that examines the range of scenarios that could result in an LNG release and evaluates proposed strategies to reduce the risk, providing input to Operations/Security (OPS/SEC) manuals required by 46 CFR 150.10 and potentially incorporating safety and security measures into the Marine Administrator's Record of Decision (ROD), as delegated by the Secretary of Transportation.

This report is limited to the Phase I"

Why is this report limited to only Phase I? Considering the economic and environmental impact this would have on the approximately 7 million residents in the area, a wide range of scenarios should have also been examined in great detail and certainly the dEIS needed to have strategies to reduce risk on the high concentration of the populations and huge economic values of New York business's enterprises.

Also in the very same appendix on page x is: "While the study evaluated the potential impacts to the public and surrounding infrastructure, it did not attempt to predict the number of estimated fatalities or injuries from these events." How can an independent Risk Assessment (IRA) not consider in their findings, using the computer modeling that they boast about on their website, not to account for human fatalities or injuries? If an explosion or leakage occurs, this would be a serious issue now overlooked.

Further in the same paragraph is: "Also, the study was done without considering any

mitigation measures that could be implemented to reduce the risk of accidental or intentional release of LNG from this proposed project. These considerations may be subject to further review outside of the scope of this study. Mitigation measure to reduce the risk associated with an LNG release will be discussed in the Phase II Risk Assessment." However, this IRA does not include Phase II. Considering the huge scope of possible damage, the dEIS should have investigated mitigations to reduce risk of release which really means leakage of LNG, which could be potentially dangerous including an explosive incident.

Again in Appendix N on page 24 is the following: "The proposed Port Ambrose DWP falls within the proposed area of interest for the wind energy project(s) proposed for offshore New York as described in the Bureau of Ocean Energy Management's Call for Information of May 28, 2014 (79 FR 30645). The risk assessment will take this proposal into account; however, because of the lack of specific wind project details, this report is necessarily constrained in its ability to provide an analysis of the navigational safety risks that operation of the deepwater port may have on a future wind farm siting and operation. While it would be inappropriate for this report to purport to establish specific setbacks between the deepwater port, vessels operating in the area, and the wind farm, this report does provide information on LNG spill consequences which will help inform any future offshore wind energy project proponent on future siting of wind turbines. To the extent practicable, in the absence of a detailed wind farm application, the Phase II portion of the IRA will examine navigational safety concerns and consider measures that may serve to mitigate potential risks of both facilities operating in the same geographic area."

Wind energy projects should have been investigated. There are numerous off shore wind farms proposed and AcuTech Consulting Group and GexConUS could have reached out to them for answers to their concerns. The dEIS for this project was inadequate, did not include Phase II nor established a framework for mitigation on impact on human beings and wind farms. Therefore, we urge the New York City Council to pass resolution 549 in opposing the Port Ambrose Project.

No. 3. Too many unanswered questions regarding West Face Capital, Inc. the primary investor in Liberty Natural Gas, LLC(Limited Liability Company) and its the Port Ambrose LNG project.

It is important to have some background information regarding Liberty Natural Gas LLC owned by West Face Capital, Inc. There is so much at stake. We, New Yorkers, cannot afford the multitude of risks that such a project will pose to the multi billion dollar economic assets of this region as well as the health and well being of its citizens.

The definition of LLC (Limited Liability Company), is a company that is a separate and distinct legal entity. This means that an LLC can obtain a tax identification number, open a bank account and do business, all under its own name. **But the primary advantage of an LLC is that its owners, known as members, (in the present case is West Face Capital, Inc.) have "limited liability", meaning that, under most circumstances, they are not personally liable for the debts and liabilities of the LLC.) Again for what**

reason does West Face Capital need to be shielded from debts and liabilities that could be incurred by Liberty Natural Gas, LLC? If the owners are not personally responsible for the debts and liabilities, then would the onus then be placed on our governments should there be some unfortunate financial reversal, terrorist event or explosion? The precautionary principle must be applied; therefore, the New York City Council must pass Resolution 549 and oppose the Port Ambrose project.

The recent history of West Face Capital, Liberty Natural Gas LLC and the Port Ambrose Project.

West Face Capital purchased Liberty Natural Gas LLC in 2.24.2011 for a $1 million from Sonde Resources. Sonde declared bankruptcy in February 2, 2015 and since has been dissolved. The Sonde's import LNG port off of the New Jersey shore was not approved by Governor Christie; therefore, West Face Capital needed to propose another site for the LNG port which become Port Ambrose since the terms of the transaction (for the sale) "were renegotiated with the Purchaser agreeing to assume control over the Project's future." (See: Marketwire – 2/24/11, Calcary, Alberta- Sonde Resources Corp.)

"("Sonde") (TSX:SOQ - News) (AMEX:SOQ - News announced today that it has completed definitive documentation and closed the previously announced sale of Liberty Natural Gas LLC (the "Company") which owns a 100% working interest in the Liberty Natural Gas LNG project (the "Project") to an entity related to West Face Capital Inc." (See:http://finance.yahoo.com/news/Sonde-Resources-Corp-iw-1345322626.html;_ylt=AwrC1jGaghdVKgsAYDWTmYlQ;_ylu=X3oDMTByMjB0aG5zBGNvbG8DYmYxBHBvcwMxBHZ0aWQDBHNlYwNzYw--) and (See: On February 2, 2015 the following: · Sonde Resources Corp. Files for Bankruptcy, *Marketwired(Mon, Feb 2, 2015*)

"On January 10, 2014 *Pehub Canada*, Kirk Falconer reported in his article entitled: *West Face Capital raises $400 Million in First Close of Privately-Negotiated Credits Fund the following:* "Canadian private Investment firm **West Face Capital** has launched a new privately-negotiated credits vehicle called **West Face Alternative Credit Fund Group** (West Face ACFG). The fund, which will be capped at $600 million, was initially closed with around $400 million in capital commitments. West Face ACFG will focus on investing in second-lien debt, unsecured debt, mezzanine financing, acquisition financing, and bridge loans."

Interestingly, the Port Ambrose Project is projected to cost, $600 million, the same as the capped fund for West Face ACFG.

This article was followed by the below press release: **"West Face Capital Launches Alternative Credit Fund Group.**

"TORONTO, Jan 9, 2014 /CNW/ – West Face Capital Inc., a Toronto-based institutional investor with over $2.0 billion in assets under management (does not mean ownership), today announced the launch of the West Face Alternative Credit Fund Group (West Face

ACFG), **designed to invest primarily in privately negotiated credits.** (This is enabled by the exceptions in the SEC filing form D Rule 506(b), further described there can be no public offering.)

"The West Face ACFG has launched with approximately $400 million in commitments in its first close and will be capped at approximately $600 million.

"The West Face ACFG mandate includes investing in second-lien debt, unsecured debt, mezzanine financing, acquisition financing, and bridge loans.

Tom Dea, a Partner at West Face Capital said: "The West Face Alternative Credit Fund Group allows us to address longer-dated illiquid investment opportunities.###"

The funding of this project and Liberty Natural Gas LLC rests on a secretive foreign investment firm, West Face Capital with an office in Toronto Canada. West Face Capital structures risky financial instruments such as their West Face Alternative Credit Fund Group (ACFG).

There are important unanswered questions from West Face Capital and its new privately negotiated credit vehicle West Face Alternative Credit fund Group. New Yorkers should not be put at risk by the opaque financial machinations of West Face Capital and its holdings. These questions are numbered below.

Considering the huge externalities costs of the Port Ambrose project, West Face Capital, should be transparent and have given us the following financial information.

1. All financial filings submitted to the SEC. I have attached the United States Securities and Exchange Commission, Form D, Notice of Exempt Offering of Securities which expires in August of this year, 2015.

2. A complete up to date resume of all executive officers and a list of Board Members complete with their up to date resumes including the executive officers of Liberty Natural Gas, LLC.

3. We must know if one of the reasons for establishment of West Face Alternative Credit Funding Group is to establish a venue for investors for the Port Ambrose Project? This question must be answered. Also does West Face Alternative Credit Funding Group intend to sell to another party its investment in Liberty Natural Gas LLC and in this project? This question must also be answered because the new owners might have another mission for the Port in mind.

4. A complete list of contracts including the terms and longevity regarding the delivery of imported Natural Gas that will be degasified from the vessels that will unload their cargo at Port Ambrose.

5. West Face Capital, Inc. filed with the SEC Form D. (PDF Attached) This document demonstrates the company's taking full advantage of the ethical gaps in our business laws and the secrecy of this firm. Therefore, another reason why the construction of Port Ambrose should be opposed.

West Face Capital, Inc.'s input in this SEC Form D document as follows:

Number 3 Related Persons on the SEC Form D, the first and second listing states as a "person" West Face ACF USA GP, LLC as a Last Name and the First Name as not available or not applicable. This "person" is listed as the General Partner and the Promoter of West Face Alternative Credit Funding Group. Following "person" listed as the Investment Manager and an Executive Officer is West Face Capital, Inc. Also again the first name is not available or not applicable. Both have the same address. Then the third person is Gregory Boland who is listed as an Executive Officer. The question is what is his relationship and influence on the Promoter and the Investment Manager both of which have no first name. The last person listed is John Maynard who is also an Executive Officer. The question is what is his role in regard to the Promoter and Investment Manager.

Number 4. SEC Form B. Industry. Pooled Investment Fund and Private Equity Fund are listed.

Number 5. Issuer Size. Under the Column of Revenue range the answer was decline to disclose. Under the column Aggregate Net Asset Value Range, there is no response. However in the Press Release, the firm claimed $400 million in commitments. The inquiry should be proof of this sum in commitments because of their choice to check decline to disclose.

Number 6. Federal Exemption(s) and Exclusion(s) Claimed (select all that apply) West Face ACF check off the following: Rule 506(b), Investment Company Act Section 3(c), and Section 3(c)(7).

The definition of Rule 506 of Regulation D is as follows" it is considered a "safe harbor" for the private offering exemption of Section 4(a)(2) of the Securities Act. Companies relying on the Rule 506 exemption can raise an unlimited amount of money. There are actually two distinct exemptions that fall under Rule 506. (See US Government Publishing Office, Electronic code of federal Regulations.)

Under Rule 506(b), a company can be assured it is within the Section 4(a)(2) exemption by satisfying the following standards:

- The company cannot use general solicitation or advertising to market the securities; (This is the reason that there is no website for West Face Capital perhaps)

- The company may sell its securities to an unlimited number of "accredited investors" and up to 35 other purchases. Unlike Rule 505, all non-accredited investors, either alone or with a purchaser representative, must be sophisticated—that is, they must have sufficient knowledge and experience in financial and business matters to make them capable of evaluating the merits and risks of the prospective investment;
- **Companies must decide what information to give to accredited investors,** so long as it does not violate the antifraud prohibitions of the federal securities laws. But companies must give non-accredited investors disclosure documents that are generally the same as those used in registered offerings. If a company provides information to accredited investors, it must make this information available to non-accredited investors as well;
- The company must be available to answer questions by prospective purchasers; and
- Financial statement requirements are the same as for Rule 505."

Private investment funds primarily use two exemptions to avoid being defined as an "investment company" under the Investment Company Act of 1940: Section 3(c)(1) or Section 3(c)(7) **to avoid the regulations they would otherwise be subject to. This reason in itself to reject the Port Ambrose project**

Section 3(c)(1) of the Investment Company Act excludes from being an investment company any issuer **whose outstanding securities are beneficially owned by not more than 100 persons and that is not making and does not presently propose to make a public offering of its securities.** The benefit of Section 3(c)(1) is that there is no additional status requirement for the investor, such as net worth, total assets, or total investments owned beyond the "accredited investor" standard. (See Private Fund Exemptions under the Investment Company Act, Doug Cornelius, April 20, 2010.)

DEFINITION of '3C7'

A portion of the Investment Company Act of 1940 that permits the exclusion of investment companies from standard registration requirements with the Securities and Exchange Commission (SEC) if all U.S. investors are considered to be "qualified purchasers" or "accredited investors."

This particular section is one of the policies used frequently by hedge fund companies to avoid certain SEC requirements. (See Investopedia)

Number 7. Type of Filing. New Notice Date of First Sale 2013-12-12. First Sale Yet to Occur

Number 8. Duration of Offering. The offering will expired in August, 2015.

Number 9. Type of Securities Offered is Pooled Investment Fund Interests

Number 10. No to Business Combination Transaction

Number 11. Minimum investment accepted from any outside investor $0.00 USD

Number 12. No Broker and no sale compensation

Number 13. Offering and Sales Amounts

Total Offering Amount USD is Indefinite
Total Amount Sold $60,000 USD. However in the Press Release (copy above) it was stated that $400 million was committed and that West Face Capital had $2 billion in Assets under management. There seems to be a discrepancy between these two amounts. Total Remaining to be Sold USD was Indefinite

Number 14
Select if securities in the offering have been or may be sold to persons who do not qualify as accredited investors, and enter the number of such non-accredited investors who already have invested in the offering. Regardless of whether securities in the offering have been or may be sold to persons who do not qualify as accredited investors, enter the total number of investors who already have invested in the offering: **The answer was 2 investors. (Is that Boland and Maynard? This question should be asked.)**

Number 15 There are no sales commissions or finder fees.

Number 16. Use of Proceeds. Provide the amount of the gross proceeds of the offering that has been or is proposed to be used for payments to any of the persons required to be named as executive officers, directors or promoters in response to Item 3 above. The answer was zero Dollars.

Signature and Submission:
Issuer, West Face Alternative Credit USA L.P.: Signature, John Maynard:
Name of Signer, John R. Maynard: Title; CFO of the Investment Manager:
Date: 2013-12-31

From the Port Ambrose site the page entitled *Who We Are.*
Liberty Natural Gas, LLC is not a functioning purveyor of Natural gas but an entity to collect investors' interest in the "Project" Port Ambrose.

The "Project" has a list of Technical Advisors, one of which is HöeghLNG, Ship Design and Operator. This makes apparent that the future goal of Port Ambrose is conversion to a LNG export facility, since currently all domestic LNG import facilities have become financial liabilities. It is no surprise that the J. Roger Whelan, President and CEO of Liberty Natural Gas, LLC is also Director of Port Meridian Energy Limited.

The first goal of Liberty Natural Gas, LLC enterprise is to import LNG from the Gulf of Mexico, later, using the "new technology" produced by HöeghLNG and their new LNG

liquification vessels. "The Port Meridian deep water port is located in Morecambe Bay offshore Barrow in Furness - and is based on HöeghLNG's proprietary floating storage and regasification vessel technology (FSRU). The vessel will receive Liquefied Natural Gas (LNG) offshore, store the LNG, re-gasify the LNG onboard and send the gas to shore via a subsea pipeline to an interconnection with National Grid." See: http://portmeridian.com/about/)

The Natural Gas reserve in this location of Great Britain has been depleted and production has been mothballed since 2011. (See: http://en.wikipedia.org/wiki/Morecambe_Bay) Barrow in Furness is located on the northwest coast of Great Britain. The exporting of LNG from Port Ambrose would travel to the Port Meridian in Morecambe Bay, Great Britain. New Yorkers cannot sacrifice their real estate and economic well-being for the sake of British company, Port Meridian. Therefore pass resolution 549.

There is proof that the immediate plan of Liberty Natural Gas LLC is to import via Regasification vessels supplied by HöeghLNG from the Gulf of Mexico to Port Ambrose located off of Jones Beach. If Liberty Natural Gas LLC has an already constructed import facility, they would be in a position to propose a conversion from an LNG Import facility to a LNG Export facility. The source for the Natural Gas would commence in the Marcellus Shale and eventually travel to this "Project" using the Transco line in Long Island. Liquefying Natural Gas means cooling it to -250F and thereby the Natural Gas mass is concentrated at 600 times from its original the gaseous form.

On February 27, 2015 the following Press Release appeared on BusinessWire:

"HOUSTON--(BUSINESS WIRE)--Delfin LNG LLC ("Delfin LNG") announced the signing of a Joint Development Agreement **with Höegh LNG Ltd** ("Höegh LNG") (Oslo Børs:HLNG) in relation to its US-based Delfin Liquefied Natural Gas Deepwater Port Project (the "Project"). **The Project is a planned floating liquefaction, deepwater port designed to export liquefied natural gas ("LNG") from the Gulf of Mexico, and is positioned to be the first floating deepwater liquefaction project in the United States.**" (See: http://www.businesswire.com/news/home/20150226006908/en/Delfin-LNG-Announces-Strategic-Partnership-H%C3%B6egh-LNG#.VRq-JmZk83h)

This would be their first planned floating liquefaction deep water port to export LNG. The question must be, will the Port Ambrose eventually also export because these are movable vessels. The Natural Gas will come from the Pennsylvania shales threatening the soil, air and water of the tri-state area, (NYS, PA, and NJ). Shale plays decline rapidly and within a few years become uneconomic. Moreover, the reserves have been vastly overestimated by the industry. It is necessary for Liberty Natural Gas LLC to enter into long –term commodity contracts to get investors involved their "Project." However, due to the current World Trade Agreement and perhaps stronger new ones (TPP), these contracts must be upheld. The result is local usage will play a back seat and since the reserves having been greatly overestimated, the industry will have to frack everywhere to fulfill these contracts or be dragged into court. If the Trans Pacific Partnership Treaty

(TPP) and the "**Transatlantic Trade and Investment Partnership (TTIP)** which is a proposed free trade agreement between the European Union and the United States," it will become very difficult for our various levels of Governments to protect environmentally our home base as the corporations begin to assume the powers of Statehood. (See: https://www.wto.org/english/res_e/booksp_e/gatt_ai_e/art11_e.pdf or https://www.wto.org/english/res_e/booksp_e/analytic_index_e/gatt1994_05_e.htm and http://en.wikipedia.org/wiki/Transatlantic_Trade_and_Investment_Partnership)

There are many unanswered questions and issues to be carefully considered. The Marine Commerce of the Port of New York is an important economic contributor to our economy and mitigation of any harm to that sector must be considered including the proposed wind farm. Moreover, research must be conducted into the possible harm to the residents to these populous area. It is also of great importance to examine in detail the finances of West Face Capital and West Face Alternative Credit Group. The filing with the SEC has brought to light serious questions which must be answered. It is important that West Face Capital, Inc., the investor, stands on firm financial ground and can afford appropriate insurance coverage (a multitude of billions of dollars in liability) should a severe accident occur. We live in uncertain times. If the private sector wants to profit, it must also have the funds to meet and pay for the externalities suffered by third parties impacted by the LNG Port Ambrose as well as any liabilities and harm this project causes. I urge the New York City Council approve of *Resolution 549 Opposing Port Ambrose* and send a strong message to Governor Cuomo that this "Project" must be rejected. The safety health and economic well being of New York State depends on such a decision.

Respectfully submitted,

Margery Schab
Comments submitted for
Damascus Citizens for Sustainability
25 Main Street
P.O. Box 35
Narrowsburg, NY 12764

office phone: 845-252-6677 email: dcs@DamascusCitizens.org

Who We Are

Liberty Natural Gas, LLC, the developer of the Port Ambrose project, is a portfolio company of a fund advised by West Face Capital, a Toronto, Canada based investment management firm. In addition to the Port Ambrose project, West Face Capital and its affiliates are currently developing a deepwater port project in northwest England (United Kingdom), known as Port Meridian, and are actively exploring opportunities for other international regasification/import projects.

Both Port Ambrose and Port Meridian are being developed in coordination with Höegh LNG (Norway), which has extensive design and operations experience in both LNG terminals and LNG delivery vessels. When operational, Port Ambrose and Port Meridian can be used as an integrated LNG system to deliver cargos on a seasonal basis to both the New York and UK markets. More information about the Port Meridian project can be found at http://portmeridian.com/.

The Port Ambrose Team

The Port Ambrose project team has decades of offshore experience, including in the design, construction, and operation of energy facilities such as deepwater ports and marine pipelines. Team members were involved in the permitting and construction of the LNG deepwater ports located offshore of Boston, as well as other deepwater port and pipeline projects throughout the U.S. The team includes Advanced Production and Loading (APL), the company that designed the STL Buoy technology, and that has installed STL buoy systems around the world.

Project Management

J. Roger Whelan, President and CEO

Jason Goldstein, Chief Operating Officer

Joseph Vaszily, Managing Director Commercial Development

Technical Consultants

AECOM, Environmental

APL, Buoy Engineering

Höegh LNG, Ship Design and Operator

Ocean Surveys Inc., Offshore Survey

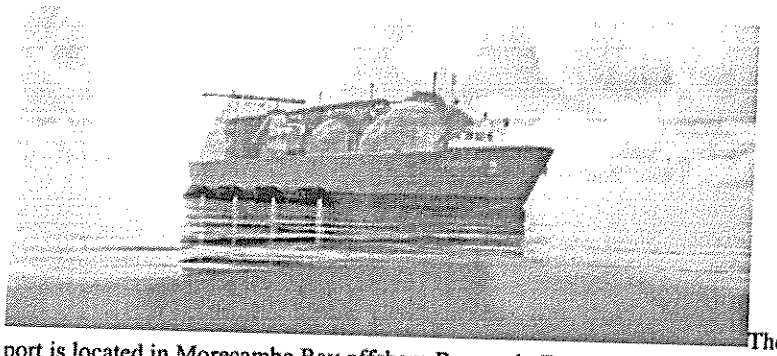
Project Consulting Services, Engineering

R.C. Goodwin & Assoc., Archeological and Cultural Resources

Legal Advisor

Holland & Knight

About



The Port Meridian deepwater port is located in Morecambe Bay offshore Barrow in Furness - and is based on Höegh LNG's proprietary floating storage and regasification vessel technology (FSRU). The vessel will receive Liquefied Natural Gas (LNG) offshore, store the LNG, regasify the LNG onboard and send the gas to shore via a subsea pipeline to an interconnection with National Grid. The project utilises industry proven submerged turret loading technology to connect the vessel to the subsea pipeline. The unloading buoys are designed by Advanced Production and Loading, Inc. (APL) and is also commonly known as Submerged Turret Loading™ (STL).

For Port Meridian a FSRU may be moored for long periods of time and will be loaded via ship-to-ship LNG transfer (STS). Utilization of STS allows standard LNG vessels to be utilized in the transport chain.

When not connected to a regasification vessel, the unloading buoy would be submerged and rest on the sea bed. A marker buoy and retrieval line would be used to locate and recover the buoy. The unloading buoy would be retrieved from its submerged position and be hoisted up through a moon pool in the forward part of the vessel. After the buoy is locked in position, unloading of natural gas can begin.

Port Meridian would also be able to receive other LNG vessels equipped with STL berthing facilities with onboard regasification capabilities. Port Meridian also has the option to install a second unloading buoy for an additional FSRU.

The unloading buoys will be connected via a pipeline to land facilities located just east of the Morecambe Bay gas terminals. Here the Port Meridian land facilities (AGI) will be interconnected to the National Grid.

WTO ANALYTICAL INDEX: GATT 1994

General Agreement on Tariffs and Trade 1994

XIII. Article XI back to top

A. Text of Article XI

Article XI*: General Elimination of Quantitative Restrictions

1. No prohibitions or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licences or other measures, shall be instituted or maintained by any contracting party on the importation of any product of the territory of any other contracting party or on the exportation or sale for export of any product destined for the territory of any other contracting party.

2. The provisions of paragraph 1 of this Article shall not extend to the following:

(a) Export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party;

(b) Import and export prohibitions or restrictions necessary to the application of standards or regulations for the classification, grading or marketing of commodities in international trade;

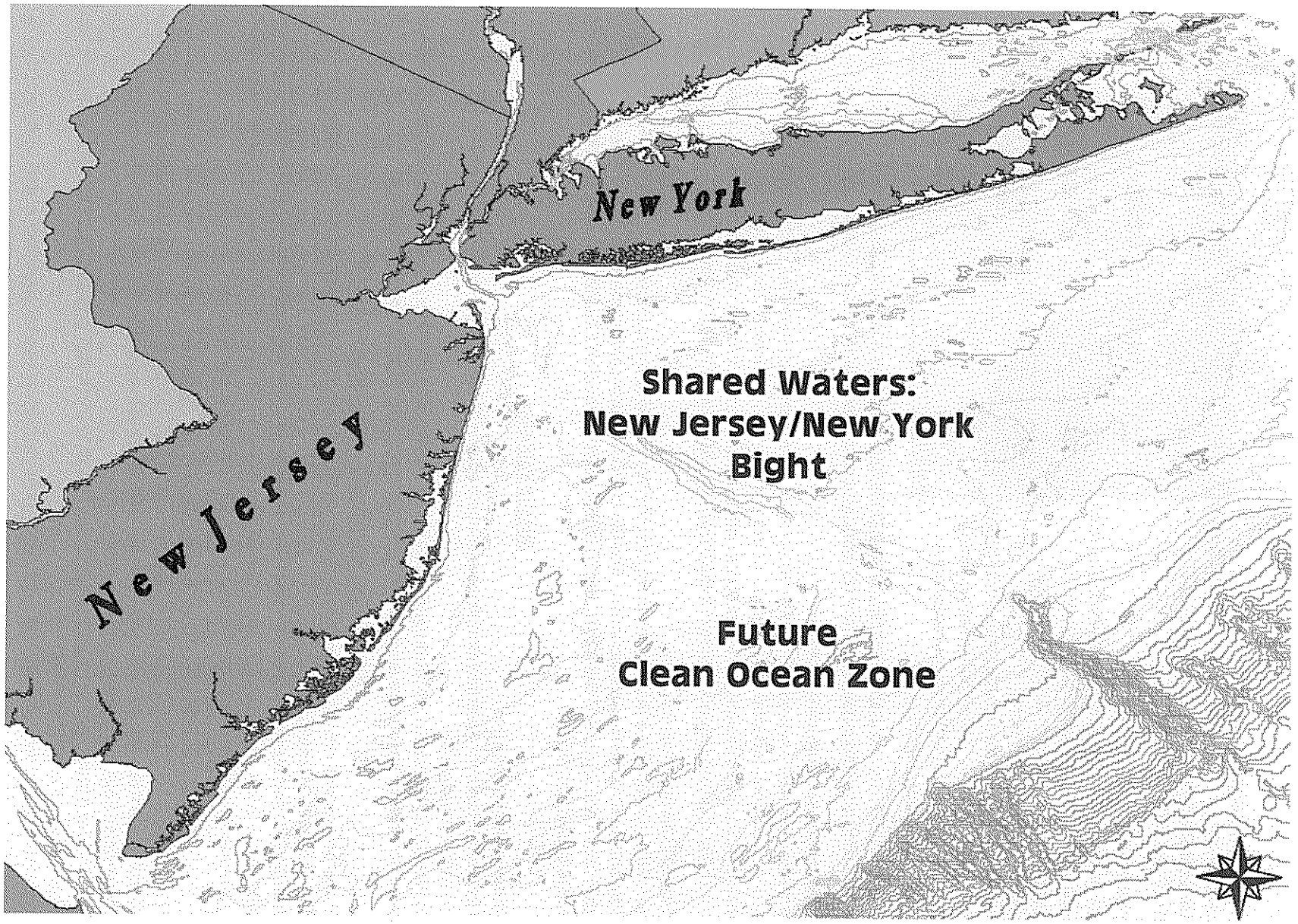
(c) Import restrictions on any agricultural or fisheries product, imported in any form,* necessary to the enforcement of governmental measures which operate:

(i) to restrict the quantities of the like domestic product permitted to be marketed or produced, or, if there is no substantial domestic production of the like product, of a domestic product for which the imported product can be directly substituted; or

(ii) to remove a temporary surplus of the like domestic product, or, if there is no substantial domestic production of the like product, of a domestic product for which the imported product can be directly substituted, by making the surplus available to certain groups of domestic consumers free of charge or at prices below the current market level; or

(iii) to restrict the quantities permitted to be produced of any animal product the production of which is directly dependent, wholly or mainly, on the imported commodity, if the domestic production of that commodity is relatively negligible.

Any contracting party applying restrictions on the importation of any product pursuant to subparagraph (c) of this paragraph shall give public notice of the total quantity or value of the product permitted to be imported during a specified future period and of any change in such quantity or value. Moreover, any restrictions applied under (i) above shall not be such as will reduce the total of



For more information visit: CleanOceanZone.org

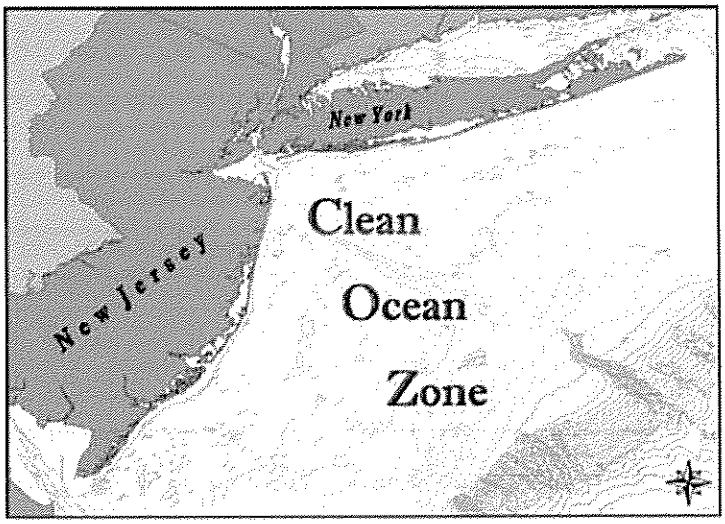
Prepared by Clean Ocean Action

Protect the New York – New Jersey Bight
Support the *CLEAN OCEAN ZONE*

What is a Bight?

Bight (bīt) *n.* – a curve or bend in a shoreline.

New York/New Jersey Bight – waters from Montauk Point, NY to Cape May, NJ and offshore to the outer edge of the Continental Shelf (to 100 miles); over 19,000 square miles of the Atlantic Ocean.



Why is the NY/NJ Bight important?

- Diverse marine life: 300+ species of fish, 350 species of birds, 5 species of sea turtles, 20 species of whales and dolphins, 4 species of seals, and 1 porpoise frequent this region.
- Economic-driver: The Ocean supports a multi-billion dollar tourism industry, billion dollar recreational and commercial fishing industry, and enormous natural value and eco-services.

The US Fish and Wildlife Service states that "the NY/NJ Bight has one of the highest diversities of marine mammals and sea turtles reported anywhere in the US and supports many threatened and endangered species."

Past and Present Dangers to the NY/NJ Bight

Eight ocean dumpsites once plagued the Bight – including those for dredged material, cellar dirt, sewage sludge, acid wastes, wood incineration, and industrial wastes. Companies continue to look to the Bight for polluting and industrializing activities (including liquefied natural gas importation, offshore oil and gas drilling, and mining). Polluters view this living resource as a cheap disposal ground, the next industrial park, and ripe for exploitation.

It's time to lock-in the progress

Current Laws and regulations are insufficient to protect the vast value of this ocean region and its living marine resources from polluting and habitat-destructive activities. **The Clean Ocean Zone campaign seeks federal legislation to permanently protect the waters of the NY/NJ Bight; locking out the bad and locking in the good progress for a healthy ocean. The COZ legislation would:**

Reduce Pollution:

1. Prohibit new ocean dumpsites.
2. Ensure implementation of environmentally sound alternatives for managing dredged material to help keep harbor channels safe for navigation.
3. Prohibit new point sources of pollution and increases of discharge capacity (e.g., wastewater discharge outfalls, industrial discharges). Encourage environmentally protective beneficial reuse of wastewater.

Protect Marine Ecosystems:

4. Prohibit the permanent extraction (e.g. strip-mining) of non-renewable natural resources, including sand and gravel, but allowing beach replenishment activities.
5. Prohibit industrial and non-renewable energy facilities and infrastructure, such as liquefied natural gas complexes and oil and gas exploration, development, and drilling.
6. Require the development of responsible regulations for renewable energy sources.

Support Marine Resources:

7. Support recreational and commercial fishing by acknowledging that federal and state laws for fisheries exist. Prohibit the COZ legislation from being used to adopt or enact fisheries management actions. The COZ legislation shall not be used to restrict or limit recreational or commercial fishing.
8. Support federal and state approved artificial reefs, and allow underwater research and exploration, but not projects that will adversely affect the ecosystem.
9. Support, celebrate, and sustain maritime activities that depend on a healthy and clean ocean, such as: boating, underwater diving, fishing, surfing, swimming, and the enjoyment of the sea. The COZ legislation will not be used to restrict or limit these activities.

CLEAN OCEAN ACTION TESTIMONY

THE NEW YORK CITY COUNCIL

Public Hearing Considering New York City Council Resolution 0549-2015

BEFORE JOINT COMMITTEES

COMMITTEE ON ENVIRONMENTAL PROTECTION
Hon. Donovan Richards, Chair

COMMITTEE ON WATERFRONTS
Hon. Deborah Rose, Chair

April 1, 2015

Thank you, Chairman Richards and Chairwoman Rose, for the opportunity to discuss this important Resolution 0549-2015. My name is Cindy Zipf, the Executive Director for Clean Ocean Action.

Clean Ocean Action is a regional, broad-based coalition of over a hundred groups from Cape May, New Jersey, to Montauk, New York, including ocean, community, women's, faith-based, and business. For the past 30 years, COA has successfully stopped ocean dumping, oil and gas development, industrial strip mining, and other offshore fossil fuel facilities. Today, the ocean is wild and free from these harmful industries, and the region has thrived on a clean ocean economy. Hundreds of thousands of citizens work at the shore, and millions more come to enjoy the cleaner healthy waters.

Few people outside our region understand the diversity and uniqueness of our shared waters. The Gulf Stream brings marine life from the warm waters of the Caribbean, and the Labrador Current brings cold-water marine life from the north. The Hudson Raritan Estuary system flows in from the middle. This unique combination makes our shared waters remarkable for hundreds of species. Just to name a few, there are:

350 species of birds
300 species of fish
24 species of whales and dolphins
4 species of seals
5 species of sea turtles

According to the US Fish and Wildlife service, *"the NY/NJ Bight has one of the highest diversities of marine mammals and sea turtles reported anywhere in the US and supports many threatened and endangered species."*

Some of these animals are endangered species and must be protected, such as all five species of sea turtles, and the North Atlantic Right Whale, whose western population contains only about 400 individuals.

The vibrant and rich marine life also supports livelihoods and is the basis of a multi-billion dollar coastal tourism and fishing industry.

According to the Mid-Atlantic Fishery Management Council, New York has over 717,000 recreational anglers that spend $648.7 million dollars. Commercial fishing supports over 44,000 livelihoods, with supporting sales of $5.3 million dollars in the industry. In New Jersey, over 1 million coastal anglers spend more than $1.2 billion dollars, and the commercial fishing industry is valued at over $5 billion dollars.

Additionally, tourism along Long Island's south shore supplies billions more dollars and thousands of jobs.

These shared waters face shared risks from the proposal by Liberty Natural Gas to build Port Ambrose, which threatens livelihoods and communities, particularly those still recovering from Superstorm Sandy.

The port could be active all year long. Port Ambrose expects to receive 45 "deliveries." A full tanker could take from 4 to 8 days to unload all the gas, which would mean the massive tankers --about the length of the Empire State building is tall-- would be offshore for up to 345 days. This would exclude access to fisherman for large areas of import fishing grounds, challenge navigation, threaten our local and national security, and cause harm to marine life and the environment.

Consider the following environmental risks from Port Ambrose:

- The ocean water used annually for operations alone is well over billion gallons. To put this massive volume into perspective, it would fill about 55 miles of Olympic-size pools every year.
- Entrainment impacts –the drawing-in of marine life—has the potential to affect eggs and larvae of fish during each phase of the project. An estimated over 86.6 million eggs and over 11.3 million larvae will be entrained and thus killed throughout the 25-year lifetime of Port Ambrose. These eggs and larvae would contribute to the ecosystem, are essential to supporting the food web, and threaten to undermine the fisheries industry.
- Threatened and endangered marine life will suffer from food chain and migration disruption along with intra- and inter-species communication complications. Such disturbances to threatened and endangered species will have a negative economic impact on the NY Bight.
- Threats from Hurricanes to the coast, including 30-foot wave heights near Port Ambrose, were documented during Superstorm.
- Air pollution will increase since LNG ports emit particulate matter, methane, nitrogen oxides, sulfur oxides, volatile organic compounds, and other toxins.
- Existing noise impacts will be compounded by additional vessel traffic and construction.

Combined, these risks will have significant consequences to marine life, which is already stressed.

And for what—to import an expensive fossil fuel we do not need?

And for who? Liberty Natural Gas which is a foreign energy interest – the corporation may be licensed in Delaware with an office in Short Hills, NJ, but it is managed by an investment group in Toronto, Canada, called West Face Long Term Opportunities Global Master, LP, which is managed by West Face Capital, which is an investment fund located in the Cayman Islands. Gambling our future to cadre of un-named people behind the cloak of an LP is a risk no one should take.

That is why we have joined on both sides of our shared waters to oppose this project. To date over 60,000 citizens, and many elected officials from towns to cities to members of congress have opposed Port Ambrose. Indeed, we are aware of only one councilman, from Hempstead, NY, who has written in support.

The Resolution 0549-2015, to oppose Port Ambrose and urge Governor Cuomo to veto the application is imperative to the regions' economy, security, environment, and public health. Thank you, Chairman Richards, for introducing the resolution, and Chairwoman Rose, for your support. The roster of over 22 Council Members to date is impressive.

Clean Ocean Action urges both Committees to swiftly pass the resolution and to have it quickly move to the full Council for a vote. Though the clock on the project has been stopped, the time to act is now.

Thank you again, for the opportunity to testify. Please contact me if you have any questions.

Prepared by:
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Alliance for a Living Ocean · American Littoral Society · Anglers Conservation Network · Atlantic Surfing Federation · Bellmore Merrick Democratic Club · Berks Gas Truth · Biltmore Shore Civic Association · Bradley Beach Environmental Commission · Broad Channel Civic Association · Catskills Citizens for Safe Energy · Catskill Mountainkeeper · Cetacean Society International · Clean Air Council · Clean Water Action · Clean Ocean Action · Coalition Against the Rockaway Pipeline · Coalition of Nassau Civic Associations · Concerned Citizens of Montauk · CWA Jersey Shore Local 1075 · Environmental Action · Environment New Jersey · Fishermens Dock Cooperative, Point Pleasant · Food and Water Watch · Grassroots Environmental Education · Hackensack Riverkeeper · Harbor Green Civic Association · Humane Society of Canada · Jamaica Bay Ecowatchers · Jersey Coast Anglers Association · Natural Resources Protective Association · New Jersey Beach Buggy Association · New Jersey Sierra Club · New Jersey State Industrial Union Council · New York City Audubon · Norgate Civic Association · North and Central Merrick Civic Association · Northside Civic Association · NY 4 Whales · NYC Friends of Clearwater · Old Lindenmere Civic Association · Poets' Corner Neighborhood Association · Renewable Energy Long Island · Sane Energy Project · Save Barnegat Bay · Seafood Harbor Civic Association · Sierra Club, Long Island Group · Surfers Environmental Alliance · Surfrider Foundation · Terrace Manor Civic Association · United For Action · WATERSPIRT · Wharfside Condominium Association

March 16, 2015

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SUBMITTED ELECTRONICALLY VIA *WWW.REGULATIONS.GOV*
Department of Transportation,
Docket Management Facility,
West Building, Ground Floor, Room W12-140,
1200 New Jersey Avenue SE., Washington, DC 20590-0001.

RE: Comments on Liberty LNG's Port Ambrose Deepwater Port License Application Draft Environmental Impact Statement; Federal Docket #USCG-2013-0363

Dear Sir or Madam:

On behalf of the undersigned organizations, Clean Ocean Action ("COA")[1] submits the following comments in response to the U.S. Maritime Administration ("MARAD") and U.S. Coast Guard's ("USCG") request for comments on the draft environmental impact statement ("Draft EIS" or "DEIS") for the **Liberty Natural Gas ("Liberty LNG" or "Liberty") Port Ambrose Deepwater Port License Application** (Docket #USCG-2013–0363).[2]

Liberty Natural Gas proposes to build an offshore natural gas deepwater port facility that would be located approximately 17 nautical miles southeast of Jones Beach, New York, 24 nautical miles east of Long Branch, New Jersey, and about 27 nautical miles from the entrance to the New York Harbor in a water depth of approximately 103 feet.[3] LNG tankers that would call upon the Port are up to 1600 feet in length, which is as long as the new World Trade Center Tower is tall.[4]

These comments to the DEIS for the proposed deepwater port are to be considered in addition to those already given by representatives of a few of the undersigned organizations at the hearings held on January 7 and 8, 2015, in Queens, NY, and Eatontown, NJ, as well as in other written submissions made to the federal docket.

TABLE OF CONTENTS

[1] Clean Ocean Action is a regional, broad-based coalition of 125 conservation, environmental, fishing, boating, diving, student, surfing, women's, business, civic and community groups with a mission to improve the degraded water quality of the marine waters off the New Jersey/New York coast (www.cleanoceanaction.org).
[2] Notice of Availability, 79 FR 74808 (Tuesday, December 16, 2014) (hereafter "DEIS Notice").
[3] Ibid.
[4] Shell Prelude Floating Liquefied Natural Gas Facility at http://www.largestshipintheworld.com/largest_ships_in_the_world/shell-prelude-floating.php (last visited March 16, 2015).

INTRODUCTORY COMMENTS

The primary purpose of an Environmental Impact Statement is to "provide full and fair discussion of significant environmental impacts and inform decision makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts."[5] Here, the DEIS does not provide a full discussion of the impacts, nor a fair portrayal of the application, the applicant, or the impacts. As such, it is procedurally and substantively flawed.

First, the Draft EIS is incomplete, inconsistent, contradictory, and misleading. The document distorts information to fabricate and inflate a need for natural gas supply where none exists, minimizes potential impacts to marine life, and air quality, underestimates security threats and catastrophic events, and falsely and wrongfully represents the "no action alternative" skewing the analysis document. The DEIS fails to discuss the true magnitude and extent the port will be in use. By only providing that the port "expects 45 deliveries of LNG per year,"[6] there is no meaningful description of how many days the port will be in operation. This is particularly vexing since the stated purpose of the need for the project is to meet peak energy demand in the winter and summer,[7] which at most constitutes a few days. Understanding the qualitative anticipated use in days, hours, weeks, of this port is essential for the evaluation of the impacts and threats from hurricanes and security, but also to the harm to marine life. Perhaps most egregiously, the DEIS ignores the concerns and information submitted by the public during the scoping process.

Second, it is unacceptable that Liberty remains an unknown entity. A reasonable expectation of an EIS is to understand and consider "who" is proposing the activity. The ownership remains hidden in a bank account within the Cayman Islands, which fails to allow for evaluation and consideration of the company's legality, liabilities, and veracity. Liberty's ownership and intentions are clearly a vital element to be considered, particularly because numerous concerns regarding impact significance are considered as addressed by promises made by Liberty. To give a shell company with no ties to the United States complete deference with respect to community, economic, public safety, and environmental risks is dangerous and poor public policy.

Third, Liberty's first application for a deepwater LNG port in the NY/NJ region was soundly rejected by concerned citizens and communities and was vetoed by Governor Chris Christie in a letter dated February 2011,[8] which veto was affirmed by the New Jersey Attorney General in 2012.[9] There has been no record submitted by Liberty, or included in the DEIS, showing how the concerns of the State of New Jersey have been addressed. The location of the proposed port has not significantly changed (except by name), and certainly not in a way that ameliorates or avoids many, if not most, of the impacts cited by the Governor – especially the concerns related to public safety, lack of need, national security, first responder burdens and fisheries impacts.

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[5] 40 CFR 1502.

[6] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-108

[7] Draft Environmental Impact Statement for the Port Ambrose Project Deepwater Port Application. 1.0 Introduction, at 1-3.

[8] New Jersey Governor Chris Christie License Issuance Disapproval Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0038.

[9] State of New Jersey - Office of the Attorney General, Liberty Deepwater Port Docket # USCG-2010-0993-0114.

As described in detail below, the DEIS lacks a full and fair discussion of significant environmental impacts threatened by this project. Moreover, there is no demonstrated need to import natural gas to the region. For all of the above reasons, the DEIS fails to conduct a full and fair discussion of significant environmental impacts threatened by Port Ambrose, as required. The signatories urge that a *true No Action Alternative* be selected, which will avoid these extensive harms and threats to the region.

COMMENTS ON DRAFT EIS BY SECTION

1.0 INTRODUCTION.

1.1 Purpose and Need.

The needs assessment in the DEIS misleads the public and mischaracterizes the state of existing LNG energy markets. "Need" is a vital element of NEPA review. The needs assessment included in the DEIS is misleading and outdated. According to DPA regulations, "MARAD may issue a license to construct a deepwater port under the Act, with or without conditions, if certain specified conditions are met."[10] The first enumerated consideration requires that "[c]onstruction and operation of the deepwater port [must] be in the national interest."[11] While Liberty LNG attempts to argue that a need for "new and diverse natural gas supplies in New York" exists, the evidence and data on actual natural gas trends prove otherwise.[12]

A. The Port Ambrose facility would not meet the stated "Purpose and Need"

The DEIS maintains that accomplishing the "Purpose and Need" for Port Ambrose would require

> *"construction of appropriate facilities for receiving the LNG ... would distribute the natural gas into the downstate New York City and Long Island markets to meet existing and future demand requirements, particularly during periods of peak winter and summer demand."*[13]

There is no compelling national interest for the proposed project. Given the sharp increase in the domestic production of natural gas, imported LNG is relatively expensive. Because the price of imported LNG reflects at least an additional cost of $2 to $4 per million British thermal units more than pipeline-delivered natural gas,[14] it is usually not competitive with domestic natural gas[15]. Depending on market conditions, such as the trend over the last few years,[16] the price discrepancy between imported LNG and pipeline-delivered natural gas can be even greater. In extreme instances, such as during the "Polar

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[10] 33 C.F.R. § 148.710(a).
[11] 33 C.F.R. § 148.710(a)(1).
[12] Liberty LNG Application for the Port Ambrose Project Deepwater Port, Volume II, Report 2, at 2-1.
[13] Draft Environmental Impact Statement for the Port Ambrose Project Deepwater Port Application. 1.0 Introduction, at 1-3.
[14] FERC, Energy Primer, July 2012, available at http://www.ferc.gov/market-oversight/guide/energy-primer.pdf
[15] FERC, Energy Primer, July 2012, available at http://www.ferc.gov/market-oversight/guide/energy-primer.pdf ("The cost of the LNG process is $2-$4 per million British thermal units (MMBtu), depending on the costs of natural gas production and liquefaction and the distance over which the LNG is shipped.").
[16] Natural Gas Prices, U.S. Energy Information Administration, 2015, available at http://www.eia.gov/dnav/ng/ng_pri_sum_dcu_nus_m.htm (last visited March 16, 2015).

Vortex" of 2014, the price of domestic natural gas in the downstate New York City and Long Island markets may experience a short-term spike in cost. However, even in such limited instances, it is speculative to suggest that the proposed project is needed to provide (or would provide) price relief. [17] First alternatives such as adequate natural gas storage, expanded pipeline capacity, and decreased natural gas demand through energy efficiency measures could also meet this need.[18]

Furthermore, the claim that an offshore LNG import facility would alleviate pipeline capacity in the New York City and Long Island markets is not adequately supported by the DEIS or by the realities of existing natural gas pipeline infrastructure. The DEIS states that two submerged turret loading buoys would be the receiving connection for the natural gas unloaded from the LNG regasification vessels and delivered to the proposed Mainline, which will then connect to Transco's Lower New York Bay Lateral for delivery to shore.[19] Since the imported natural gas will be delivered to an existing pipeline that currently transports natural gas to NYC and Long Island, the LNG facility would **not** be providing a new "delivery point."[20] Rather, Port Ambrose would provide additional supply to an existing pipeline that already has capacity restraints.

B. The DEIS relies on an outdated New York State Energy Plan from 2009 and incorrectly cites to the 2014 Draft New York State Energy Plan

A significant portion of the "Purpose and Need" section of the DEIS discusses the Natural Gas Outlook for New York. [21] In this section, the DEIS makes several conclusions based upon information and data cited as being from the Draft New York State Energy Plan that was released in 2014 ("NYSEP 2014").[22] Incredibly, however,the assertions made in the DEIS are nowhere to be found in the 2014 Draft New York State Energy Plan. Indeed, the 2014 Draft New York State Energy Plan provides information that contradicts the DEIS's analysis of demand for natural gas:

> *"Another source of the U.S. natural gas supply is from imported LNG. However in 2012, U.S. LNG imports continued to decline with only 175 Bcf received. This is 23 percent of the 2007 levels which were at 771 Bcf. The 2012 annual LNG imports represent less than 1 percent of*

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[17] Polar Vortex Sends Natural Gas Prices on Rollercoaster, Time, 2014, available at http://science.time.com/2014/01/07/polar-vortex-sends-natural-gas-prices-on-rollercoaster/ (last visited March 16, 2015).

[18] The DEIS, at 2-54, 2-55, recognizes that the Transco Rockaway Delivery Point Project and the Iroquois Eastern Long Island Project are expected to deliver additional natural gas to meet market need and location. See also http://www.ferc.gov/market-oversight/reports-analyses/mkt-views/2014/10-16-14-A-3.pdf ("The Transco Rockaway Delivery Project will enable Transco to deliver an additional 647 MMcfd into the New York City distribution system, which is fully contracted by local distribution companies. The project will work directly with Transco's 100-MMcfd Northeast Connector Project adding capacity from the mainline at Station 195 near the Pennsylvania-Maryland border to delivery points at Long Island.");
http://www.nyc.gov/html/om/pdf/2012/icf_natural_gas_study.pdf ("Spectra and Williams expansions into Transco Zone 6-NY, which also interconnect with New York City LDCs, will alleviate gas pipeline constraints and reduce gas prices in the region relative to Henry Hub").

[19] Draft Environmental Impact Statement for the Port Ambrose Project Deepwater Port Application. 2.0 Description of the Proposed Action and Alternatives, at 2-1.

[20] See Draft Environmental Impact Statement for the Port Ambrose Project Deepwater Port Application. 1.0 Introduction, at 1-6 (claiming that "[n]ew delivery points at New York City market locations would relieve existing capacity constraints and increase the reliability of the gas system.")

[21] Ibid at 1-6, 1-8.

[22] Ibid. (citing "Draft New York State Energy Plan (NYSEP 2014)").

total U.S. natural gas requirements. The principal reasons for the decline include low domestic natural gas prices that made it difficult to attract LNG cargo to the U.S. Of 12 active U.S. terminals, only Everett LNG in Massachusetts and Elba Island in Georgia received regular LNG cargo throughout the year, albeit with lower frequency than in past years. Both have long-term contracts. Figure 24 illustrates LNG price variations around the world."

"The U.S. domestic production in the lower 48 states has increased with the development of new supply basins, so the need for substantial increased volumes of imported LNG has diminished for the near term. It is anticipated that if natural gas production from Shale basins outstrips demand in the U.S., LNG may be exported from the continental U.S. to Asia or Europe. This could cause price volatility in the future and should be monitored."[23]

Clearly, the 2014 Draft New York State Energy Plan does not support the notion that imported LNG is needed by the State of New York.

The information and data used to support the needs assessment is actually outdated information from the ***2009*** New York State Energy Plan.[24] Regardless of whether this outdated information was presented and inaccurately cited purposefully or accidentally, the fact remains that the DEIS uses the wrong data gathered at a time when the energy market was nearly the opposite of what it is today. As such, the DEIS fails to portray the need, the market or other relevant conditions that exist today. Indeed, as the actual 2014 New York State Energy Plan makes clear, there is substantial evidence that shows the need for imported LNG has diminished and the current trend is for LNG to be exported from the United States.[25] Thus, the DEIS and, indeed, the agency record is fatally flawed. We submit that it is highly "arbitrary and capricious" to knowingly use outdated, incorrect, inapplicable data when one knows there is updated, reliable, and applicable data readily available. Moreover, commenters raised this during the scoping process, and this egregious error was still not corrected.

C. Marketplace Shift to Exports

Liberty LNG submitted with their application a report titled "Needs Assessment for Port Ambrose" written on July 12, 2012. The DEIS cites to this report in its "Natural Gas Outlook" section of the DEIS.[26] In the report, Liberty claims it uses a nation-wide natural gas demand model to suggest that demand will be rising in the future, and that Liberty LNG should therefore build an import port to supply the NYC and Long Island markets. At the crux of their analysis is this assertion: "New York prices will decline $0.25 to $6.00 per MMBtu compared to prices without Port Ambrose."[27] Liberty claims, based on data which (as we describe below) is flawed, that imports from Port Ambrose will save New Yorkers money.

The needs analysis is further deficient because (1) impacts to the price of natural gas in New Jersey from either imports or exports are not assessed, (2) the use of nationwide models for local extrapolation is

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[23] 2014 Draft New York State Energy Plan. Volume 2: Sources, page 79-80, available at http://energyplan.ny.gov/Plans/2014.aspx.
[24] 2009 Draft New York State Energy Plan. Available at http://energyplan.ny.gov/Plans/2009.aspx.
[25] 2014 Draft New York State Energy Plan. Volume 2: Sources, page 79-80, available at http://energyplan.ny.gov/Plans/2014.aspx.
[26] Draft Environmental Impact Statement for the Port Ambrose Project Deepwater Port Application. 1.0 Introduction, at 1-6, 1-8.
[27] Liberty LNG Application, Volume IVb, at 2.

improper (as noted by federal agencies reviewing this assertion), and (3) the low end of the estimated savings is slightly more than 4% the top end (a 24-fold range in price that begs the question "how is this reliable energy forecasting").

The underlying data used to show there is a "need" are all wrong. Among the many examples of erroneously used data are the following:

First, Liberty claims that "[w]hile there is an abundant domestic gas resource base, [costs of production are high], and that is likely to translate into higher gas prices."[28] In truth, gas prices and costs of production are low, and have been declining for almost five years.

Second, Liberty uses an entirely disproven forecast of LNG import demand (nationwide). According to the applicant, "[b]y 2035, U.S. [LNG] imports are projected to reach 0.66 Tcf per year, a little less than twice the volume of imports in 2010."[29] While ICF delivered this report to Liberty LNG in 2012, they used data from many years earlier. According to a report by the Energy Information Administration (EIA), also published in 2012, "[i]n the face of unprecedented levels of domestic natural gas production, net imports of natural gas into the United States *fell 23 percent in 2011*," and 2012 "LNG imports decreased by 50 percent from the 2011 level to 175 Bcf, *the lowest level since 1999.*"[30] Liberty LNG's consultant should have updated their report to reflect the most recent data – certainly in the two intervening years. Moreover, commenters raised this inaccuracy in Scoping, and the USCG – shockingly - has failed to change the Liberty-submitted projections to reflect the known state of energy markets as presented in dozens of EIA energy outlooks and energy reports issued over the past few years.

More recent data demonstrates that net imports of natural gas fell even further in 2013, "continuing a decline that began in 2007."[31] As the EIA concludes, "[r]obust natural gas production in the United States likely displaced imports...and helped maintain a high price differential between domestic and foreign markets outside of North America, increasing interest in the potential export of U.S. liquefied natural gas (LNG)."[32] Indeed, natural gas net imports fell by 14% to 1,311 Bcf in 2013, the lowest level since 1989.[33]

The 2014 EIA Annual Energy Outlook projections show that LNG imports are actually expected to bottom out at 0.15 Tcf per year – a little less than a third of the 0.45 Tcf imported in 2010.[34] Additionally, the EIA forecasts net natural gas imports to decline to zero by 2018.[35] This is backed up in the February 2015 "Short Term" energy update which concludes that LNG imports "have fallen over the past five years because higher prices in Europe and Asia are more attractive to LNG exporters than the relatively low

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[28] Ibid. at 7.
[29] Liberty LNG Application, Volume IVb, at 10 (emphasis added).
[30] U.S. Natural Gas Imports & Exports 2012, available at http://www.eia.gov/naturalgas/importsexports/annual/archives/2013/ (last visited February 26, 2015).
[31] U.S. Natural Gas Imports & Exports 2013, available at http://www.eia.gov/naturalgas/importsexports/annual/ (last visited February 26, 2015).
[32] Id.
[33] Id.
[34] EIA, Annual Energy Outlook 2014, Natural Gas Imports and Exports Table, available at http://www.eia.gov/oiaf/aeo/tablebrowser/#release=AEO2014&subject=8-AEO2014&table=76-AEO2014&region=0-0&cases=ref2014-d102413a (last visited February 26, 2015).
[35] EIA, Market Trends, Natural Gas, 2014, available at http://www.eia.gov/forecasts/aeo/mt_naturalgas.cfm (last visited March 16,2015).

prices in the United States."[36] The energy update further provides, "[f]orecast LNG gross imports average 0.2 Bcf/d in both 2015 and 2016."[37]

In its 2012 application, Liberty LNG claimed that "[n]ot including Port Ambrose, ICF forecasts U.S. LNG imports to grow from approximately 0.5 Tcf in 2010 to 0.7 Tcf by 2035."[38] Given that the EIA's estimates from 2011 project LNG imports to shrink to 0.14 Tcf by 2028 and remain at low levels, Liberty LNG's baseline rationale to support its claim that there is a need for imported LNG was **off the mark by approximately 500%.**[39] This is particularly worrisome because the DEIS cites the Liberty report for concluding "that there will be substantial growth in natural gas demand throughout North America and that increased supplies are required to meet growing demand."[40]

This is all to say that the Liberty LNG report is wrong. The USCG wrongly decided to not conduct its own analysis of the veracity of these claims. Taken together, there was arbitrary and capricious agency inaction here. The entire basis of need shown by the applicant (that there's a strong and growing need for LNG imports that are in the national interest) is a clearly disproven fact – LNG imports are weak and growing weaker, with no long-term independently demonstrated national need for import capacity. In fact, the EIA Annual Energy Outlook 2014 also predicts that net natural gas imports will be zero by 2018.[41] As such the DEIS is deeply and fatally flawed.

Third, in developing its projection that Port Ambrose will lead to a $0.25 to $6.00 price savings for New York consumers, Liberty LNG relies on yet another set of outdated data. The Liberty report projects that Henry Hub gas prices "will decline to under $4.00 per MMBtu (in 2010 constant dollars) in 2012 and increasing to $6.00 per MMBtu by 2020 and almost $7.50 per MMBtu by 2025."[42] In reality, the EIA reports that:

> *"In 2012, the United States experienced its warmest year on record in the lower 48 states, high natural gas storage inventories, and high natural gas production that put significant downward pressure on domestic natural gas prices. These factors contributed to a decrease in natural gas prices at the Henry Hub to about $2.75 per thousand cubic feet (Mcf) on average in 2012, the lowest level since 1999."*[43]

The Bureau of Ocean Energy Management (BOEM), in reviewing Liberty LNG's application for completeness, discussed the issue of "need" at length. In the data gaps comments prepared by the Office of Renewable Energy Programs, the agency noted:

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[36] EIA, Short Term Energy Update, at 8, available at http://www.eia.gov/forecasts/steo/pdf/steo_full.pdf (last visited February 26, 2015).
[37] Id.
[38] Liberty LNG Application, Volume IVb, at 2.
[39] EIA, Market Trends, Natural Gas, 2014, available at http://www.eia.gov/forecasts/aeo/mt_naturalgas.cfm (last visited March 16,2015).
[40] Draft Environmental Impact Statement for the Port Ambrose Project Deepwater Port Application. 1.0 Introduction, at 1-8.
[41] Annual Energy Outlook, U.S. Energy Information Administration, 2014, available at http://www.eia.gov/forecasts/aeo/mt_naturalgas.cfm (last visited March 16, 2015).
[42] Liberty LNG Application, Volume IVb, at 11.
[43] U.S. Natural Gas Imports & Exports 2012, available at http://www.eia.gov/naturalgas/importsexports/annual/archives/2013/ (last visited February 26, 2015).

"[Natural gas] prices in the USA are very low at present and are expected to stay low for the foreseeable future. This seems to be ignored in this ICF report or the ICF report is mischaracterized as it seems to be focused only on increasing demand and lessening supply. The most recent EIA report indicates there is considerable export of USA [natural gas] via LNG and there is talk of exporting more of USA [natural gas] via LNG."[44]

In sum, the data contained in the DEIS use to support the alleged need for LNG imports are significantly outdated. It is undisputed that:

- Where Liberty says something goes up, it has gone down (production, supply, demand);
- Liberty's estimates of long-term LNG import need are off by 500%; and
- Prices of natural gas are not, contrary to Liberty LNG's assertions, reaching record highs, they are reaching record lows.

Given that this information was generally readily available at the time Liberty LNG applied for this deepwater port license, this needs assessment should never have been deemed acceptable by the UCSG or MARAD or relied upon in the DEIS. The Final EIS developed for this Port must reexamine the "need" of LNG imports by entirely reanalyzing the LNG marketplace. Without a rational basis in fact, approving this DEIS would be arbitrary and capricious agency action by the USCG. With evidence at hand that clearly shows that the facts supplied are entirely inaccurate, approval of the DEIS would be egregiously arbitrary and capricious agency action.

D. Updated data analyzed by Liberty's own consultant yields different conclusions

On May 15, 2013, Liberty LNG's consultant for its needs assessment, ICF International, released a report prepared for another client, the American Petroleum Institute, containing entirely different conclusions about the future of LNG imports/exports are made.[45] According to ICF, there are some key differences in the trajectory of this market which we contend (and contended in the scoping process) should have been incorporated into the DEIS "needs" analysis, the baseline "status quo" alternative, and the socioeconomic impact assessment.

First, in the report for Liberty LNG, ICF claims the U.S. needs imports, and that continued expansion of nationwide LNG imports will reduce the price of natural gas by $0.20. For the API, on the other hand, ICF concludes that the U.S. needs exports, and that expansion of export capacity will lead to an increase in the cost of natural gas by up to $1.02.[46] By relying on a flawed "need" assessment (which likely influenced the alternatives reviewed and baselines for many of the economic reviews), the DEIS failed to take a hard look at the information supplied by ICF and Liberty LNG.

Second, for Liberty LNG, ICF noted that LNG imports would double by 2035 (noted above as being a projection off the mark by 500%). This data gap (or "mischaracterization" as BOEM described it) was directly contradicted by the ICF in the API report when it noted the fact that "U.S. [import] demand grew

[44] Data Gaps, item 120, Docket # USCG-2013-0363-0013.
[45] ICF International, U.S. LNG Exports: Impacts on Energy Markets and the Economy. Available at http://www.api.org/~/media/Files/Policy/LNG-Exports/API-LNG-Export-Report-by-ICF.pdf (last visited August 1, 2013) (hereinafter "API Report").
[46] Ibid. at 2.

slightly through 2007 before declining as a result of the shale gas revolution."[47] Clearly, the natural gas consultant for Liberty LNG is aware of this 5-year-long decline in LNG import demand now; it should have also been aware of this market trend in mid-2012, four years into this stated decline.

Third, this API report developed by ICF paints a gruesome economic picture of what exports will lead to:

> *"...for each of the three export cases, the majority of the incremental LNG exports (79%-88%) is expected to be derived from increased domestic natural gas production. Another 21% to 27% stems from consumer demand response (i.e., price increases lead to a certain decrease in domestic gas demand). In addition, 7% to 8% of the remaining rebalancing supply is from changes to net imports (primarily Canadian gas imports and some reduction in exports to Mexico)."*[48]

That means that for each unit of LNG sent overseas, over three-quarters will likely come from new drilling. Another quarter comes from people, businesses, and industries cutting back on gas use due to cost increases. These impacts from exports should have been considered in the DEIS and should, at the very least, be taken into consideration in the environmental, socioeconomic, and economic reviews included in the Final EIS.

For the above reasons, updated data analyzed by Liberty's own consultant demonstrates that there is no need for the proposed LNG import facility.

E. Exports have displaced import need, numerous export facilities have been proposed, and many import facilities remain underutilized

To further underscore the inaccuracy of the needs assessment presented in the DEIS, we note that presently, LNG exports have displaced import need, numerous export facilities have been proposed, and many import facilities remain underutilized.

Fourteen onshore LNG export facilities are currently proposed[49] with an additional thirteen potential export terminal sites identified.[50] Four export facilities have already received FERC approval.[51] One of these approved export facilities is the Dominion Cove Point LNG Terminal, which was originally an import facility ***but then switched to an export facility***.[52] A deepwater port applicant, Freeport-McMoRan Energy (Main Pass Energy Hub), has joined with United LNG to secure a license for LNG exports from their offshore deepwater port – and has already received Department of Energy authorization for such

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[47] Ibid. at 60.
[48] Ibid. at 71.
[49] FERC, North American LNG Export Terminals Proposed, 2015, available at http://www.ferc.gov/industries/gas/indus-act/lng/lng-export-proposed.pdf (last visited, March 16, 2015).
[50] Ibid.
[51] Feds Approve Fourth LNG Export Terminal Amid Growing Pressure to Cash In On US Energy Boom, International Business Times, 2014, available at http://www.ibtimes.com/feds-approve-fourth-lng-export-terminal-amid-growing-pressure-cash-us-energy-boom-1697255 (last visited March 16, 2015).
[52] Dominion Cove Point LNG Terminal Wins Federal Approval, BloombergBusiness, 2014, available at http://www.bloomberg.com/news/articles/2014-09-30/dominion-cove-point-lng-terminal-wins-federal-approval (last visited March 16, 2015).

exports.[53] The fact that facilities for importing LNG are switching to exports highlights concerns regarding the accuracy of Liberty LNG's needs assessment.

In addition to the clear trend of increased export facilities, several LNG import facilities have either decommissioned or have not been utilized in recent years. In a notice posted to the Federal Register on August 14, 2013, the final decommissioning of the Gulf Gateway Deepwater Port was announced. MARAD stated that "Excelerate's decision to decommission the Gulf Gateway Deepwater Port was due primarily to declining pipeline capacity issues, significant operational challenges, and changes in the global natural gas market."[54]

Just a month earlier, on July 16, 2013, the Neptune Deepwater Port offshore of Boston, Massachusetts, petitioned for a license amendment (which was granted) to shut down operations for five years. The stated reason for this shut down was, according to MARAD, that

> *"...recent conditions within the Northeast region's natural gas market had significantly impacted the Neptune Port's operational status and its ability to receive a consistent supply of natural gas imports. As a result, the Neptune Port has remained inactive over the past several years and will likely remain inactive for the foreseeable future. For these reasons, Neptune requested MarAd's authorization to suspend port operations for a period of five years."*[55]

Another deepwater port, Excelerate Energy's Northeast Gateway, only received one shipment this winter (December 2014), and this was the first shipment since the facility's 2010 commissioning season.[56]

The needs assessment contained in the DEIS simply does not reflect the realities of the LNG market today. With increased domestic production, there is simply no need for the proposed import facility.

F. Specific Comments Regarding Section 1.1, Purpose and Need

Comment 1. Page 1-6, Paragraph 1: "The U.S. Department of Energy (DOE), Energy Information Administration (EIA) estimates that total energy consumption in the United States will increase by 0.3 percent per year, to 107.6 quadrillion British thermal units (Btu) from 2011 to 2040 (EIA 2013a)." *The DEIS references a 2013 report completed by the Energy Information Agency. However, this report is only a Short Term Energy and Winter Fuels Outlook Report. Therefore, there are no projections*

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[53] U.S. DOE, Freeport-McMoRan Energy LLC – FE Dkt. No. 13-26-LNG, available at http://www.fossil.energy.gov/programs/gasregulation/authorizations/2013_applications/Freeport-McMoRan_Energy_LLC_-_13-26-LNG.html

[54] 78 F.R. 49603 (Wednesday, August 14, 2013).

[55] 78 F.R. 42587 (Tuesday, July 16, 2013).

[56] http://www.bostonglobe.com/business/2015/02/25/wholesale-electric-prices-lower-that-expected-but-residential-rates-remain-high/MNwQJa1oERLXr1qJxBxVDO/story.html ("Excelerate Energy of Texas is finally using its $350 million offshore floating buoy system, which receives natural gas from LNG ships anchored about 13 miles off the coast of Gloucester and transports it via underwater pipelines into the land-based pipeline system. Excelerate's Northeast Gateway Deepwater Port, as the buoy system is known, hadn't been used since 2010; this year it has received one shipment of LNG.").

for total energy consumption in the United States. The EIS preparer must utilize proper citations for the sake of full transparency and disclosure.

Comment 2. **Page 1-6, Paragraph 1:** "Natural gas use in the industrial sector increased by 16 percent, from 6.8 trillion cubic feet (tcf) per year in 2011 to 7.8 tcf per year in 2025 (EIA 2013a)." *The referenced report makes no mention of natural gas use in the industrial sector. However, Volume 2 of the 2014 New York State Energy Plan (page 91) indicates that natural gas demand in the industrial sector has decreased by 10 percent over the last decade. Hence, the DEIS should be updated to reflect the industrial sector's actual natural gas demand.*

Comment 3. **Page 1-6, Paragraph 1:** "In addition, the natural gas share of electricity generation is expected to grow to approximately 39 percent, potentially reaching 14.8 tcf by 2040 (EIA 2013a)." *The referenced report makes no mention of natural gas's share of electricity generation. However, Volume 2 of the 2014 New York State Energy Plan (page 93) indicates that natural gas grows from a 24 percent share or 7.5 Tcf in 2011 to a share of only 27 percent or 9.0 Tcf in 2035. Hence, the DEIS should be updated to reflect the actual share projections for natural gas electricity generation.*

Comment 4. **Page 1-6, Paragraph 3:** "New delivery points at New York City market locations would relieve existing capacity constraints and increase the reliability of the gas system. In addition, these would also reduce both the volatility of downstate market gas prices and the delivered price of natural gas. New supplies increase gas market reliability and minimize price volatility by providing other sources of supply that are available when other supplies, such as those from the Gulf of Mexico, are disrupted as a result of hurricanes or other factors."

According to the 2014 New York State Energy Plan (page 115) "The combination of increased availability of shale gas and improved take away capacity from this supply basin has led to a general reduction in price volatility. As such, the claim that the proposed project would reduce downstate market gas prices is unfounded. Furthermore, the DEIS indicates the need for the proposed project due to potential weather events, such as hurricanes, which would disrupt supply routes from the Gulf of Mexico. However, according to an EIA report entitled Natural Gas Explained, LNG imports only accounted for 0.4% of natural gas consumption in 2013. Moreover, the majority of U.S. LNG imports are currently from Norway, Qatar, Trinidad and Tobago and Yemen, accounting for 97% of total imports. Further, the EIA report suggests that LNG originally imported to the U.S. is re-exported to other destinations where prices are higher. Hence, operation of the proposed project as an import facility appears untenable, financially. Therefore, there appears no need for the proposed project and the true No Action Alternative should be implemented.

Comment 5. **Page 1-8, Paragraph 1:** "In addition, the PlaNYC introduces Energy Initiative 13, which encourages the development of clean distributed generation. These initiatives were codified in New York City regulations that require all new heating systems to burn only No. 2 oil, natural gas, or the equivalent in terms of emissions beginning May 2011, with a conversion of all No. 4 or No. 6 oil systems by 2030 (NYCDEP 2011). Without additional natural gas capacity, New York City utilities 'will be unable to respond to growing demand for new service as customers pursue clean distributed generation and conversions from dirty heating oil' (NYCDEP 2011)."

The DEIS reference, "NYDCEP, 2011" refers to a May 23, 2011 press release from the New York City Department of Environmental Protection entitled, "Department of Environmental Protection and Department of Buildings Unveil New Program to Streamline Approval Process For Upgrading Boilers." The press release does mention a new regulation that will eventually require all boilers in New York City to only burn Number 2 oil, natural gas, or any fuel that is cleaner. However, the press release makes no mention of New York City's ability to respond to a "growing demand for new service." Furthermore, the DEIS in this case is basing its conclusion on a report prepared for New York City Mayor's Office of Long-Term Planning and Sustainability entitled, "Assessment of New York City Natural Gas Market Fundamentals and Life Cycle Fuel Emissions." The report concludes a need for new facilities to transport natural gas if ALL new boiler in New York City solely utilize natural gas in lieu of Number 2 oil or cleaner sources. As it is impossible to determine what type of fuel every future boiler will utilize, the conclusions of this report, based on an improbable scenario, are unfounded.

Comment 7. **Page 1-8, Paragraph 2:** "Given the established need for new supply, the Applicant commissioned a study (the ICF Report) by ICF International (ICF 2012), the firm hired by the State of New York to assist in the preparation of the NYSEP. The ICF Report concluded that there will be substantial growth in natural gas demand throughout North America and that increased supplies are required to meet growing demand in the Northeast United States, particularly in New York City, which accounts for approximately 20 percent of the total gas demand in the Northeast."

It is hereby requested that the Applicant make the ICF 2012 report available for public review, pursuant to the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and the Department of Energy's NEPA Implementing Procedures (10 CFR Part 1021).

Overall, based on projections that call for price stabilization coupled with trends that indicate that the country is looking for more opportunities to export LNG rather than import it, the proposed project would essentially be obsolete.

G. Conclusions Regarding Stated Purpose and Need

Because of the global increase in LNG import and export capacity, and because of the historic lows of domestic U.S. natural gas price, including either imports or exports into the energy network of New York City may actually drive up prices – not save consumers money. An adequate analysis requires the Final EIS to adequately assess the need for an LNG import facility by considering price impacts from the following: (1) contracting practices (whether the LNG would be purchased on the spot market or through long-term supply contracts); (2) the effect of increasing domestic gas production; (3) declining natural gas demand due to energy efficiency programs; and (4) declining demand for natural gas-powered electricity due to displacement of natural gas with renewables. The Final EIS developed for Port Ambrose must take a hard look at all of these considerations and publicly, openly, and thoroughly appraise the actual economics of LNG imports and exports in this new marketplace.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES.

The DEIS contains a distorted evaluation of the No Action Alternative.[57] The DEIS states that the "development of an onshore LNG terminal is not considered a true alternative to the proposed Project."[58] The DEIS inappropriately provides "an analysis of onshore LNG terminal siting alternatives"[59] anyway because of the assumed need for an additional energy source. As stated above, the EIA's Annual Energy Outlook 2014 estimates that net gas imports will shrink to zero by 2018.[60]

A reasonable analysis of the no action alternative (i.e., *status quo*) would be based upon the premise that no facility is constructed and the license is not awarded. The DEIS contains no such analysis. Instead, the no alternative analysis contained in the DEIS erroneously includes the building of a land-based LNG terminal, which as the DEIS states, has no place in the no action analysis. Indeed, the DEIS affirms that by saying the "...development of an onshore LNG terminal is not considered a true alternative to the proposed Project".[61] Thus, this assessment of a land-based LNG terminal should have been limited to section 2.2.1.1. In fact, "[t]he No Action Alternative would avoid the potential for environmental impacts associated with proposed Project construction and operation."[62] This is a gross distortion of a fair evaluation of the requirement for a "no action" assessment. While such an assessment could include a review of some conceivable or plausible result, the building of an onshore facility is arbitrary and unreasonable, serving only to skew the outcome. Therefore, the DEIS, at its core, is deficient.

It is further noted that the proposed project would prevent the construction and operation of a wind power farm. Yet, the creation of an offshore wind farm was not reviewed in the DEIS as an alternative to the proposed project. This was a significant oversight. According to the 2014 New York State Energy Plan, estimates of offshore wind power potential total more than 38,000 MW.[63] When combined with onshore potential (25,000 MW), wind power could provide more than 1.6 million GWh/year, which is eight times greater than all of New York's projected electric consumption for 2030. The proposed project may significantly impair New York's capacity for wind power and therefore it should have been reviewed in the DEIS as an alternative to the proposed LNG project.

Importantly, the DEIS also fails to be clear and specific about how often, and the length of time tankers will be in operation—docked and active at the port. Liberty claims to be importing LNG to "meet existing and future demand requirements particularly during peak winter and summer demand."[64] What is stated is that the port expects 45 deliveries of LNG per year.[65]

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[57] Liberty LNG Draft Environmental Impact Statement, Section 2 at 2-50
[58] Ibid. at 2-50
[59] Ibid. at 2-50
[60] EIA, Market Trends, Natural Gas, 2014, available at http://www.eia.gov/forecasts/aeo/mt_naturalgas.cfm (last visited March 16, 2015).
[61] Ibid. at 2-50
[62] Ibid. at 2-50
[63] 2014 Draft New York State Energy Plan. Volume 3: page 88, available at http://energyplan.ny.gov/Plans/2014.aspx.
[64] Draft Environmental Impact Statement for the Port Ambrose Project Deepwater Port Application. 1.0 Introduction, at 1-3.
[65] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-108

Based on an assessment conducted by Clean Ocean Action, if the tankers were unloaded continuously, the proposed size tanker could take approximately 4 to 8 days to vaporize and offload a full LNG tanker cargo. At such rates, it would appear that ***an LNG tanker would be attached to a Port Ambrose buoy not for 45 days a year but rather up to 345 days.*** . Nowhere in the DEIS is such an intensive use of Port Ambrose mentioned or considered. Accordingly, the DEIS fails to fully and fairly describe the number of hours, days, weeks or months that the port will be in use, and its impacts upon the human and marine environment. Assessments of maximum and minimum use must be provided for evaluation.

3.0 AFFECTED ENVIRONMENT.

Note: Our comments pertaining to many of the topics in this section appear in our comments to corresponding topics in section 4.0 ("Environmental Consequences of the Proposed Action and Alternatives")

3.7.1.9 Renewable Energy Projects

The proposed Port Ambrose project is not, of course, a renewable energy project. In fact, it is the antithesis of clean, renewable energy. Natural gas is a dirty fossil fuel, a finite resource that our country, our region and our government should be discouraging for numerous reasons, including air pollution. This section will highlight the reasons why our ocean resources should not be used for a fossil fuel project.

A. The Future is Renewables. Renewable sources of energy have much less impact on the environment; conservation and efficiency have even less of an impact on the environment. Sources like sun and wind, as one would surmise, "do not produce any harmful air emissions, such as nitrogen oxides, sulfur oxides, or particulate matter, commonly associated with fossil fuel energy production."[66] There is a clear environmental and public health benefit to utilizing renewable sources of energy as opposed to using the natural gas that the DEIS would provide.

By definition, renewable forms of energy are sustainable. The supply of "renewable energy from the sun and wind is inexhaustible" which makes "the ability to harness these resources vital to the United States' future, especially as the nation's population and energy needs continue to grow."[67] Investing in renewable forms of energy such as wind means investing in energy sources (and the technologies) that will continue to return dividends.

The renewable energy sector is rapidly expanding. Renewable power (excluding large hydropower) has continued to account for an increasing share of the overall generation capacity added worldwide. In 2004, just 10% of the new capacity came from renewable sources.[68] Six years later that proportion more than tripled to 34%, and just a year later it rose to 44%.[69] In 2004, only 4.3% of the world's total

[66] The Potential Environmental and Economic Benefits of Renewable Energy Development in the U.S.-Mexico Border Region, Good Neighbor Environmental Board, http://www.epa.gov/ofacmo/gneb/gneb14threport/English-GNEB-14th-Report.pdf (last visited August 15, 2013).
[67] Ibid.
[68] Global Trends in Renewable Energy Investment 2012, Frankfurt School-UNEP Collaborating Center for Climate & Sustainable Energy Finance, http://fs-unep-centre.org/sites/default/files/publications/globaltrendsreport2012.pdf (last visited August 15, 2013).
[69] Ibid.

generating capacity came from renewable energy (excluding large hydro).[70] Seven years later, 9.2% of the total world generating capacity came from renewable sources- more than double the capacity just 7 years prior.[71]

As energy capacity increases within the renewable energy sector, the cost of production declines. For example, solar photovoltaic technology has an annual growth rate of 80-100% per year.[72] The price of solar panels has fallen from $5 per watt in 2005 to just over $1 per watt in 2009.[73] Wind energy production has grown worldwide, with an annual growth rate of 25%.[74] From 2011 to 2012 there was a significant drop in the cost of generating a MWh of power from onshore wind (down 9%).[75] The cost of energy from fossil-fuel sources, however, was little changed over the same period of time. Coal-fired generation costs were down just 1%.[76] Offshore wind prices are expected to fall a great deal in the next few years as competition within the industry increases and more efficient technology is produced.[77]

A new study from Stanford University found that it is technically and economically feasible for New York State to convert its all-purpose energy infrastructure to one powered by wind, water and sunlight. The plan, usually referred to as the "Jacobson Study" for its author, is hailed as an inexpensive, reliable energy plan which would create local jobs and save the state billions of dollars in pollution-related costs.[78] The Jacobson Study calls for the creation of 12,770 offshore 5-megawatt wind turbines and the development of the offshore wind farms alone is estimated to create 320,000 full-time jobs and more than $21.4 billion in earnings during construction and 7,140 annual full-time jobs and $514 million in annual earnings post-construction.[79] Proponents of the Jacobson Study estimates that $33 billion in health related costs could be saved each year and that savings alone would pay for the new power infrastructure needed within about 17 years.[80] In addition to the economic benefits, this study finds that air-pollution related death would decline by about 4,000 annually in New York State.[81]

Liberty Natural Gas would only provide dirty fossil fuel energy to the New York region. Liberty only estimates that about 600 jobs would be created during the construction of Port Ambrose and only 5 permanent jobs would be created post-construction.[82] New York State has the potential to rely completely on renewable energy, creating far more jobs in the process. This study demonstrates that

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[70] Ibid.
[71] Ibid.
[72] A Global Green New Deal for Climate, Energy, and Development, United Nations Department of Economic and Social Affairs, http://www.un.org/esa/dsd/resources/res_pdfs/publications/sdt_cc/cc_global_green_new_deal.pdf (last visited August 15, 2013).
[73] Ibid.
[74] Ibid.
[75] Global Trends in Renewable Energy Investment 2012, Frankfurt School-UNEP Collaborating Center for Climate & Sustainable Energy Finance, http://fs-unep-centre.org/sites/default/files/publications/globaltrendsreport2012.pdf (last visited August 15, 2013).
[76] Ibid.
[77] Ibid.
[78] Jacobson, Mark Z., *et al.*, 2013. Examining the feasibility of converting New York State's all-purpose energy infrastructure to one using wind, water, and sunlight, Energy Policy, 57: 585-601.
[79] Ibid.
[80] Ibid.
[81] Ibid.
[82] Liberty LNG Port Ambrose, Draft Environmental Impact Statement, Section 4, page 4-122-123.

there is no need for Port Ambrose as renewable energy sources are more than capable of meeting New York's energy demand.

Deficiencies in Liberty LNG's energy analysis must be remedied in the DEIS. In the application, Liberty makes baseless claims that dismiss the benefits of renewable energy and conservation. While there is mention of alternative energy options, there is no data that explains what these alternative energy sources are capable of producing, and what their environmental impact would be in comparison to the Port Ambrose facility.

The DEIS must disclose the metrics used to compare the different environmental impacts of Port Ambrose to the environmental impacts of renewable energy sources. Liberty's application does not review the socioeconomic impacts that renewable energy sources and conservation and efficiency methods. As previously stated, renewable energy investment produces more jobs than natural gas investment.

The long-term estimates of the application are not in the best interests of the public when compared to the long-term benefits of renewable energy and efficiency measures. The DEIS must thoroughly investigate the socioeconomics of renewable energy sources and conservation.

According to Liberty, while renewable energy sources are an important and growing part of the region's energy portfolio, they will not be sufficient to meet the growing energy need. This is a completely baseless claim, as certain studies suggest that New York State's energy sector could be completely based on renewables.

B. The Dirty Face of Natural Gas. Liberty's Port Ambrose project is just another example of the energy sector in the United States moving in the wrong direction. Natural gas is a fossil-fuel and produces an excess of carbon emissions that ultimately lead to climate change. It is imperative for the nation to make a clear shift towards investing in and relying on renewable energy sources, for both environmental and economic reasons. Port Ambrose would provide New York with a dirty fossil fuel and discourage the city from investing in sustainable energy sources, conservation, and efficiency.

Natural gas is often referred to by Liberty LNG as a "cleaner" fossil fuel - there is nothing, however, clean about it. The process of obtaining natural gas alone has vast detrimental impacts to human health and the environment including the contamination of drinking water, marring forests and landscapes, degrading roads and highways, and releasing dangerous gasses that contribute to global warming.[83]

Over the lifecycle of natural gas (mining, transport, and use for electric power) it produces a great deal of harmful pollutants that "results in at least 60-80 times more carbon-equivalent emissions and air pollution mortality per unit of electric power generated than does wind energy over a 100-year time frame."[84] Over a 10 to 30 year timeframe "natural gas is a greater warming agent relative to all [wind,

[83] Who Pays the Cost of Fracking?, PennEnvironment Research & Policy Center, http://pennenvironmentcenter.org/sites/environment/files/reports/Who%20Pays%20the%20Cost%20of%20Fracking.pdf (last visited August 15, 2013).

[84] Jacobson, Mark Z., *et al.*, 2013. Examining the feasibility of converting New York State's all-purpose energy infrastructure to one using wind, water, and sunlight, Energy Policy, 57: 585-601.

water, and sunlight] technologies and a danger to the Arctic sea ice due to its leaked methane and black carbon flaring emissions."[85]

As an import facility, transport and liquefaction further add to the deleterious environmental and social effects of natural gas. If the facility were to be used for exports, the impacts will drastically increase – especially when coupled with land-based impacts exacerbated by the availability of a gateway for domestic U.S. natural gas to be sent to foreign markets. These impacts must be clearly assessed in the Draft EIS.

Natural gas is a fossil-fuel, and as such is not a sustainable form of energy. "Fossil fuels form so slowly in comparison to our rate of energy use that we are essentially mining finite, nonrenewable resources and will eventually exhaust quality supplies."[86] Investing in nonrenewable resources such as natural gas means investing in a resource that will not be available one day.

Perhaps most critically, Port Ambrose is dependent on a limited natural resource – the history of fossil fuels is one of boom and bust, and it is inevitable that this current gas boom will eventually bust. When supplies of natural gas become too costly, too rare, or too dirty, Port Ambrose will be rendered useless and unnecessary – the technology will have been of little to no long-term use while the pollution will have caused significant long-term damage.

C. **The Potential for Renewable Energy: Offshore Wind.** Port Ambrose is not only the wrong project at the wrong time and in the wrong place, but conflicts with proposals for offshore wind. According to BOEM,

> *"The study [BOEM's Identification of Outer Continental Shelf Renewable Energy Space-Use Conflicts and Analysis of Potential Mitigation Measures] concludes that submarine gas pipelines are potential issues for offshore renewable energy because the pipelines can suffer damage from construction, maintenance, and repair activities. These issues could result in potential impacts, including costly rerouting of the pipe and pollution if a pipeline were damaged by renewable energy project activity."*[87]

It would also conflict with Governor Christie's Energy Master Plan of producing 3,000 MW of energy from off-shore wind, and his own Off-Shore Wind Economic Development Act, which calls for 1,100 MW of energy by 2020 shows the tremendous conflict posed by a project like Port Ambrose. Indeed, Governor Christie's 2011 veto of this Liberty LNG project, he expressed his concern that this port would harm New Jersey's sustainable energy sector:

> *"New Jersey has invested much time, energy, and resources into encouraging renewable energy, a commitment that has made the state a national leader. This project could stifle investment in renewable energy technologies by increasing our reliance on foreign sources,*

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[85] Ibid.

[86] A Global Green New Deal for Climate, Energy, and Development, United Nations Department of Economic and Social Affairs, http://www.un.org/esa/dsd/resources/res_pdfs/publications/sdt_cc/cc_global_green_new_deal.pdf (last visited August 15, 2013).

[87] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-109

which would undermine progress made by New Jersey and this nation to promote sustainable energy".[88]

However, the DEIS does little to acknowledge the incompatibility. The DEIS must report on what the energy capacity of the wind area would be, and how that specifically compares to the energy capacity of Port Ambrose. DEIS should address, in detail, the possible complications that could arise from building an LNG facility in the middle of an offshore wind facility. The DEIS is clearly slanted in favor of only type of energy – natural gas – and needs to be remedied to acknowledge offshore wind.

The NYS2100 Report also emphasized the importance of investing in renewable energy in recommendations to improve the strength and resiliency of New York State's energy infrastructure:

> *"Fuels such as coal, natural gas, heating oil, gasoline, and diesel, most of which are imported into New York State, contribute to climate change and make the State's system dependent on various delivery systems that themselves are vulnerable to climate change and other disasters. By diversifying our energy supply to include renewable energy sources ... the State will be more energy secure and reduce its contribution to climate change".*[89]

D. Economic Impacts of Renewable Energy. Investing in renewable energy leads to the creation of many jobs. In 2011, wind and solar power alone accounted for an estimated 1.2 million full-time jobs worldwide.[90] According to the Wisconsin Energy Bureau, "Investment in locally available renewable energy generates more jobs, greater earnings, and higher output ... than a continued reliance on imported fossil fuels."[91] Overall, the Bureau estimates that renewable energy creates three times as many jobs as the same level of spending on fossil fuels.[92]

A 2009 report found similar numbers for wind energy alone; for every $1,000,000 invested in energy, oil and natural gas sources produce 5.2 jobs, whereas wind sources produce 13.3 jobs.[93] These economic impacts are maximized when indigenous resources can replace imported fossil fuels at a reasonable price, and when a large percentage of the inputs can be purchased within the state.[94]

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[88] New Jersey Governor Chris Christie License Issuance Disapproval Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0038.

[89] Recommendations to Improve the Strength and Resilience of the Empire State's Infrastructure, NYS 2100 Commission, http://www.governor.ny.gov/assets/documents/NYS2100.pdf (last visited March 16, 2015).

[90] Global Trends in Renewable Energy Investment 2012, Frankfurt School-UNEP Collaborating Center for Climate & Sustainable Energy Finance, http://fs-unep-centre.org/sites/default/files/publications/globaltrendsreport2012.pdf (last visited March 16, 2015).

[91] 100% Renewable Energy and Beyond for Cities, HafenCity University Hamburg and World Future Council Foundation, http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/100_renewable_energy_for_citys-for_web.pdf (last visited March 16, 2015).

[92] Ibid.

[93] The Economic Benefits of Investing in Clean Energy, Department of Economics and Political Economy Research Institute (PERI) University of Massachusetts, Amherst, http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/green_economics/economic_benefits/economic_benefits.PDF (last visited March 16, 2015).

[94] Dollars from Sense- The Economic Benefits of Renewable Energy, U.S. Department of Energy- National Renewable Energy Laboratory, http://www.nrel.gov/docs/legosti/fy97/20505.pdf (last visited March 16, 2015).

Port Ambrose would not create nearly as many jobs as energy projects from renewable resources would. The port would only produce 5 permanent, fulltime jobs.[95] Utilizing local renewable power allows money to remain in the community or region, thus boosting the local economy.[96] Utilizing imported fossil fuels sends that money to entirely different countries. Once it has left the region, that money is not available to foster additional economic activity. This means that every dollar spent on importing energy is a dollar lost from the local economy, which is a detriment to local businesses in terms of income and jobs.[97]

Liberty is currently applying for Port Ambrose to be an import facility. The natural gas that comes into the facility will be from foreign nations, and the money that is paid for that gas will go back to those nations. Renewable energy is inherently local energy, meaning money that is invested into it will remain in the local economy.

Investing in renewable energy is a more economically sound option than importing fossil fuels. In 2008, the United Nations Environmental Programme (UNEP) stressed that investing heavily in green energy can significantly repair the economic problems associated with the global financial crash for cities.[98] If renewable energy can help repair an economy, then it can certainly help it to grow. From an economic standpoint, renewable energy technologies have two advantages over conventional electricity generation technologies: (1) they are labor-intensive which means they generally create more jobs per dollar invested, and (2) they use primarily indigenous resources, so most of the energy dollars stay local.[99]

3.8. Socioeconomics

The applicant proposes two possible locations as a base of construction operations. One is in Rhode Island, the other in Coeymans, New York. These facilities are over one hundred miles from the proposed port locations, dramatically increasing the environmental cost of the project due to the carbon footprint. Furthermore, it is inappropriate to characterize these activities as "local" to the proposed project location.

See also Section 4.8.

DEIS Excerpt: "Richmond, Kings, Queens, Nassau, and Suffolk counties would likely be utilized for onshore construction and operation support and would also be expected to be the primary source of the workforce to the extent feasible. Although other counties in New York and along the Northeast coast may be impacted due to labor force needs and material purchases, impacts are expected to be concentrated in the five counties listed above. This section provides a baseline description of population

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[95] Liberty LNG Port Ambrose, Draft Environmental Impact Statement, Section 4, page 4-123.

[96] Recommendations to Improve the Strength and Resilience of the Empire State's Infrastructure, NYS 2100 Commission, http://www.governor.ny.gov/assets/documents/NYS2100.pdf (last visited March 16, 2015).

[97] Dollars from Sense- The Economic Benefits of Renewable Energy, U.S. Department of Energy- National Renewable Energy Laboratory, http://www.nrel.gov/docs/legosti/fy97/20505.pdf (last visited March 16, 2015).

[98] 100% Renewable Energy and Beyond for Cities, HafenCity University Hamburg and World Future Council Foundation, http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/100_renewable_energy_for_citys-for_web.pdf (last visited March 16, 2015).

[99] Dollars from Sense- The Economic Benefits of Renewable Energy, U.S. Department of Energy- National Renewable Energy Laboratory, http://www.nrel.gov/docs/legosti/fy97/20505.pdf (last visited March 16, 2015).

and demographics, housing, employment and income, and recreation and tourism in the counties identified within the ROI."[100]

Comment 1: *The DEIS methodology of studying potential impacts at the county level precludes the analysis of potential localized impacts. The entire section should be updated such that more localized and specific geographic areas, such as Census Tracts or Block Groups, are analyzed. This process will allow the public and decision makers to determine if specific areas proximate to the proposed project would be disproportionately impacted and allow for the development of mitigation measures to avoid and/or minimize potential impacts.*

3.9 Environmental Justice

DEIS Excerpt: "Environmental justice concerns are inherently incorporated in the public meetings open houses, meetings with community groups, etc., since public participation is a key tenet of EO 12898, as well as other guidance related to environmental justice. The goal of the public meetings and open houses is to engage all people that would potentially be affected by the proposed Project regardless of race or income status. Open houses were held by Liberty in conjunction with public scoping meetings held by the Maritime Administration (MARAD) and USCG on July 9 and July 10, 2013 in Long Beach, New York and Edison, New Jersey."[101]

Comment 1: *The DEIS should provide specific instances/statements of when Environmental Justice concerns were raised during the July 9 and 10, 2013 Public Meetings. The Applicant should also explain why neither meeting was held in an area with a high concentration of minority citizens who would be potentially affected by the proposed project. The Applicant should further disclose specific community groups the consulted with or, alternatively, provide an explanation as to why community groups that represent the interests of specific minority groups known to reside/work in the ROI were not consulted.*

Comment 2: *The Environmental Justice analysis includes major discrepancies that diminish its integrity. Rather than relying on an average of the five counties that make up the ROI, the DEIS must include an analysis of potential localized impacts. Impacts to minority citizens are typically local in nature; therefore, impacts should be analyzed at the Census Tract or Block Group level.*

Comment 3: *Table 3.9-1 does not include Hispanics in the aggregate for total minority population. Pursuant to EPA Region 2 Guidelines for Conducting Environmental Justice Analysis, EPA's office of Environmental Justice has defined the term "minority" for EJ purposes to include Hispanics, Asian-Americans and Pacific Islanders, African Americans, and American Indians and Alaskan Natives. As such, two of the counties referenced in Table 3.9-1(Kings County and Queens County) both have minority populations that warrant an analysis to determine if these populations would be disproportionately impacted by the proposed project. Moreover, while the EPA recommends a threshold of 51.51 percent of minorities for urban areas and 34.73 percent for rural areas, it is common practice to compare the minority population of a local geography (i.e. a Census Tract or Block Group) to a larger area (i.e. a county or city) since EJ impacts tend to be local in nature. If the minority population of a local geography is meaningfully greater than a larger area, an Environmental Justice analysis is warranted to determine if the given population would experience disproportionate impacts. As such, the DEIS should complete an EJ analysis for local geographies and compare them to larger areas.*

[100] Liberty LNG Draft Environmental Impact Statement, Section 3.8.2, page 3-77 ("Onshore Economic Conditions")
[101] Liberty LNG Draft Environmental Impact Statement, Section 3.9, page 3-81

4.0 ENVIRONMENTAL CONSEQUENCES OF PROPOSED ACTION AND ALTERNATIVES

4.1 Water Resources

This section outlines those impacts to water resources as they relate to the project construction, operation (including LNGRV anchoring), accidents, invasive and non-native species, and impacts during LNGRV port maintenance. As shown in the DEIS Chart[102] below, Port Ambrose will require vast amounts of seawater, and is a direct threat to the water resources of the NY Bight throughout construction, operation and decommissioning.

Table 2 – Annual Water Use for the Port Ambrose Facility over Project Life

Phase	Volume (M^3/year)	Intake / Discharge point	MARMAP/ECOMON data used
Construction	8,462,497	Mainline	Within 5 miles of Mainline
Operation	4,419,420	Port	Within 5 miles of Port
Emergency/Maintenance	86,688	Port	Within 5 miles of Port
Total Operation + Emergency/Maintenance	4,506,108	Port	Within 5 miles of Port
Decommissioning	494,653	Mainline	Within 5 miles of Mainline

In gallons, the water used annually for operations alone would equal 1,167,487,020.[103] To put this volume into perspective, it would fill an Olympic size pool 56 miles long every year.

In addition, of great concern are the impacts that this water abuse will have on marine life as discussed below.

A. Construction.

(1) Turbidity. Construction will cause re-suspension of sediments, which will adversely affect water quality. For instance, the DEIS states that the average annual water intake, as it relates to construction, is expected to be approximately 8,462,497 m^3/yr.[104] As that water is drawn into the proposed project, it will impact water quality by suspending sediments and increasing turbidity.

Seafloor disturbances and increases in turbidity negatively impact water quality in multiple ways. "Resuspended sediments may obstruct filter-feeding mechanisms and gills of fishes and sedentary invertebrates."[105]

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[102] Ibid., Appendix J, page 6
[103] Ibid.
[104] Ibid.
[105] Brief Overview of Gulf of Mexico OCS Oil and Gas Pipelines: Installation, Potential Impacts, and Mitigation Measures OCS Report MMS 2001-067, Minerals Management Services, Department of the Interior, 2001, p. 14, at http://www.boem.gov/BOEM-Newsroom/Library/Publications/2001/2001-067.aspx (last visited March 16, 2015).

The expected trench excavation of 10 feet[106], required by the Army Corps of Engineers, for Port Ambrose would increase turbidity at larger distances. As a result, more material will be disturbed due to the use of a jet sled while excavating the deeper trench. Sediment plumes will increase in the water column because more sediment would be disturbed.[107]

The excavation is just one example in which Port Ambrose would create more turbidity. The anchor cables, for example, move continually, re-suspending sediments over a given area. The DEIS lacks the understanding of such impacts on the water resources of the NY Bight. The 'short-term' and 'adverse' impacts that would result are grossly underrated.

(2) Other Water Quality Impacts. The conclusion that "[c]onstruction, operation, and decommissioning of the proposed Project would have no significant impact on the physical oceanography within the ROI" is poorly supported and more information is needed.[108] "Construction support vessels alone would have varying quantities of fuel, other oil (hydraulic oil, lubricating oil, greases, etc.), and other chemicals stored and/or in use in support of construction. Accidental releases can happen, and are likely to have serious adversely direct impacts on local water quality."[109]

(3) Duration of Construction. The assessment of water quality impacts is, in part, dependent on the length of construction activity. However, the overall timeframe of construction activities is unclear within the DEIS. At some points, a nine-month period[110] is stated; at other points, a twelve-month period[111] is stated. An additional three months would allow for more significant impacts to water quality.

B. Operation. The DEIS states that the average annual water intake for operation of Port Ambrose is expected to be approximately 2,663,040 million cubic feet/yr.[112] The Support Vessel (SV) will also intake an average annual water volume of as much as 1,756,380 million cubic feet for cooling water and other purposes. This brings the operations water intake to an estimated total of 4,419,420 million cubic feet/yr.[113] For the proposed 25 year projected use, that would equate to a total of nearly 110,500,000 million cubic feet.[114]

Since the use of cubic meters understates the water use to the general U.S. public, it is more relevant and appropriate to present the water volume in gallons. The water used annually for operations alone would equal 1,167,487,020 gallons[115](4,506,108 x 264.172). To put this volume into perspective, it would fill an Olympic size pool 56 miles long every year.

This seawater is rich with life which will be harassed, maimed or killed. The section does not discuss these impacts to the broad impacts to all phyla of animal life, nor does phytoplankton.

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[106] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-6
[107] Ibid.
[108] Ibid. at 4-2
[109] Ibid. at 4-3
[110] Ibid. at 4-1
[111] Ibid., Appendix I, 1-2
[112] Ibid., Appendix J, page 6
[113] Ibid.
[114] Ibid., Executive Summary, ES-6
[115] Ibid.

Entrainment of sea-life including plants during extensive water uptake is another major harm associated with Port Ambrose that is overlooked within the DEIS. For operations, seawater is routinely pumped through metal mesh screens, entraining, impinging, and killing marine life. Marine life that is small enough to fit through the screens become entrained, flowing in with the seawater through the system. Larger marine creatures, such as squid, fish, seals, and turtles, can become impinged, colliding with the screen and becoming stuck, injured, or killed as a result. The DEIS focuses mainly on entrainment impacts.[116]

During entrainment, many organisms die due to fluctuations in environmental conditions, such as temperature and pulses of chlorine or other biocides. All organisms entrained during tanker ballast water intake are permanently removed from the local ecosystem, transported by the tanker, and released in distant waters during refueling. Since "[o]nly a small percentage of newly hatched eggs or larvae typically survive to adulthood,"[117] any impact to organisms can devastate local food webs when non-native species that survive are released into receiving waters from the ballast.

As mentioned in the above paragraph, entrained organisms will come in contact with biocides via hydrostatic testing of the Mainline and Laterals. These biocides will be neutralized with hydrogen peroxide,[118] but the DEIS does not specify if and how this mixture will be tested prior to discharge or describe its impact to water quality or marine life.

Additionally, the DEIS purports that "[i]mpingement impacts from the facility are not likely" because of the EPA standard intake velocity of 0.5 foot per second, which "allows most small fish to swim away from the intake."[119] However, no data (i.e. swimming velocities of specific fish species) to support this conclusion is provided within the DEIS.

The total amount of seawater intake/discharge over the life of the Project was calculated with the assumption that maintenance would occur only every 5 years.[120] More data is needed to support this conclusion since the "actual frequency of these 'as needed' activities is not certain."[121] If more maintenance is required, then more entrainment and impingement impacts could be seen.

(1) Port Ambrose's Water Use is not limited to a Closed-Loop System.

The DEIS purports that a closed-loop system will be used because it uses less water, however, Appendix H suggests that the use of the closed-loop system might not be adequate enough: "[d]ue to the limited operation of the regasification system, recirculation of ballast water may not always provide sufficient cooling to meet all of the vessel's cooling water needs."[122] This likelihood will come to fruition in the summer months, which is labeled in some sections of the DEIS as one of the two important seasons throughout the year that this port will be in use.[123] Further clarity and assessment of volumes of water anticipated to be used is needed to determine the impacts if recirculation of ballast water is determined

[116] Ibid., Appendix J, page 1
[117] Ibid., page 8
[118] Ibid., Section 4 at 4-5
[119] Ibid., Appendix J, page 1
[120] Ibid., page 7
[121] Ibid.
[122] Ibid., page 1-1
[123] Ibid.

not to be adequate. Additionally, impingement impacts should have been investigated based on the efficacy of the closed-loop system.[124]

Additionally, an evaluation of the discharge associated with the vessel's auxiliary steam dump condenser is also needed. While although the likelihood of requiring this condenser is "rare" according to the DEIS, the DEIS does mention that it could happen if "an upset condition...develops during the commissioning period."[125] If operating, the seawater intake/discharge rate "could increase to as much as 13,900 gpm."[126] The DEIS recognizes the possibility of use, but a "separate evaluation of the discharge at the higher rate associated with this rare upset condition has not been performed."[127]

Start-up activities will require millions of gallons of seawater for hydrostatic testing of pipelines and storage tanks and other start-up processes. Seawater is required for daily operations, and the proposed closed-loop heating systems will require seawater heated for use in these regasification systems.

Finally, daily LNG operations utilize seawater for engine cooling and ballast water, among other uses. Ballast water for LNG tankers results in the most seawater use – and it is vast. LNG tankers are now up to 1600 feet in length, which is longer than the new World Trade Center Tower is tall. As they unload their cargo, each needs to be filled with millions of gallons of seawater to refill ballasts to stabilize the ship.[128]

C. Accidents. More data is needed in order to conclusively state that impacts of accidental spills would be negligible. Some data suggests that accidents could increase dissolved gas levels in the water column during the sudden release of natural gas (methane) into the marine environment may raise to toxic levels."[129]

The LNGRVs and the support vessels, for example, will be harboring varying quantities of fuel, other oil (e.g., hydraulic oil, lubricating oil, greases, etc.), and other chemicals (e.g., aqueous urea, mercaptan, etc.) stored and/or in use in support of facility operations. If accidental release of these substances were to occur "the waters surrounding the proposed Project could cause potentially direct, adverse impacts on local water quality."[130]

D. Invasive and Non-Native Species. The Draft EIS fails to assess the increased risk of invasive species to the region and other ocean regions due to LNG operations and ballast water exchanges. LNG tankers will bring non-native species into the region and given the amount of time each tanker will remain at Port Ambrose, these species may have time to colonize in the region, possibly displacing native species. LNG tankers can transport invasive species during ballast water exchanges and by biofouling of hulls or anchor chains. The risk of support vessels transporting invasive or non-natives from LNGRV's to near shore areas where the vessels are docked needs to be assessed. Community

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[124] Ibid. ("...the focus of this assessment is on entrainment impacts [only]")
[125] Ibid., Appendix H, page 1-2
[126] Ibid.
[127] Ibid.
[128] Shell Prelude Floating Liquefied Natural Gas Facility at http://www.largestshipintheworld.com/largest_ships_in_the_world/shell-prelude-floating.php (last visited March 16, 2015).
[129] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-10
[130] Ibid. at 4-9

changes to introduction of invasive or attraction of non-native species to the Port area and onshore facilities need to be assessed as well as the larger ecological impacts these changes will have.

E. Impacts During LNGRV Anchoring and Port Maintenance. The DEIS indicates that there will be "[p]ermanent impacts of the Project on benthic EFH are expected only at the footprint of each of the two landing pads (2,000 square feet each), buoy and tether assemblies, and anchoring, for a total impacted area of 4.0 acres."[131] This is in contrast to unsupported conclusions that impacts to the seafloor and increased turbidity will be minor and localized. It is also recognized that anchor chain movement on the seafloor could adversely impact fish eggs and larvae.[132] The area impacted is described as minimal (4 acres) which seems to be an underestimation, and it is not clear how this determination was made. [133] The loss of these benthic resources needs to be assessed in terms of the larger ecological impacts to fish populations and other sea life that depend on the benthos as a source of food. The biological impacts from turbidity and disturbance need to be assessed and quantified with site specific information.

It is critical that all potential maintenance needs, schedules, and activities are accurately identified and impacts assessed.

F. Conclusions Regarding Water Resources. The enormous volumes of marine water will be polluted and degraded in the process and then released back into the environment, negatively impacting the surrounding water quality. The proposed LNG facilities would further contribute to the recurrent dissolved oxygen depletion that typically occurs in the summer in the NY Bight, notably in the northern region near the proposed facility sites.[134,135] In addition, "spills, leaks, or accidental releases of fuels, lubricants, or other hazardous substances" can occur during construction and operations even with preventative measures in place.[136]

The NY Bight is an ecologically important area, which supports various industries, including, but not limited to, fishing, tourism, and boating. For example, the NY Bight supports one of the largest recreational fisheries in North America in addition to a substantial commercial shell fishing industry that harvests surf clams, quahogs, and sea scallops."[137]

Under the *true No Action alternative* defined above, none of these impacts would occur. Since there is no demonstrated need to the proposed project, Port Ambrose, this alternative must be selected.

4.2 Biological Resources.

According to the Environmental Protection Agency, habitat is defined as the "area which provides direct support for a given species, population, or community. It includes all environmental features that

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[131] Ibid., Appendix E, page 25
[132] Ibid.
[133] Ibid.
[134] Glenn, *et al.*, Biochemical impact of summertime coastal upwelling on the New Jersey Shelf, *Journal of Geophysical Research*, 2004, 109 (C12S02): 1-15.
[135] Glenn, *et al.*, Wind-driven response of the Hudson River Plume and its effect on dissolved oxygen Concentrations, *Environmental Research, Engineering and Management*, 2007, 1 (39): 14-18.
[136] Broadwater Final Environmental Impact Statement, Federal Energy Regulatory Commission, Docket Nos. CP06-54-000, *et al.*, p. 3-63 (Jan. 11, 2008).
[137] LNG: An UnAmerican Source – page 42

comprise an area such as air quality, water quality, vegetation and soil characteristics and water supply (including both surface and ground water)."[138] Port Ambrose directly impacts the ecosystem not just within the footprint of the facility, but beyond.

A habitat is the sum of all of its parts. The services associated with an ecosystem include "servicing as a store or sink for energy or materials, providing a pathway for nutrient support, acting as a buffer against chemical changes, and producing the natural resources...such as minerals, wood, food, water, and air."[139] Port Ambrose is directly impacting this ecological balance.

In contrast to the DEIS stating that "[c]onstruction, operation, and decommissioning of the proposed Project would have no significant impact on commercial, recreational, ecological, or scientific importance of any biological resource, nor is it expected to cause any measureable change in population size or distribution for any species in the ROI,"[140] there will be impacts. The port's impacts will not only be seen during construction due to pipeline alignment, but the benthic invertebrates, as well as pelagic species, will experience long-term impacts because of the STL Buoy structure affecting substrate.[141] .

The DEIS specifically states that there will be impacts to resources due to water use, sediment disturbance activities as well as turbidity.[142] In addition, "[w]hile in-place, the footprint of the proposed Project (e.g., PLEMS, STL Buoy landing pads, mooring piles) would not be a suitable habitat for benthic organisms; this habitat loss would persist throughout the duration of operation. A permanent loss of benthic habitat would also occur with the installation of mooring piles, even after decommissioning, in the event that suction anchors cannot be removed."[143] These "permanent loss[es]" should be considered a "measureable change."

Entrainment of sea-life including plants during extensive water uptake is another major harm associated with Port Ambrose that is overlooked within the DEIS. Entrainment impacts alone have the potential to affect eggs and larvae of fish during each phase of the project. For example, "estimated entrainment for the construction phase of the facility is 44,027,806 eggs and 5,075,044 larvae of fish. Estimated annual entrainment during operation, emergency and maintenance activities of the facility is 40,070,732 eggs and 5,986,906 larvae. Estimated annual entrainment during decommissioning of the facility is 2,573,528 eggs and 296,648 larvae."[144] These eggs and larvae would contribute to the ecosystem, are essential to supporting the food web, and threaten to undermine the fisheries industry. This annual loss of marine resources due to Port Ambrose is unacceptable and will cause significant cumulative impact to the loss of living marine resources in the region, especially when one multiplied the loss of fish eggs and larvae over the 25 year use of the port.

While, the destruction of these fish eggs is significant, the DEIS gravely underrepresents the eggs and larvae of all impacted phyla, including invertebrates which have commercial and recreational value.

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[138] Habitat Evaluation: Guidance for the Review of Environmental Impact Assessment, Environmental Protection Agency, http://www.epa.gov/compliance/resources/policies/nepa/habitat-evaluation-pg.pdf (last visited February 24, 2015).
[139] Ibid.
[140] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-15
[141] Ibid., Appendix E, page 25
[142] Ibid., Section 4 at 4-15
[143] Ibid. at 4-15
[144] Ibid., Appendix J, page 38

Scallops, clams, lobsters, shrimp, squid, to name a few are critically important to the ecosystem, and are minimally assessed within this DEIS.

Moreover, the DEIS fails to assess and evaluate key species of concern in the Mid-Atlantic region, including the American eel, which "is at very high risk of extinction in the wild."[145] The International Union for Conservation of Nature (IUCN) added the eel to its Red List, where it joins the endangered Japanese eel and critically endangered European eel.[146] Nor does the DEIS adequately assess threats to the Atlantic Sturgeon, which is an endangered species.

The DEIS does not adequately assess impacts of Port Ambrose within each season. Biological resources within this region have varying activity for breeding, spawning and migration, throughout the year. The DEIS fails to assess the seasonality of the impacts from Port Ambrose.

The DEIS fails to assess the wide ranging impacts as they relate to the proximity of the Hudson Raritan Estuary. The construction, operation, and decommissioning activities are occurring at the entrance to the estuary system. Avoidance or elimination of these resources to the estuary ecosystem could have significant consequences.

In addition, the DEIS does not consider adequately the consequences to biological resources should a tanker(s) rupture or explode.

The following section outlines those impacts to biological resources as they relate to construction and operation.

A. Construction. Port Ambrose's construction activities that could impact biological resources, include, but is not limited to, the following: routine discharges, increased vessel traffic, noise, lighting, marine debris, bottom sediment disturbance, hydrostatic testing, and inadvertent spills."[147]

Sediment dispersion, as it relates to construction, is expected to take place during the months of January through October[148] as it relates to plowing, backfill plowing, supplemental lowering of the Mainline, supplemental lowering at utility crossings, and areal excavation.[149] All of the listed activities will "result in the disturbance of bottom sediments, generation of suspended plumes, and re-deposition of sediment in the vicinity of the construction footprint."[150] As a result of sediment disturbance, "...overturned, deeper sediments may be hypoxic, resulting in longer periods of recolonization."[151]

In addition to sediment disturbance, construction activities will also impact biological resources via noise. For example, "[s]hort-term, potentially moderate to potentially major, adverse impacts on non-threatened and non-endangered marine mammals during construction would result from marine noise from the proposed Mainline installation and STL Buoy anchoring."[152] In this context, it is not clear how

[145] American Eel Is in Danger of Extinction, Scientific American, 2014, available at http://www.scientificamerican.com/article/american-eel-is-in-danger-of-extinction/ (last visited March 16, 2015).
[146] Ibid.
[147] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-15
[148] Ibid., Appendix I, page 3-2
[149] Liberty LNG Draft Environmental Impact Statement, Appendix I at 5-1
[150] Liberty LNG Draft Environmental Impact Statement, Appendix I, page 5-1
[151] Ibid., Section 4 at 4-15
[152] Ibid.

"potentially" is defined, and given the significance of the substance of the above quote, it is critical that it be clearly defined .

Construction activities will also disturb habitat via construction of the PLEMs, which would permanently impact 3.0 acres of seafloor for the two STL Buoys and anchor chain arrays.[153] In addition, "soft-bottom habitat would be permanently displaced by the STL Buoy landing pad, PLEMs, flexible riser and tether systems, and movement of the anchor chain and wire mooring lines." [154]

The DEIS purports the impacts to biological resources as it relates to habitat disturbance would be localized and thus "long-term and moderate impacts" are negligible, but the EPA's definition of habitat is not limited by acreage.

Once again, we note that the assessment of biological impacts is dependent in part upon the length of construction activities, the DEIS does not consistently state the anticipated duration of construction. At some points, a nine-month period[155] is stated; at other points, a twelve-month period[156] is stated. An additional three months will lead to more significant impacts to biological resources.

Regardless of the acreage of impact throughout construction activities, the biological resources associated with the NY Bight are vital in sustaining a healthy ecosystem. Under the true No Action Alternative defined above, none of these impacts would occur. Since there is no demonstrated need to the proposed project, Port Ambrose, this alternative must be selected.

B. Operation. The life expectancy of Port Ambrose is 25 years[157], yet within that brief tenure, the centuries-old habitat of the NY Bight will continually be disturbed throughout operation activities. For example, as the DEIS recognizes, "[l]ong term, minor to moderate, adverse impacts on biological resources from increased vessel traffic, noise, lighting, marine debris, routine discharges, LNG spills, inadvertent spills, bottom sediment disturbance, marine facilities and proposed Mainline presence, and seawater intake (impingement and entrainment)."[158]

As in the construction phase, the DEIS mentions that permanent impacts would only impact a small subset of the project's footprint. Specifically, as it relates to operation, "[p]ermanent impacts from operation of the proposed Project would be limited to the movement of the mooring lines and anchor chain sweep and the approximate 3.0 acres of seafloor required for the PLEMs, STL Buoy landing pads and anchoring system."[159]

(1) Food Chain Disruption. The DEIS purports that the peak activity for operation of the Port is during the winter and summer months.[160] In the marine environment, each season has important biological activity for spawning and migration, particularly the summer months. The DEIS fails to assess the seasonal impacts of Port Ambrose.

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[153] Ibid. at 4-16
[154] Ibid.
[155] Ibid. at 4-1
[156] Ibid., Appendix I, 1-2
[157] Ibid., Executive Summary, ES-6
[158] Ibid., Section 4 at 4-15
[159] Ibid. at 4-17
[160] Ibid. at 4-21

For example, as mentioned in the Threatened and Endangered Species section below, the copepod population will be greatly impacted by the operation of Port Ambrose, especially during the summer months.[161] Many species, such as North Atlantic Right Whales, rely on copepods as a food source. This direct impact to their population will indirectly impact other marine species, including E&T species.

In addition to the copepod population, other species can be gravely impacted by operation activities. For example, activities associated with re-suspension of sediments can cause negative impacts on the early life stages of demersal fish species.[162] In addition,

> *"Turbidity-related impacts may include reductions in growth and feeding rates, and the clogging of respiratory structures. Impacts on demersal fish species from excess suspended sediments from the proposed construction activities have the potential to result in four types of effects: 1) no effect; 2) behavioral effects (e.g., alarm reaction or avoidance response); 3) sub-lethal effects (e.g., reduction in feeding rate or feeding success); and 4) lethal effects (e.g., direct mortality from increased predation or significant degradation of habitat).*[163]

Fish species that readily rely on benthic resources, such as crab-eaters, amphipod, shrimp eaters, and benthivores, will be temporarily impacted, but "[i]f turbidity increase throughout the water column, though, all trophic guilds would be affected."[164]

The phytoplankton population will also suffer mortalities as a result of impingement and entrainment from LNGRV ballast water intake over the life of the proposed Project.[165] While although the DEIS projects these impacts will be "long-term" they are unacceptably considered "minor."[166]

(2) Noise. Similar to construction activities, operation of the port will add new noise sources to the NY Bight. How those new noise sources will impact biological resources, such as fish species, has yet to be quantified: "[h]earing capabilities of fish have been studied in less than 0.01 percent of fish species."[167]

Noise impacts on fish are highly variable, but "[p]otential impacts of continuous sounds on marine fish include temporary threshold shifts (TTS), physiological stress response, and behavioral response (e.g., startle, alarm, avoidance), physiological damage to hearing structures, or in more severe instances, hemorrhaging in the body cavity (permanent threshold shift or PTS)."[168]

More data is needed in order to make the assumption "...most adult fish would leave the construction area temporarily because of in-water disturbances, and the distance between the fish and the noise source would increase, thereby minimizing the change of injury."[169]

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[161] Ibid.
[162] Ibid. at 4-26
[163] Ibid. at 4-26
[164] Ibid. at 4-26
[165] Ibid. at 4-22
[166] Ibid.
[167] Ibid. at 4-28
[168] Ibid.
[169] Ibid. at 4-29

(3) Vessel Strikes on Fish. In addition to increased noise being an indirect result of stationing a Port in the busiest port on the East Coast, increased vessel traffic will also result.[170] In contrast to the DEIS' assumption that a "slight increase in vessel traffic would be negligible in comparison to existing vessel traffic in the area,"[171] an increase in the number of vessels trafficking the port, increases the probability of vessel strikes in relation to marine species.

It has been documented that species such as sturgeon, whale sharks (*Rhincodon typus*), basking sharks (*Cetorhinus maximus*), ocean sunfish (*Mola* species), and manta rays (*Manta birostris*) have a history of being hit by vessels.[172] However, the DEIS suggests that "...the isolated areas of impact would not result in population-level effects to the benthic community, and thus fish populations, of the New York Bight."[173] Any impacts should raise concern.

C. Conclusion Regarding Biological Resources. Each of the biological resources mentioned above play an integral role in the NY Bight ecosystem. Any disturbance, even the slightest in terms of numbers, at any level, could be compounded throughout the ecosystem. The DEIS suggests that the impacts to biological resources associated with construction, operation, and decommissioning of the proposed Port would be negligible and only within the footprint of Port Ambrose. Sufficient data is lacking to support these conclusions. Furthermore, the DEIS analyzes impacts such as noise, turbidity and vessel strikes individually, the DEIS fails to evaluate such impacts collectively, and the collective impacts could pose an even greater threat to biological resources.

It is further noted that under the "Appropriate No Action" defined above, none of these impacts to biological resources would occur, individually or collectively.

4.3 Threatened and Endangered Marine Mammals, Sea Turtles, Fish and Birds

Many federally-listed endangered and threatened species live and migrate in the vicinity of the proposed offshore facilities, pipeline routes, and shipping lanes. The Port Ambrose proposal will significantly alter the physical environment within the NY Bight by disrupting the benthic community and habitat with "noise pollution, release of marine debris, discharges (i.e., heated water), and changes in water quality and/or temperature resulting from fuel spills, turbidity during construction, and wastewater discharges."[174] Threatened and endangered species (T&E) will suffer from food chain and migration disruption along with intra and interspecies communication complications. Such disturbances to threatened and endangered species will have a negative economic impact on the NY Bight.

According to the Endangered Species Act, "...species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation."[175]

The Endangered Species Act defines an "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range,"[176] and "threatened species" as "any

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[170] About the Port, Port Authority of New York and New Jersey, available at http://www.panynj.gov/port/about-port.html (last visited March 15, 2015).
[171] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-29
[172] Ibid.
[173] Ibid. at 4-31
[174] Data Gaps, Item #13, Docket # USCG-2013-0363-0013.
[175] 16 U.S.C. § 1531 (a)(1).

species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."[177]

In a letter posted to the Federal Docket during the scoping period in the summer of 2013, the National Oceanic and Atmospheric Administration (NOAA), stated their concern regarding the potential effects to T&E species from proposed construction, operation (including maintenance and repair), and decommissioning of Port Ambrose.[178] Specifically, "these concerns include, but are not limited to, large whale ship strike/vessel collision; listed species interactions with project equipment, alteration of the physical environment and essential habitat; phytoplankton/zooplankton entrainment via seawater withdrawal; and acoustic disturbance that could result in injury or harassment to our listed species."[179] These concerns have not been adequately addressed in the DEIS.

The following section outlines impacts associated with T&E species as they relate to the following areas: North Atlantic Right Whale, construction/operation/decommissioning, sea turtles, Atlantic sturgeon, noise, habitat, and invasive species.

A. North Atlantic Right Whale. Throughout the DEIS, the North Atlantic Right Whale is labeled as a species of concern. Specifically, "[a]mong the species listed as threatened or endangered in the proposed Project area, the North Atlantic right whale is the only endangered species for which recent population modeling exercises by NOAA indicate that the loss of a single individual could have a negative effect on the survival of the species."[180]

With respect to the critically endangered North Atlantic right whale, the DEIS fails to take into account the best available science on population size, cumulative effects, or species presence in the proposed area. Because of the critically low population level (NOAA estimates that the western population of the North Atlantic right whale contains only about 400 individuals),[181] the DEIS has stated that "the death of even one individual is above the acceptable limit and, should it occur, would be considered a long-term and major adverse impact."[182] The DEIS mentions that "the North Atlantic right whale is particularly susceptible to vessel strikes;"[183] however, given the low population level and the DEIS' own prior statements, the taking of even one individual would constitute more than a negligible impact and would therefore violate the Marine Mammal Protection Act (MMPA).

The DEIS purports that the North Atlantic Right Whale is of most concern during the months of November to April; however, a recently published paper suggests their occurrence more readily in the area throughout the year. This study involved the use of passive acoustic monitoring at several locations off the New Jersey coast over the course of two years and found that "North Atlantic right whales are

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[176] 16 U.S.C. § 1532 (6).
[177] 16 U.S.C. § 1531 (20).
[178] National Oceanic and Atmospheric Administration, Liberty Deepwater Port Docket # USCG-2013-0363-0521
[179] National Oceanic and Atmospheric Administration, Liberty Deepwater Port Docket # USCG-2013-0363-0521
[180] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-67
[181] North Atlantic Right Whale (Eubalaena glacialis), NOAA Fisheries, available at http://www.fisheries.noaa.gov/pr/species/mammals/whales/north-atlantic-right-whale.html (last visited March 16, 2015).
[182] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-67
[183] Ibid. at 4-68

present off New Jersey throughout the year and not only during 'typical' migratory periods."[184] The numbers of up-call detections per day were highest from March through June, which indicates that right whales communicate extensively during this time of year off the New Jersey coast.[185]

Since the proposed Project partially overlaps the Mid-Atlantic seasonal management area (SMA) for this protected marine mammal, Port Ambrose must comply with the Marine Mammal and Sea Turtle Vessel Strike Avoidance Plan that says "vessels 65 feet or longer must maintain speeds less than 10 knots within this area from 1 November to 30 April to reduce collision risk."[186] However, of particular concern is the most recent data, which demonstrates North Atlantic right whale presence off the New Jersey coast year-round, particularly in the spring and summer months, has not been incorporated into the DEIS. Inclusion of this information is critical to ensuring that the DEIS is based on the best available science.

While although the DEIS recognizes the importance of this species and the grave implications of even the slightest impacts which could negatively affect the survival of the species, the DEIS suggests that this proposal should still move forward. For this reason, a true, "Appropriate No Action" defined above, would be in the best interest for the continuation of the endangered North Atlantic right whale.

B. Construction, Operation and Decommissioning. In addition to the North Atlantic right whale, other T&E species will be impacted by the construction, operation and decommissioning of Port Ambrose. The DEIS reviews the impacts associated with each of the three phases of Port Ambrose, but inadequately purports that the effects will be negligible and thus overlooks the associated harm.

The DEIS puts forth conflicting messages regarding the implications. For example, the DEIS states that "[m]ost impacts are negligible, but others, such as noise and vessel traffic, may have long-term effects to different ESA-listed species."[187] However a few paragraphs later, the DEIS states that "ESA-listed marine mammals would not experience long-term or permanent impacts from the construction, operation, and decommissioning of the proposed Project." [188] Further clarification is needed.

We again note that the impacts from construction activities is variable based upon the duration and that the DEIS is inconsistent as to said duration.

(1) Vessel Traffic. Especially during construction, the NY Bight would experience an increase in vessel traffic. The two types of traffic will involve vessels that mobilize and demobilize once and crew boats that transit the site more frequently.[189]

The DEIS contains the admission that "each of the federally listed marine mammal species potentially occurring in the ROI would be susceptible to vessel strike during construction of the proposed Project, as there are recorded incidents of each of these species being involved in a vessel collision."[190]

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[184] Whitt, A.D., Dudzinski, K., and Laliberte, J.R. 2013. North Atlantic right whale distribution and seasonal occurrence in nearshore waters off New Jersey, USA, and implications for management. *Endangered Species* Research 20: 59-69.
[185] Ibid.
[186] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-68
[187] Ibid. at 4-62
[188] Ibid. at 4-63
[189] Ibid. at 4-67
[190] Ibid.

The DEIS states, " [t]he short-term and minor increase in vessel traffic associated with construction activities may affect, but not likely to adversely affect ESA-listed mammals,"[191] but then states, "the proportional probability of that risk [increase in vessel traffic to increase risk of collision] associated with construction vessels cannot be quantified."[192] Further data and analysis is needed in order to insist that marine mammals, especially E&T species will not be harmed as a result of increased vessel traffic, especially since there have been known incidents.

Overall, the assumption that "[i]f one of these animals [threatened or endangered marine mammals] approaches the impacted area during construction, the animal would likely move away from the activity,"[193] must be analyzed.

The DEIS states that "...even if these [threatened or endangered marine mammals] animals do not vacate or avoid the disturbance, they are not expected to experience long-term negative effects,"[194] yet any type of disturbance to T&E species could greatly impact the continuation of the species (i.e. North Atlantic Right Whale).

The reason these species are endangered or threatened is because they are low in numbers, thus if even one animal comes in contact and is adversely impacted by Port Ambrose, breeding could be impacted and thus the continuation of the species.

C. Sea Turtles. The NY Bight is ecologically significant for sea turtles. The potential impacts are similar with those listed above, as well as artificial lighting. Artificial lighting has also been known to "...confuse turtles making their way to nesting habitat, or turtle hatchlings moving toward the water, possibly resulting in an increased risk of mortality."[195]

While although sea turtles' presence is seasonal (spring into early summer), they are still susceptible to stated impacts.

D. Atlantic Sturgeon. Atlantic Sturgeon is also a species of concern in the proposed port area. This species is the only ESA-listed species within the ROI.[196] According to NOAA, there is an estimated 870 adults spawning each year in the Hudson River.[197] In that same source, NOAA lists the following threats to the Atlantic sturgeon population: habitat degradation and vessel strikes.[198] Dredging, in particular, is singled out by NOAA as a threat to their habitat. "Dredging...can displace sturgeon while it is occurring and affect the quality of the habitat afterwards by changing the depth, sediment characteristics, and prey availability."[199] The dredging associated with Port Ambrose is only one way in

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[191] Ibid. at 4-68
[192] Ibid. at 4-67
[193] Ibid. at 4-63
[194] Ibid.
[195] Ibid. at 4-69
[196] Ibid. at 4-94
[197] Atlantic Sturgeon on New York Bight Distinct Population Segment: Endangered, NOAA Fisheries Service, available at http://www.nmfs.noaa.gov/pr/pdfs/species/atlanticsturgeon_nybright_dps.pdf (last visited March 16, 2015).
[198] Ibid.
[199] Ibid.

which the Atlantic sturgeon population will be impacted. Entrainment and impingement also need to be evaluated.

Additionally, the DEIS underrepresents the noise impact Port Ambrose could have on Atlantic Sturgeon especially since there is no published underwater noise criteria available.[200] The DEIS isn't even able to estimate the 'harassment distance'[201] because there is "no data on behavioral shifts in Atlantic sturgeon due to noise from similar construction activity exists."[202] Without this data, the DEIS is gravely incomplete.

E. Coastal and Marine Birds

Coastal and marine birds, such as grebes, loons, and some sea ducks, are known to frequent the proposed area.[203] Indeed, the proposal is located within the Atlantic Flyway which is managed by the US Fish and Wildlife Service along with partner agencies, known as the Atlantic Flyway Council.[204] The DEIS fails to properly asses the impacts to T&E coastal and marine birds causing "direct habitat loss or change (direct effects) or through temporary displacement or disturbance during the construction and operation phase of the proposed Project."[205]

Non-threatened and non-endangered coastal and marine birds will be impacted during all phases of the proposed Project due to "changes to benthic foraging habitat, increases in water turbidity, changes to ambient noise levels, increased vessel traffic, changes to ambient lighting, vessel discharge and spills, ingestion of marine debris, and entanglement."[206] In addition to these, the 15 endangered species and 10 threatened species that occur in the NY Bight[207], could be exposed to and be adversely affected by these impacts.

A full and specific analysis of T&E coastal and marine species, incompliance with all state and federal regulations is needed in order to determine that there will be minimal impacts.

F. Noise. The current marine habitat associated with the NY Bight harbors pre-existing sounds that marine species have adapted to, however adaptation to extensive new noise can severely impact the species. The analysis of noise throughout the DEIS indicates that noise impacts to marine life in the NY Bight will be minimal due to pre-existing background noise already present. However, the specifics of the DEIS tell a different story.

The DEIS states," [a]mbient noise levels in the proposed Project area and surrounding waters are elevated and variable due to current levels of shipping, fishing and recreational vessel traffic. As a result, temporary increases due to construction vessel traffic would have a minimal contribution to that

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[200] Liberty LNG Draft Environmental Impact Statement, Appendix M, page 5-5
[201] Ibid., page 5-3
[202] Ibid.
[203] Ibid., page 4-54
[204] Migratory Bird Flyways, U.S. Fish & Wildlife Service, available at http://www.fws.gov/migratorybirds/flyways.html (last visited March 16, 2015).
[205] Ibid., Section 4 at 4-54
[206] Ibid., Section 4 at 4-54
[207] Regional Species and Community Characterizations, U.S. Fish and Wildlife Services, available at http://nctc.fws.gov/resources/knowledge-resources/pubs5/web_link/text/esfed&st.htm (last visited March 16, 2015).

ambient noise."[208] However, Port Ambrose, by design and purpose, will increase vessel traffic in this already noisy environment throughout the year, and not just during to the construction period.

The DEIS states that "construction noise created by construction vessels could create masking effects among ESA-listed marine mammals in the same manner as for non-endangered marine species. Masking occurs when underwater noise interferes with an animal's ability to hear biologically relevant sounds."[209] Marine mammals rely heavily on inter/intra species communication for migration and foraging purposes. Any masking of such activities, even if temporary, could significantly harm the T&E species.

G. T&E Habitat. According to the Environmental Protection Agency, habitat is defined as the "area which provides direct support for a given species, population, or community. It includes all environmental features that comprise an area such as air quality, water quality, vegetation and soil characteristics and water supply (including both surface and ground water)."[210]

The Port Ambrose proposal will significantly alter the physical environment within the NY Bight by disrupting the benthic community and habitat with "noise pollution, release of marine debris, discharges (i.e., heated water), and changes in water quality and/or temperature resulting from fuel spills, turbidity during construction, and wastewater discharges."[211] The DEIS continues to confirm that alteration. The DEIS purports that the events such as increase in turbidity, routine discharges, hydrostatic testing intake and discharge, etc. will not have any impact on the T&E species, but any impact could harm the continuation of the species.

The mere impact to the copepod population as outlined in the DEIS raises alarms as it relates to ESA-listed whales, which have been estimated to consume about "4 percent of their body weight per day [via copepod ingestion]."[212] Since summer is a "time of high copepod abundance" and the "peak activity at the proposed Port would occur in the...summer," the assumption that there will be little impacts to ESA-listed species as a result of pre species abundance and distribution is invalid.[213] The DEIS specifically states that "...other construction, operation, and decommissioning activities, would remove an estimated total of 1.4 to 57.6 billion copepods, depending on the season" after previously starting that "large whales can ingest up to 461 million copepods per day, totaling approximately 14 billion copepods per month."[214] Clearly, the numbers tell a different story relating to impact.

H. Invasive Species. The DEIS does not adequately analyze the impacts associated with invasive species and in particular, how it affects the Threatened and Endangered Species discussed above. Introduction of other species can also lead to habitat alteration. The LNG vessels that will be responsible for the movement of the liquefied natural gas from Port Ambrose represent a diverse environment that introduces new species into the NY Bight. These new species can greatly impact the local habitat for the threatened and endangered species because of food alteration and predator/prey

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[208] Ibid., Section 4 at 4-66
[209] Ibid.
[210] Habitat Evaluation: Guidance for the Review of Environmental Impact Assessment, Environmental Protection Agency, http://www.epa.gov/compliance/resources/policies/nepa/habitat-evaluation-pg.pdf (last visited August 5, 2013).
[211] Data Gaps, item #13, Docket # USCG-2013-0363-0013.
[212] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-69
[213] Ibid.
[214] Ibid.

alteration. Liberty LNG states in the application that "several species have been introduced into the marine and estuarine environment by human actions, including ballast water exchange or boat hull fouling transference, as well as aquaculture and other means."[215] Liberty LNG adds that "these introduced species may pose a threat to endangered species and to biodiversity."[216] LNG tankers will bring non-native species into the region and given the amount of time each tanker will remain at Port Ambrose, these species may have time to colonize in the region. Port Ambrose will amplify the introduction and threat of new species into the environment, but the DEIS does not discuss this threat.

I. **Conclusions Regarding Threatened and Endangered Species.** Congress declared it to be a national policy that "all Federal departments and agencies shall seek to conserve endangered species and threatened species."[217] The DEIS reviews the various impacts Port Ambrose will have on threatened and endangered species, but specifically states that there will be little to no impact to the species. While sufficient data is lacking to support these conclusions, the impacts, such as noise, habitat destruction, and vessel strikes, are analyzed individually, but combined, could pose an even greater threat to threatened and endangered species. Cumulative impacts were not adequately assessed. The DEIS does not do an adequate job of analyzing the impacts, nor the potential devastating effects the proposed liquefied natural gas port will have on endangered and threatened species.[218]

The impacts discussed in the DEIS are underestimated as threats to these species, including the critically endangered Right Whale. Accidents do happen, LNG spills could happen, but the assessment of impacts is minimal and needs to include more data as it relates to threatened and endangered species.

4.4 Essential Fish Habitat

Essential Fish Habitat (EFH) is a federal designation that requires the National Oceanic and Atmospheric Administration (NOAA) to review fisheries operations and proposed federal projects in order to reduce impacts and protect these important habitats.[219] Federally managed fish species that depend on the NY Bight include Atlantic cod, whiting, red hake, flounders (5 species), ocean pout, Atlantic sea herring, monkfish, bluefish, scup, sea bass, king and Spanish mackerel, cobia, as well as various species of shark and tuna.[220] The NY Bight supports one of the largest recreational fisheries in North America,[221] in addition to a substantial commercial shell fishing industry that harvests surf clams, quahogs, and sea scallops.[222]

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[215] Liberty LNG Application, Volume II, Report 4, at 4-58.
[216] Ibid.
[217] 16 U.S.C. § 1531 (c)(1).
[218] Data Gaps, item #134, Liberty LNG Docket # USCG-2013-0363-0013.
[219] Who is involved in conserving EFH and how does it work? Essential Fish Habitat, Office of Habitat Protection, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, at http://www.nmfs.noaa.gov/habitat/habitatprotection/efh/index_e.htm (last visited Aug. 4, 2008).
[220] Summary of Essential Fish Habitat Designations, National Oceanic and Atmospheric Administration, at http://www.nero.noaa.gov/hcd/STATES4/conn_li_ny/40207340.html (last visited Aug. 1, 2008).
[221] J.B. Pearce, The New York Bight, *Marine Pollution Bulletin*, 2000, 41 (1-6) p. 44-55.
[222] Ibid.

As recognized in the DEIS, "[t]here are micro-regions within the NY Bight with their own special features that attract and support a variety of important species, including the Cholera banks and the Mud Hole."[223] Port Ambrose, located near, Cholera Bank, threatens the livelihood of EFH.

Within the ROI, there are 38 federally managed marine species that have had EFH designation.[224] The DEIS purports that "[c]onstruction, operation, and decommissioning of the proposed Project would have no significant impact on a number of designated EFH species."[225] However, immediately thereafter suggests that "direct, temporary impacts from these activities are expected via displacement from the water column to the designated EFH species. In addition, direct and temporary to long-term impacts from construction, operation, and decommissioning have the potential to exist from the displacement of benthic habitat."[226] These statements are contradictory in nature.

The following section outlines those impacts to Essential Fish Habitat as they relate to construction and operation.

A. Construction. The construction of Port Ambrose will impact EFH in the following ways:

- Mud pump: "submersible pump that is capable of either sucking or blowing the seabed materials from the area being excavated and depositing those materials a short distance away from the site, pending completion of the installation processes."[227]

- Installation of the Mainline and port structures: responsible for impacts to 250 acres of seafloor."[228]

- Resuspension of sediments: has the "potential to negatively impact early lifestages of susceptible fish species whose egg or larval stages are demersal. Turbidity-related impacts often include reductions in growth and feeding rates, and the clogging of respiratory structures."[229]

- Dissolved Oxygen: "The DO may drop from ambient levels temporarily when bottom sediments are re-suspended in the water column..."[230]

- Dredging: "expected to have longer-term adverse impacts on the benthic infauna occupying the sediment to be dredged within the ROI..."[231]

- Trenching: "[w]hile the trenching would be expected to have long-term adverse impacts on the benthic infauna occupying the sediment to be dredged within the proposed Project area, the indirect effects of the loss of those prey resources for EFH species would not adversely affect those EFH species. Therefore, additional mitigation measures are not necessary."[232]

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[223] Liberty LNG Application, Volume II, Report 4, at 4-58.
[224] Liberty LNG Draft Environmental Impact Statement, Appendix E, page 32.
[225] Ibid., Section 4 at 4-96
[226] Ibid.
[227] Ibid., Appendix E, page 24
[228] Ibid.
[229] Ibid., page 28
[230] Ibid.
[231] Ibid., page 29
[232] Ibid., Section 4 at 4-97

Specifically, when discussing dredging as it relates to EFH, the DEIS suggest that no additional mitigation measures are needed even though dredging is "expected to have longer-term adverse impacts on the benthic infauna occupying the sediment to be dredged within the ROI..."[233] The DEIS purports that "the indirect effects of the loss of those prey resources for EFH species would not adversely affect those EFH species."[234] However, this is not substantiated.

One of the most immediate and direct harms comes from offshore LNG terminals and their destruction of seafloor habitats. LNG port construction and pipeline installation smother seafloor (benthic) habitat, alter the seafloor substrate, and cause re-suspension of sediments.

Seafloor disturbances and increases in turbidity negatively impact water quality in multiple ways. "Resuspended sediments may obstruct filter-feeding mechanisms and gills of fishes and sedentary invertebrates."[235] Turbid conditions and resuspended sediments can also cause habitat avoidance by finfish, delay their development, and injure their surface membranes.[236] Resting cells and cysts of diatoms and dinoflagellates could also be resuspended and become active in the water column forming harmful algal blooms.[237] Also, sediment-bound contaminants and nutrients can be released, increasing the biological and chemical oxygen demands and depleting dissolved oxygen levels.[238]

The expected trench excavation of 10 feet for Port Ambrose, as per the request of the Army Corps of Engineers, "would create more turbidity at greater distances from the trench because more material would be disturbed and the deeper trench would require excavation using a jet sled, pushing sediment plumes higher into the water column because more sediment would be disturbed."[239]

Resuspension of sediments and turbidity alone can cause great harm to EFH. Some of the benthic community may be able to recolonize post-construction, however, the recolonization period could take months to years.[240] While although this may be considered "short-term," impacts could be seen throughout the food chain.

As stated above, the effects from construction activity are dependent upon duration and the DEIS does not, with any consistency, state the expected period of construction.

B. **Operation.** The operation of Port Ambrose will impact EFH in the following ways:

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[233] Ibid., Appendix E, page 29

[234] Ibid.

[235] Brief Overview of Gulf of Mexico OCS Oil and Gas Pipelines: Installation, Potential Impacts, and Mitigation Measures OCS Report MMS 2001-067, Minerals Management Services, Department of the Interior, 2001, p. 14, at http://www.mms.gov/itd/pubs/2001/2001-067.pdf (last visited Aug. 26, 2008).

[236] Broadwater Final Environmental Impact Statement, Federal Energy Regulatory Commission, Docket Nos. CP06-54-000, *et al.*, p. 3-87 (Jan. 11, 2008).

[237] Northeast Gateway Final Environmental Impact Statement, Docket No. USCG-2005-22219, p. 4-3 (Oct. 2006).

[238] Broadwater Final Environmental Impact Statement, Federal Energy Regulatory Commission, Docket Nos. CP06-54-000, *et al.*, p.3-36 and 3-76 (Jan. 11, 2008).

[239] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-6

[240] Ibid., Appendix E, page 25

- Prey Removal: "An indirect effect on EFH would be the removal of prey resources via entrainment."[241]

- Displacement: "Direct temporary impacts are expected from displacement from the benthic habitat for the following EFH species: Atlantic cod, black sea bass, little skate, monkfish (adults), ocean pout, Pollock, red hake, scup, summer flounder, whiting/silver hake, windowpane flounder, winter flounder, winter skate, and yellowtail flounder."[242]

- Introduction of invasive species

Permanent impacts due to Port Ambrose do exist. For example, the Atlantic surfclam and ocean quahog, specifically, will experience loss of benthic habitat.[243] Additionally, permanent impacts will be seen at the footprint of each of the two landing pads, buoy and tether assemblies, and anchoring.[244]

3.5 Geological Resources

The following section outlines those impacts to Geological Resources as they relate to the following areas: New York Bight fault zone, pipeline impacts, and anchoring impacts.

A. New York Bight Fault Zone. The proposed pipeline crosses the New York Bight Fault Zone and more investigation of the safety of the pipeline in this area is needed. According to the DEIS, "this fault has not been active for at least 1.8 million years."[245] The DEIS does little to investigate this characteristic further. A study which examined earthquakes from 1677 through 2004 stated that "[t]he greatest activity ... occurs in a belt about 35 km wide to the east and southeast of the Newark basin."[246]

The largest historic shock, mf 5.25 in 1884, occurred along that zone."[247] The 5.25 magnitude was determined over the area it was felt and sizable aftershocks occurred; oceanographic instrumentation was obviously not available at that time and the depth is not known. The epicenter of this quake is mapped in close proximity to where the pipeline connects to the Transco pipeline.[248] As of 2008, there are no seismic stations operating in the coastal plain area where the 1884 earthquake occurred; and "knowledge of which faults [in the region] are active is in its infancy."[249]

It is not clear how it was determined that faults in the area were inactive as claimed. The conclusion of risk must be validated by an independent expert. A more thorough analysis is needed.

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[241] Ibid.
[242] Ibid., page 29
[243] Ibid.
[244] Ibid., page 25
[245] Ibid., Section 4 at 4-100
[246] Sykes, L.R., Armbruster, J.G. Won-Young Kim, W.Y., and L. Seeber 2008 "Observations and Tectonic Setting of Historic and Instrumentally Located Earthquakes in the Greater New York City–Philadelphia Area" Bulletin of the Seismological Society of America, Vol. 98, No. 4 pp. 1696–1719.
http://www.earth.columbia.edu/sitefiles/file/pressreleases/1696.pdf (Visited 8/1/13)
[247] Ibid.
[248] Ibid.
[249] Ibid.

B. Pipeline Impacts. Pipeline installation is disruptive to hundreds of acres of seafloor and causes re-suspension of sediments that negatively impacts water quality. Other shellfish, surf clams, ocean quahogs, shrimp, and sea scallops, may also be buried, injured or killed during trenching. Any dredging through gravel or rocky areas and blasting through exposed outcrops for pipeline installation will cause additional seafloor disruption and environmental harms.

C. Anchoring Impacts. Anchoring is needed during pipeline installation, LNG facility construction, and possibly by tankers during storm events. For constructing the two turret buoys for the Northeast Gateway LNG terminal off Boston, 16 suction-embedment anchors were installed, impacting 33 acres.[250] When LNG tankers connect to the turret buoys at the Northeast Gateway terminal, for example, their anchor chains move and drag across the seafloor repeatedly impacting up to 38 acres that result in "long-term reduction to benthic productivity."[251] Anchoring can destroy a wide swath of habitat if the anchor is dragged or the vessel swings at anchor, causing the anchor chain to drag the seafloor... Accidental anchor impacts, however, could be extensive, with recovery taking longer than 20 years, and they could be permanent, depending on the severity of the impact."[252] The DEIS specifically states that there will be permanent impacts to the benthic community as it related to anchoring.[253]

D. Conclusions Regarding Geological Resources. The geological resources of the NY Bight will clearly be impacted by the proposed project, thought the DEIS fails to adequately investigate some of those impacts, including those related to the New York Bight Fault Zone.

4.7 Ocean Uses, Land Uses, Recreation and Visual Resources

The NY Bight is an ecologically important area, which supports various industries, including, but not limited to, fishing, tourism, and boating. For example, the NY Bight supports one of the largest recreational fisheries in North America in addition to a substantial commercial shell fishing industry that harvests surf clams, quahogs, and sea scallops."[254] The health of these waters is the fundamental driving force behind sustaining these industries.

The following section outlines those impacts to the ocean uses, land uses, recreation and visual resources as they relate to the following areas: Port of New York and New Jersey, commercial and recreational fishing vessels, and other industries.

A. Port of New York and New Jersey. The Port of New York and New Jersey is the largest port on the East Coast and the third largest port in the nation.[255] It provides access to one of the economically viable regions in the nation. In 2014 alone, the Port of New York and New Jersey handled 3,342,286 cargo containers, a 5.4 percent increase in total container traffic from 2013.[256] The DEIS

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[250] Northeast Gateway Final Environmental Impact Statement, Docket No. USCG-2005-22219, p. 4-2 and 4-3 (Oct. 2006).
[251] 73 Fed. Reg. 29489 (May 21, 2008).
[252] Brief Overview of Gulf of Mexico OCS Oil and Gas Pipelines: Installation, Potential Impacts, and Mitigation Measures OCS Report MMS 2001-067, Minerals Management Services, Department of the Interior, 2001, p. 14, at http://www.mms.gov/itd/pubs/2001/2001-067.pdf (last visited Aug. 26, 2008).
[253] Liberty LNG Draft Environmental Impact Statement, Appendix E, page 25
[254] LNG: An UnAmerican Source – page 42
[255] About the Port, Port of New York and New Jersey, available at http://www.panynj.gov/port/about-port.html (last visited March 16, 2015).
[256] Ibid.

purports that "the Port of New York and New Jersey would not experience direct impacts from the construction of the proposed Project."[257]

During the construction phase of Port Ambrose, the DEIS points out that "existing vessel traffic patterns would be temporarily affected from installation of the proposed Mainline, which would cross through the Ambrose to Nantucket Traffic Lane and the Hudson Canyon to Ambrose Traffic Lane,"[258] but continues to purport that there will be little to no impacts on the Port of New York and New Jersey.

During operation of Port Ambrose, the DEIS states that "[o]utside of these areas [Safety Zones], the proposed Project would not impact offshore transportation when not in use."[259] Additional details are needed to determine how often the Port will not be in use, especially since it expects 45 deliveries of LNG per year.[260]

The Port Authority of NY and NJ expressed their concern about the conflicts associated with Port Ambrose to the Federal Docket on July 29, 2013, stating that the "proposed location of the STL Buoys lies between two major Traffic Separation Schemes utilized by marine traffic entering and exiting the Ambrose Channel and the Port of New York and New Jersey."[261] The Port Authority additionally mentions "[t]he potential for conflicts between the needs of the maritime community and those of Port Ambrose Deepwater Port will become even more pronounced over time as ocean going vessels increase in size, mass and number, or as the number of STL Buoys increase."[262] Since the DEIS has shown that there will be an increase in the number of vessels as it relates to construction, operation and decommissioning of Port Ambrose, the concerns that the Port Authority mentions, are affirmed.

B. Commercial and Recreational Fishing Vessels. The proposed site is located approximately 10 nautical miles from the following commercial fishing grounds: Cholera Bank, Middle Ground, Angler Bank, Mussel Ridge, Atlantic Beach Reef and Hampstead Town Reef.[263] The impacts associated with the construction of Port Ambrose, according to the DEIS, are expected to be "short term, localized, and minor" as it relates to ocean uses, recreation and visual resources.[264] Commercial and recreational vessels, however, would experience "displacement of fishing activities in the proposed Project area" since they will be excluded from the construction area during the construction period.[265] While although the DEIS purports that the impacts seen by commercial and recreational fishing will be negligible, they fail to recognize the timeframe of construction. The overall timeframe of construction activities is unclear within the DEIS. At some points, a nine month[266] timeline is proposed whereas at other times, twelve months[267] is mentioned. If the latter is the case, a greater impact on commercial and recreational fishing will result in a greater loss of crop yield for that given year. The DEIS must

[257] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-107
[258] Ibid.
[259] Ibid. at 4-108
[260] Ibid.
[261] Port Authority of New York & New Jersey, Liberty Deepwater Port Docket # USCG-2013-0363-0334
[262] Ibid.
[263] Liberty LNG Draft Environmental Impact Statement, Appendix N, 15
[264] Ibid., Section 4 at 4-106
[265] Ibid. at 4-107
[266] Ibid. at 4-1
[267] Ibid., Appendix I, 1-2

clarify the timeframe of construction and include the losses experienced by the commercial and recreational fishing industries if the twelve month[268] timeframe is chosen.

Additionally, during the normal operations of Port Ambrose, enforcement of the NAAs surrounding the Port facilities will displace fishing activities. The DEIS assumes that the impacts as they relate to the NAAs would be "minor,"[269] yet provides no independent assessment to validate the conclusion. This industry is still suffering from their losses from Superstorm Sandy. In a resolution calling for more federal funding for fishery disaster relief, the New Jersey Assembly stated:

> *"Hurricane Sandy had caused an estimated $77,802,318 to $120,603,234 in uninsured losses to New Jersey's fishing industries, and an estimated $76,599,149 in uninsured losses to New York's fishing industries ... [estimates which] account only for physical damages suffered by fishing industries, and do not account for income lost by the recreational or commercial fishing industries during the time period immediately following Hurricane Sandy."*[270]

In New York, for Superstorm Sandy, "[d]amages to the recreational fishing sector totaled $58 million ($36 million, marinas; $17 million, for hire; $5 million, bait and tackle shops) while damages to the commercial fishing sector totaled $19 million ($9 million, seafood dealers; $5 million federally-permitted commercial fishermen; and $5 million, seafood processors)."[271]

In New Jersey, losses to the "recreational fishing sector exceeded $62 million, with losses including $30 million to marinas and operations co-located and affiliated with the marina; $16 million to bait and tackle shops; and $16 million to for-hire operations" while "damages to the commercial fishing sector included $11 million to seafood dealers; $3 million to federally-permitted commercial fishermen, and $100,000 to seafood processors."[272]

In comments submitted to the Federal Docket on February 12, 2015 in response to the DEIS for Port Ambrose, James Lovgren, President of the Fishermens Dock Co-operative of Point Pleasant NJ, described the devastating impacts threatened by the proposed project: "the fishing industry will suffer severe and maybe even catastrophic consequences from the construction, operation and any 'accidents' that take place at Port Ambrose, or its pipeline. New Jersey's commercial fishing industry contributes over a billion dollars a year to our economy and feeds millions of people with one of the healthiest foods on the earth."[273]

The commercial and recreational fishing industries cannot afford another loss. Port Ambrose would do just that. It is imperative that a *true No Action Alternative* be chosen so as not to compound the losses seen by this industry as a result of Superstorm Sandy.

C. Other Commercial Users. The commercial and recreational fishing industries are not the only ones that would be impacted by the construction, operation and decommissioning of Port

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[268] Ibid.
[269] Ibid., Section 4 at 4-108
[270] NJ Legislature; Resolution AR178/SR110. Available at http://www.njleg.state.nj.us/2012/Bills/AR/178_I1.HTM (last visited August 1, 2013).
[271] Sandy Report, *supra.*
[272] Ibid.
[273] Fishermen's Dock Cooperative, Liberty Deepwater Port Docket # USCG-2013-0363-1384

Ambrose. For example, American Princess Cruises, which is known to cross the Project area, will be forced to re-route. Based on the 2014 calendar for this cruise line, they have events all year round.[274]

Other wildlife viewing businesses will also be impacted by Port Ambrose, though the DEIS suggests that they will only experience "short-term, minor impacts from increased vessel traffic in the proposed Project area during construction of the proposed Project."[275] Further information is needed about the impacts associated with operation of the Port, specifically increased vessel traffic, on these industries. These industries, which are a foundation of the NY/NJ coastal economies, will be expected to amend their businesses due to the construction, operation, and decommissioning of Port Ambrose. Additionally, adequate assessment on impacts to air traffic was not considered in the DEIS.

D. Conclusions Regarding Other Uses and Resources. Whatever nominal gross benefit the proposal project represents, if any, it is clear that it has no net economic benefit to the region given the existing (and competing) uses of the subject area. Moreover, the inherent risk of a catastrophic accident puts these economically significant uses in jeopardy of closure. The NY/NJ Region should not be asked to undertake such a risk for such a nominal alleged benefit.

4.8 Socioeconomics.

Note: In addition to the specific comments regarding Socioeconomics set forth in Section 3.8 above, we submit these comments.

Comment 1. Commercial Fisheries, Recreational Fisheries, and Marine Based Tourism and Recreation.

Page 4-116: "Impacts on commercial fishing from the proposed Mainline and Port facilities construction would be short-term, minor, direct, and adverse. Disturbance of the seafloor and creation of noise from proposed Mainline trenching and installation and placement of the STL Buoys would result in short-term displacement of fish, followed by rapid recolonization. Most commercial fish species would avoid the construction areas; however, relocation of species would be reversible."

Page 4-117: "A majority of recreational fishing is done nearshore, where the installation of the proposed Mainline would have a minimal impact. Impacts on recreational fisheries performed farther offshore would be similar to impacts on commercial fisheries. Impacts include short-term displacement of fish due to seafloor and noise disturbance in the work area during construction. Recreational fishing opportunities are not concentrated in the vicinity of the proposed Project, and as construction activities would progress along the proposed Mainline route, any impacts would be localized, short-term, and minor."

Page 4-117: "Increased vessel traffic traversing to and from the proposed Project during construction would result in short-term, minor, direct, and adverse impacts on marine-based tourism and recreation, including boating, scuba diving, and wildlife watching."

The DEIS does not include an economic impacts analysis of these impacts to substantiate the conclusion that this range of impacts would be "minor". Given the economic significance of both of these industries,

[274] American Princess Cruises, available at http://www.americanprincesscruises.com/dolphin_whale_watching.htm (last visited March 16, 2015).
[275] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-112

as outlined in Section 3.8 of the DEIS, and in order to garner a better idea of how short term impacts would affect these industries, the DEIS should include a breakdown of economic losses, including impacts to employment and wages, for the anticipated construction phase as well as economic impacts during the operation and decommission phases.

4.10 Air Quality.

A. Air Pollution Generally. In addition to the CO_2 emissions and impacts, other significant pollutants are emitted from the terminals, tankers, and the numerous support vessels needed for construction and operations, negatively impacting air and water quality. LNG ports burn fossil fuels for energy and emit many air pollutants including: particulate matter, methane, nitrogen oxides (NO_x), sulfur oxides (SO_x), volatile organic compounds (VOCs), and other toxins.[276,277] Construction of LNG facilities and installation of pipelines are energy intensive and require significant vessel activity and transport. All of this results in widespread air pollution.

On-site tanker activities and long transit distances emit extensive pollution. Indeed, "[l]arge vessels are among the fastest-growing sources of air pollution" and a "single ship coming into harbor can generate the smog-forming emissions of 350,000 new cars."[278] "[F]oreign-registered ships – the majority of commercial ships – do not operate under any EPA emissions standards while in U.S. waters,"[279] and no LNG tankers are U.S. flagged.[280] "Ships are the last major sulfur dioxide (SO_2) source category that burns high sulfur fuels in New Jersey."[281] "Researchers report that international shipping emissions could be responsible for more than 60,000 deaths a year."[282] Factors contributing to the premature mortalities include "exposure to particulate matter, nitrogen oxides (NOx), and sulfate in global ship emissions."[283] In the same way that LNG results in greater CO_2 emissions, the liquefication, shipping, and regasification stages of LNG results in far greater emissions of other pollutants than from domestic natural gas consumption. A study by Carnegie Mellon researchers on lifecycle emissions from LNG states that "[f]or SO_x and NO_x we find there are significant emissions in the upstream stages of the NG/LNG life-cycles, which contribute to a larger range in SO_x and NO_x emissions for NG/LNG than for coal."[284] Significant NO_x emissions particularly come from LNG liquefication plants.[285] The LNG lifecycle can result in NO_x

[276] Crown Landing Final Environmental Impact Statement, Federal Energy Regulatory Commission, Docket Nos. CP04-411-000, *et al.*, p. 3-4 (Apr. 26, 2006).
[277] Statement by Lisa P. Jackson, Commissioner, New Jersey Department of Environmental Protection, Before the United States Senate Committee on Environment And Public Works On S.1499, the Marine Vessel Emissions Reduction Act of 2007, (Feb. 14, 2008).
[278] Gregory Richards, *Ships are an increasing source of air pollution*, The Virginian-Pilot, Nov. 2, 2007.
[279] Ibid.
[280] A message from Maritime Administrator Sean T. Connaughton, Deepwater Port Licensing for LNG and Oil, U.S. Maritime Administration, July, 2008.
[281] Statement by Lisa P. Jackson, Commissioner, New Jersey Department of Environmental Protection, Before the United States Senate Committee on Environment And Public Works On S.1499, the Marine Vessel Emissions Reduction Act of 2007, Feb. 14, 2008.
[282] Death from Shipping, *Environmental Science & Technology,* 2007, 41 (24) p. 8206.
[283] Ibid.
[284] Paulina Jaramillo, W. Michael Griffin, and H. Scott Matthews, Comparative Life-Cycle Air Emissions of Coal, Domestic Natural Gas, LNG, and SNG for Electricity Generation, *Environmental Science & Technology*, 2007, 41, p. 6290.
[285] Ibid., p. 6294.

emissions of up to 15.4 pounds (lb) per megawatt hour (MWh), while it is only 9.69 lb/MWh for the lifecycle of coal.[286]

While the DEIS evaluates the impact of these emissions on the attainment of air quality standards at the project site, the DEIS is deficient because it contains no recognition or analysis of the impact of such emissions upon (1) onshore areas and (2) water quality, as further discussed below.

(1) Onshore Air Pollution. The DEIS does not give adequate consideration to the impact of onshore air pollution from the proposal project. As the New Jersey Department of Environmental Protection has recognized:

> *"SO_2 and oxides of nitrogen (NO_x), and the particles formed from SO_2, and NO_x, as well as direct emissions of fine particles, can be transported over long distances and deposited far from their point of origin, contributing to air quality problems far beyond the areas where they were emitted. Emissions from sources in the New Jersey – New York Metropolitan area are blown by the winds along the coast many miles, impacting [Long Island, Connecticut], Rhode Island, Massachusetts and beyond."*[287]

Therefore, placing LNG terminals and their tanker traffic offshore will simply relocate onshore air pollution problems, not eliminate them. Given the variability in wind directions, LNG facility emissions in the NY Bight would also be blown toward the Jersey Shore by northeast winds.

(2) Air Pollution Impacts on Water Quality. The DEIS fails to adequate consider air pollution impacts on water quality due to the proposed project. Air pollution from natural gas combustion negatively impacts water quality. Because LNG facilities are often in coastal waters that are already polluted by excess nitrogen, increased NO_x emissions can exacerbate the frequency of massive algal blooms and detrimental low dissolved oxygen conditions.[288, 289] Indeed, the NY Bight is already experiencing such harms. Adding more NO_x is contrary to current efforts to reduce nitrogen loading.[290] Existing NO_x emissions from combustion of natural gas and other fossil fuels significantly contributes to eutrophication of coastal waters worldwide, and these emissions are expected to increase in the future.[291] NO_x and SO_x emissions are also of concern as they form acids in the atmosphere, which results in acid rain.

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[286] Ibid.

[287] Statement by Lisa P. Jackson, Commissioner, New Jersey Department of Environmental Protection, Before the United States Senate Committee on Environment and Public Works On S.1499, the Marine Vessel Emissions Reduction Act of 2007, Feb. 14, 2008.

[288] Human Alteration of the Nitrogen Cycle: Threats, Benefits and Opportunities, Scope Policy Briefs, No. 4, UNESCO, Apr. 2007, at http://unesdoc.unesco.org/images/0015/001509/150916E.pdf (last visited August. 7, 2008).

[289] H. Pearl, Coastal eutrophication and harmful algal blooms: Importance of atmospheric deposition and groundwater as "new" nitrogen and other nutrient sources, *Limnology and Oceanography*, 1997, 42 (5, part 2) p. 1154-1165.

[290] Action Plan for the New York-New Jersey Harbor Estuary Program, USEPA Harbor Estuary Program, (Draft June 17, 2008), at http://www.harborestuary.org/reports/HEP_Action_Plan-061708.pdf (last visited Aug. 22, 2008).

[291] Galloway, *et al.*, Nitrogen cycles: past, present, and future, *Biogeochemistry*, 2004, 70 p.153-226.

B. Greenhouse Gas Impacts on the Environment. Greenhouse gases, such as carbon dioxide, NO_x and methane, are well known to contribute to global warming and climate change.[292, 293, 294] There is a wealth of information on how global warming already has altered the planet and what changes are predicted for the future.[295,296] Impacts range from sea level rise, changes in ocean circulation patterns and rates, increased number and intensities of storms, ocean acidification, and water temperature changes resulting in spatial and temporal shifts in population distributions and dynamics affecting entire ecosystems and their productivity.

In Section 3.11.4, the DEIS contains a discussion of the dangers of greenhouse gases and climate change. The DEIS even recognizes the fact that NYDEC has reported that "key impacts of climate change have already begun in New York and Northeastern United States." And in Section 4.10.7 of the DEIS, it is acknowledged that the proposed project would have significant GHG emissions during both construction and operation. However, rather than analyze the impact of an additional 200,000 tons of GHG emissions into our region, the DEIS downplays its significance by comparing it to personal vehicle emissions. This is an extremely weak analysis and comparison; it wholly ignores the cumulative effect of these climate changing emissions at a time when it is acknowledged that GHG emissions need to be reduced to avoid drastic global consequences. The DEIS is deficient in this regard as well.

4.11 Noise

Note: In addition to the specific comments regarding noise set forth in Section 4.2(B)(2) and 4.3(E) above, we submit these additional comments.

Sound is capable of traveling "five times faster through sea water than through air, and low frequencies can travel hundreds of kilometers with little loss in energy."[297] Sound proliferation is most influenced by "(i) frequency of sound (ii) water depth and (iii) density differences within the water column, which vary primarily with temperature and pressure."[298]

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[292] *Climate Change 2007: The Physical Science Basis, Fourth Assessment Report, Intergovernmental Panel on Climate Change,* 2007, (S., Solomon *et al.*, Eds.). (Cambridge University Press, Cambridge, UK) 996 pp. at http://www.ipcc.ch/ipccreports/ar4-wg1.htm (last visited Aug. 26, 2008).

[293] Health and Environmental Impacts of NO_x, U.S. Environmental Protection Agency, at http://www.epa.gov/airprogm/oar/urbanair/nox/hlth.html (last visited July 23, 2008).

[294] Human Alteration of the Nitrogen Cycle: Threats, Benefits and Opportunities, Scope Policy Briefs, No. 4, UNESCO, Apr. 2007, at http://unesdoc.unesco.org/images/0015/001509/150916E.pdf (last visited August. 7, 2008).

[295] *Climate Change 2007: The Physical Science Basis, Fourth Assessment Report, Intergovernmental Panel on Climate Change,* 2007, (S., Solomon *et al.*, Eds.). (Cambridge University Press, Cambridge, UK) 996 pp. at http://www.ipcc.ch/ipccreports/ar4-wg1.htm (last visited Aug. 26, 2008).

[296] Assessment of observed changes and responses in natural and managed systems, C. Rosenzweig, et al., in *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, (M.L. Parry, et al., Eds.), p. 79-131 (Cambridge University Press, Cambridge, UK) at http://www.ipcc.ch/ipccreports/ar4-wg2.htm (last visited Aug. 26, 2008).

[297] Nowacek, Douglas P., *et al.*, 2007. Response of cetaceans to anthropogenic noise. Mammal Review 37: 81-115

[298] Ibid.

The DEIS briefly makes mention of the characteristic of sound to travel "about four-and-a-half times in water than air,"[299] but fails to recognize the implications of that characteristic on the sound produced by Port Ambrose. In the light-limited ocean environment, marine mammals depend on sound for survival. From crustaceans to dolphins and whales, the sense of hearing is critical for many species' biological functions. Over 700 fish species produce low frequency, species-specific sounds.[300] Sea turtles, squid, octopus, shrimp, crab, and even coral and fish larvae have been found to respond to sound. In the ocean, hearing and sound are vital to life. Noise pollution can interfere with animal behaviors, including communication, mating, food identification, prey avoidance, and nursing. Noise pollution can also be fatal by injuring hearing and other organs in sea life.

The NY Bight is a heavily congested area that contains both natural and anthropogenic sounds. The natural sources of sound may differ, but the species local to the environment have learned to coexist. Disruption to the natural sources of sound can have a significant impact on biological functions such as inter and intra-species communication, mating, and feeding. Construction and operation of Port Ambrose will provide a constant new source of sound that will be unavoidable for the marine environment.

A. **Generally.** From the start of construction to the end of the Port's life expectancy, noise will constantly be present at varying degrees. Specifically, "[u]nderwater noise generation is likely to occur during construction and operation phases (including normal operations and routine maintenance), decommissioning and during unplanned events (e.g., unplanned repairs or incidents)."[301]

As stated in the DEIS, "[s]hipping noise is considered to be the dominant source, with the Port located approximately 2.5 km from the closest traffic lane,"[302] but the implications are negated in an another section that states that "[n]oise from LNGRV and Support Vessel movements at Port Ambrose will be of similar magnitude and character to other shipping movements within the NY Bight, and as such the Project vessels should be treated like other vessels."[303] In other words, the addition of vessel numbers in the NY Bight will have little impact; however, the DEIS fails to recognize that there will be an increase in traffic flow and thus an increase in noise.

The DEIS states, "[a]dditional trips made by the support vessel would be within navigation channels and the noise produced would not exceed that of existing vessel traffic."[304] Given the main time of year that Port Ambrose will predominately be used (i.e., peak energy demand periods in the winter and summer), there will be increased noise in an area that is heavily used for migration purposes in the summer. Additionally, any increase in the number of vessels, exceeds the existing vessel traffic and thus exceeds the preexisting noise.

The noise associated with the construction, operation, and decommissioning of Port Ambrose will be compounded by the increase in vessels in the area. All of these sources combined will have a tremendous impact on the marine life of the NY Bight.

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[299] Liberty LNG Draft Environmental Impact Statement, Appendix M, page 2-1

[300] Luczkovich, Joseph J., Mann, David A., Rountree, Rodney A. 2008. Passive Acoustics as a tool in Fisheries Science. Transactions of the American Fisheries Society 137: 533-541

[301] Liberty LNG Draft Environmental Impact Statement, Appendix M, page 2-2

[302] Ibid., page 2-4

[303] Ibid., page 8-1

[304] Ibid., Section 4 at 4-159

As stated elsewhere, the noise impacts during the construction phrase have not been adequately quantified as the DEIS is inconsistent in its references to the duration of construction activities[305], [306].

(1) Mooring and Anchoring System. The DEIS states, " [c]onstruction of the proposed Project would have insignificant impacts on species of marine mammals, turtles, and fish relative to the "harm" criteria (PTS), as the greatest noise impact of underwater sound (use of driven pilings as a mooring anchoring system) has been removed from the proposed Project scope."[307]

At several points, the DEIS claims that suction pile installations will be utilized instead of driven pilings as a mooring and anchoring system.[308] This 'certainty' is later contradicted within the same document by saying "[i]f suction piles cannot be used during the construction phase of the Project, impact piling may be considered."[309] Even though "[t]his source [driven pilings] of underwater noise was removed from the proposed Project scope and was replaced with suction piling,"[310] other parts of the DEIS (including the next sentence) prove discrepancies that lead the reader to believe that impact driven pilings is not completely off the table, but could be needed depending on the "unlikely event geotechnical conditions preclude use of suction anchors."[311] Noise implications associated with such construction activities must be evaluated in case they are decided to be used.

Even if driven pilings as a mooring anchoring system aren't used, no conclusive evidence is available that suction pile installations won't cause any harm since "[u]nderwater sound measurements of suction pile installations are not available..."[312] Yet, without this data, the DEIS still claims that "...the noise from this method of anchor placement [suction pile installations] would be negligible relative to other construction methods because the only noise source is the suction pump."[313] But, "[s]uction piling noise levels are predicted to exceed the TTS threshold for LF cetaceans within 3.5 km of piling, and the PTS criterion within 130 m of suction piling."[314]

Regardless of the lack of data, the DEIS still claims that "[b]ecause suction piles will be used during construction phase of the project, a low level of risk has been identified for cetaceans, sea turtles, and fishes from sound generated by pile placement. Operational, routine maintenance and decommissioning activities are also expected to have a low level risk to protected fauna because vessel noise is expected to be comparable to that generated by common and existing vessel traffic in the surrounding area and because animals have the ability to move away from the potential sources."[315]

(2) Marine Animals. The Marine Mammal Protection Act describes "'harassment' [as] any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild; or (ii) has the potential to disturb a marine mammal or marine mammal stock

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[305] Ibid. at 4-1
[306] Ibid., Appendix I, 1-2
[307] Ibid., Section 4 at 4-159
[308] Ibid. at 4-166
[309] Ibid., Appendix M, page 2-2
[310] Ibid., Section 4 at 4-166
[311] Ibid.
[312] Ibid., Appendix M, page vii
[313] Ibid.
[314] Ibid., page 7-3
[315] Ibid., page viii

in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, feeding, or shelter."[316] The Marine Mammal Protection Act requires impacts on marine mammal populations to be assessed. However, we lack critical information on populations of endangered and threatened whales and other sea life that will be adversely affected even if these were properly assessed based on available data.

Marine mammals, for example, "use sound in social interactions as well as to forage, to orient, and to respond to predators."[317] Any interference with their behavior and/or hearing could have drastic consequences on the continuation of species. "When observable reactions do occur, they may include orientation or attraction to a sound source; increased alertness; modification of characteristics of their own sounds; cessation of feeding or social interaction; alteration of movement/diving behavior; temporary or permanent habitat abandonment; and, in severe cases, panic, flight, stampede, or stranding, sometimes resulting in injury or death."[318]

Noise exposure is capable of significantly impacting a species physiological effects (i.e. non-auditory structures), whether directly or indirectly.[319] An animal's exposure history "with a particular sound affects whether it is subsequently less likely (habitation) or more likely (sensitization) to respond to a stimulus such as sound exposure."[320] Significantly, a liquefied natural gas port would be new to the NY Bight. The installation and construction of Port Ambrose would create a new wave of sounds that the marine species in the NY Bight have not grown accustomed. Thus, their "exposure history" would be significant.[321]

Liberty LNG's DEIS states that there will be no long-term effects on the biological resources of the NY Bight. Closer examination of the DEIS proves otherwise. The National Marine Fisheries Services (NMFS) has recognized construction and operation data deficiencies of noise impacts to sea turtles, Atlantic sturgeon marine mammals, and other invertebrates.[322] These deficiencies are still evident based on the lack of available data. The DEIS fails to recognize that "any underwater noise levels produced during the construction and operations of the deepwater port that is above ambient for any period of time has the potential to cause behavioral and/or physiological changes in listed species."[323] Such changes could have drastic consequences on survival of the species, yet the DEIS claims that there will be little impacts to the marine life in the NY Bight as a result of construction, operation, and decommissioning.

The Liberty LNG application specifically states that the "[e]xisting underwater noise levels in the Project area in the New York Bight are expected to be higher than ambient natural conditions due to vessel traffic (both recreational and commercial)."[324] Pre-existing conditions of the NY Bight are already above ambient; thus, the addition of noise associated with Port Ambrose will affect the marine life. If pre-existing conditions of the NY Bight are already above ambient, then how will the addition of the noise associated with Port Ambrose not affect the marine life?

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[316] 16 U.S.C. §1361 (2)(a).
[317] Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations, European Association for Aquatic Mammals, http://sea-inc.net/assets/pdf/mmnoise_aquaticmammals.pdf (last visited August 8, 2013).
[318] Ibid.
[319] Ibid.
[320] Ibid.
[321] Ibid.
[322] Data Gaps, item #72, Liberty LNG Docket #USCG-2013-0363-0013.
[323] Ibid.
[324] Liberty LNG Application, Volume 2, Report 9, at 9-59.

Behavioral disturbances on marine mammals and invertebrates are of a major concern based on noise impacts associated with the operation and maintenance of Port Ambrose. Examples of behavioral changes that could be directly related to noise impacts include "the abandonment of an important activity (e.g. feeding, nursing) or location in response to some sound, and the repeated abandonment of such vital activities can lead to detrimental consequences for the animal(s) affected."[325] The DEIS purports that "[g]iven the volume of existing traffic in the area, it is expected that any noise attributable to the additional LNG vessels will not be noticed by species tolerant of existing shipping."[326] However, any change in habitat (including noise pollution) can be extremely detrimental to the continuation of a species.

Many species of whales, for example, are known to transit the area at various points throughout the year, specifically, fin whales, humpback whales, and the North Atlantic right whale.[327] Combined, these species transit the project area during the winter, spring, summer and fall.[328, 329, 330] There is no good time for Port Ambrose.

Even with the above data, the DEIS purports that little harm will result from construction, operation and decommissioning of the port: "[a]lthough species abundance varies by season in the Project area the likelihood of "harm" (PTS) or "harassment" (TTS) from the Project to individuals or species due to underwater sound is Rare to Unlikely because of the transient and seasonal nature of the species moving through the Project area, and the ability of animals to move away from sound sources."[331] Why should these species have to change their course in their habitat to move away from an anthropogenic sound?

(3) Lack of Available Data on Noise Impacts

The DEIS is not able to adequately anticipate the impacts of noise on marine life because there is a lack of available data, specifically, when it relates to fish species and turtles. The DEIS mentions that "[r]esearch studies and/or acoustic guidance or regulations related to fish and underwater sound is lacking."[332] Additionally, "[t]here are no published underwater noise criteria for turtles in U.S. waters."[333]

Similar to construction activities, operation of the port will add new noise sources to the NY Bight. How those new noise sources will impact biological resources, such as fish species, has yet to be quantified: "[h]earing capabilities of fish have been studied in less than 0.01 percent of fish species."[334] Noise impacts on fish are highly variable, but "[p]otential impacts of continuous sounds on marine fish include temporary threshold shifts(TTS), physiological stress response, and behavioral response (e.g., startle, alarm, avoidance), physiological damage to hearing structures, or in more severe instances,

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[325] Nowacek, Douglas P., *et al.*, 2007.Response of cetaceans to anthropogenic noise. Mammal Review 37: 81-115
[326] Liberty LNG Application, Volume 2, Report 9, at 4-68.
[327] Liberty LNG Draft Environmental Impact Statement, Appendix M, page 4-1
[328] Ibid.
[329] Ibid., page 4-6
[330] Ibid., page 4-7
[331] Ibid., page 7-2
[332] Ibid., page 3-2
[333] Ibid., page 5-3
[334] Ibid., Section 4 at 4-28

hemorrhaging in the body cavity (permanent threshold shift or PTS)."[335] Specifically, data is needed for Atlantic sturgeon because there is "no data on behavioral shifts in Atlantic sturgeon due to noise from similar construction activity exists..."[336] Since there is no data, "harassment distance for Atlantic sturgeon is not estimated in this report."[337]

More data is needed in order to make the assumption "...most adult fish would leave the construction area temporarily because of in-water disturbances, and the distance between the fish and the noise source would increase, thereby minimizing the change of injury."[338]

The NY Bight is ecologically significant for sea turtles, of which all species are endangered. A small amount of data is available for turtles and their use of hearing. For example, there is "[n]o information on Kemp's ridley sea turtle [the most endangered sea turtle] or leatherback sea turtle hearing."[339] It is hypothesized that "turtles likely use sound for navigation, location of predators/prey, and environmental awareness."[340]

It is a gross failure of the DEIS to assume that the turtle population will not be impacted by the noise associated with Port Ambrose when there is little data to support it.

Additionally, the DEIS references NOAA's *Draft Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammals* when discussing noise impacts. This document is in its draft phase and will be released once it has been peer reviewed and public comments incorporated.[341] These guidelines will provide "acoustic threshold levels for onset of permanent threshold shift (PTS) and temporary threshold shifts (TTS) for all sound sources."[342] The data to be provided by this document should be an integral component of the review of noise impacts. Until this is released, the DEIS is incomplete.

Since there is a lack of available data, the DEIS cannot adequately assume that no marine life will be harmed as a result of Port Ambrose. It is imperative that a *true No Action Alternative* be selected.

B. Impacts of Construction (DEIS Section 4.11.2)

The DEIS purports that "[a]ll sound sources from the construction phase of the Project are considered to have a Minor impact to species of marine mammals, turtles, and fish"[343] and that "[t]he radiation of sound to marine waters during the construction phase of this Project will be within the immediate vicinity of the Project and effects are expected to be temporary, hence "harassment" (TTS) for all species are ranked as Negligible to Minor."[344] But sound is capable of traveling "five times faster through

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[335] Ibid.
[336] Ibid., Appendix M, page 5-3
[337] Ibid., page 5-3
[338] Ibid., Section 4 at 4-29
[339] Ibid., Appendix M, page 5-3
[340] Ibid.
[341] NOAA's Marine Mammal Acoustic Guidance, NOAA Fisheries, available at http://www.nmfs.noaa.gov/pr/acoustics/guidelines.htm (last visited March 16, 2015).
[342] Ibid.
[343] Liberty LNG Draft Environmental Impact Statement, Appendix M, page 7-2
[344] Ibid.

sea water than through air, and low frequencies can travel hundreds of kilometers with little loss in energy."[345]

Noise associated with various construction activities will harm the marine species of the NY Bight. For example:

- **Blasting and pile driving**: "The pressure pulses generated by high energy noise sources, such as blasting and pile driving of large diameter piles, can cause the swim bladder of fish to rupture or tear. This generally occurs in the immediate vicinity of the source where the pressure rises and reduces quickly to its positive and negative peak pressure level. The sudden increase and decrease in pressure level causes gas oscillations that can rupture or tear the swim bladder."[346]

- **Installation of the lateral pipeline:** "Installation of the lateral pipeline will produce noise levels that are predicted to exceed the PTS criterion for LF cetaceans within 250 m."[347]

Since sound can travel hundreds of kilometers, the radiation of sound in the marine waters will be compounded by the ability of noise to travel farther through water. Thus, it is imperative that a *true No Action Alternative* is selected so as not to cause potential harm to marine life in the immediate vicinity and those further away.

Additionally the overall timeframe of construction activities is unclear within the DEIS. At some points, a nine month timeline[348] is proposed whereas at other times, twelve months[349] is mentioned. The two month discrepancy would allow for greater water quality impacts. The assessments of impacts are, in part, dependent the length and time of year of the activity.

C. Impacts of Operation (DEIS Section 4.11.3)

The DEIS claims that "[t]he radiation of sound to marine waters during operations is expected to be short-term,"[350] but ignores the consistency of noise that will result with the operation of the Port. "The proposed Port would be operational all year long; however, LNGRV and regasification activities would predominately occur during winter during the peak of the heating season."[351] Yet this ignores earlier statements of increased activities during the summer months as well. Regardless, the DEIS claims that "...all sound sources are considered to have minor consequences to species of marine mammals, sea turtles, and fish relative to harm criteria (PTS)."[352]

During normal, operational periods, "[u]nderwater noise is anticipated to be produced by the LNGRVs during the approach, mooring, maneuvering on the buoy and regasification procedures."[353] "The highest-energy source of underwater sound during the operation phase would be from vessel transits

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[345] Nowacek, Douglas P., *et al.*, 2007. Response of cetaceans to anthropogenic noise. Mammal Review 37: 81-115
[346] Liberty LNG Draft Environmental Impact Statement, Appendix M, page 5-5
[347] Ibid., page 7-3
[348] Ibid., Section 4 at 4-1
[349] Ibid., Appendix I, 1-2
[350] Ibid., Section 4 at 4-166
[351] Ibid. at 4-162
[352] Ibid. at 4-166
[353] Ibid. at 4-162

near the proposed Port and from mooring activities,"[354] but earlier excerpts from the DEIS state that these vessel transits will not exceed existing vessel noise. Consistency within the DEIS is lacking.

D. Impacts of Decommissioning (DEIS Section 4.11.4)/Repairs. The DEIS states, "[u]nderwater sound generated from planned maintenance, decommissioning and unplanned events would be similar to those from the construction and operation phases of the proposed Project and as such **were not modelled** as unique sound sources."[355] However, "[m]ajor repairs to the proposed Project would likely generate additional underwater sound in the area. During repair of the proposed Project, underwater sound levels would be temporarily elevated...These types of repairs could take up to two to four weeks."[356] A comparison of other LNG ports of similar make is needed to evaluate the consistency and type of repairs. All potential sound sources should have been modeled in the DEIS.

E. Mitigation and Monitoring (DEIS Section 4.11.6). The DEIS outlines mitigation procedures as it relates to noise impacts. Mitigation measures assume that all marine animals can be seen at all times of potential impacts[357], but other data suggests that marine mammals stay underwater much longer than originally expected and thus might not be seen at the appropriate times.

Additionally, "...visual observations would occur continuously during daylight hours to monitor for sea turtles and whales in the area...If pile driving commences during daylight hours, pile driving may continue into nighttime hours provided that there has been no interruption in activity. However, pile driving would not be mitigated during nighttime hours when visual clearance of the zone cannot be conducted."[358] This notion that the lack of visual presence of turtles and whales during the day means a lack of presence of such creatures at night is erroneous. Most species of turtles are nocturnal, and therefore are more likely to be present during nighttime hours. In addition, whales are not strictly diurnal creatures, some species have been documented to communicate and hunt during the night. Allowing piling activity during times when the presence of such animals cannot be confirmed by visual observation presents an unacceptable risk that the DEIS fails to consider.

F. Conclusions Regarding Noise. As stated previously, disruption to the natural sources of sound can have a significant impact on biological functions such as inter and intra-species communication, mating, and feeding. Liberty specifically states in its application "man-made sounds...are relatively new and have the potential to disturb behavior and interfere with important biological functions."[359] The Liberty LNG application does not adequately analyze the impacts of noise pollution on marine life in the NY Bight. Construction, maintenance, and repair represent times at which marine life will be exposed to potentially detrimental noises. Construction and operation of Port Ambrose will provide a constant new source of sound that will be unavoidable in the marine environment. As NMFS has pointed out "any underwater noise levels produced during the construction and operations of the deepwater port that is above ambient for any period of time has the potential to cause behavioral and/or physiological changes in listed species."[360]

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[354] Ibid.
[355] Ibid. at 4-166
[356] Ibid.
[357] Ibid. at 4-169
[358] Ibid. at 4-169 to 4-170
[359] Liberty LNG Application, Volume 2, Report 4, at 4-62.
[360] Data Gaps, item# 72, Liberty LNG Docket # USCG-2013-0363-0013.

Nevertheless (and once again), the DEIS dismisses serious risks due to environmental factors that are not adequately understood. On the issue of noise, the DEIS concludes, "[b]ecause the behavioral response of marine mammals to a perceived marine sound depends on a range of factors...it is more difficult to predict behavioral shifts to anthropogenic sounds," [361] and classifies any such noise impacts as "minor." A conclusion based upon a blind assumption is without merit, and accordingly, the DEIS is deficient with respect to its analysis of noise impacts.

5.0 SAFETY.

A. The Inherent Hazards of LNG

LNG "is more than just a potential weapon of mass destruction in the right locale. It also offers terrorists an awesome economic target wherever in the world it can be found--even on the high seas."[362]

Due to LNG having a volume 620 times smaller than in its natural gaseous state,[363] LNG represents highly compressed energy. As a result, "[t]he energy content of a single standard LNG tanker (one hundred twenty-five thousand cubic meters) is equivalent to seven-tenths of a megaton of TNT, or about fifty-five Hiroshima bombs."[364] While the energy content might not be released at the same rate and in the same format as a Hiroshima bomb, not enough is known as to the full-scale results of a large LNG release.

"Impact estimates for LNG tanker attacks are largely based on engineering models, however, each with its own input assumptions--so it is difficult to assert definitively how dangerous a real attack would be."[365] In citing LNG ports, researchers rely primarily on modeling reports, which can vary largely.[366] But researchers have found the threats to be real.

A Congressional Research Service Report for Congress found that LNG "is a hazardous fuel,"[367] "poses a serious hazard of explosion or fire,"[368] and "can be vulnerable to terrorist attack."[369] The Congressional Report also discusses the various hazards that LNG terminals pose, including what follows.

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[361] Liberty LNG Draft Environmental Impact Statement, Section 4 at 4-66

[362] Lieutenant Commander Cindy Hurst, Is Liquefied Natural Gas an Economic Target?, Spero News (adapted from a report for the Institute for the Analysis of Global Security and a contributor to The Cutting Edge News), June 30, 2008, at http://www.speroforum.com/site/article.asp?id=15596 (last visited March 16, 2015).

[363] Amory Lovins and L. Hunter Lovins, Brittle Power (Jack Howell ed., Brick House Publishing Co. 1982) (1982), p. 87.

[364] Ibid., p. 88.

[365] CRS Report for Congress, *Liquefied Natural Gas (LNG) Infrastructure Security: Background and Issues for Congress*, Congressional Research Service, The Library of Congress, Order Code RL 32073, Sep. 9, 2003, p. CR-12.

[366] Government Accountability Office, Report to Congressional Requesters, Maritime Security, *Public Safety Consequences of a Terrorist Attack on a Tanker Carrying Liquefied Natural Gas Need Clarification*, GAO-07-316, Feb. 2007, p. 2 of 45.

[367] CRS Report for Congress, *Liquefied Natural Gas (LNG) Infrastructure Security: Background and Issues for Congress*, Congressional Research Service, The Library of Congress, Order Code RL 32073, Sep. 9, 2003, Summary.

[368] Ibid., p. CR-8.

[369] Ibid.

First, there are the threats of pool fires that would spread and burn "far more hotly and rapidly than oil or gasoline fires. They cannot be extinguished–all the LNG must be consumed before they go out. Because LNG pool fires are so hot, their thermal radiation may injure people and damage property a considerable distance from the fire itself. Many experts agree that a pool fire, especially on water due to thermal effects, is the most serious LNG hazard."[370] According to a Coast Guard review of the proposed Calypso LNG port offshore Florida, "[i]n the worst-case scenario, with tanks breached and the pooled gas catching fire, the blaze could kill people half a mile a way and cause second-degree burns at 1.6 miles, according to the review. If the leaked gas vaporized, the flammable cloud could extend 3.7 miles from the leak."[371]

Second, there are flammable vapor clouds that result if an LNG spill does not immediately ignite as in a pool fire. A vapor cloud "would not likely explode all at once, but the fire could still cause considerable damage. An LNG vapor cloud fire would gradually burn its way back to the LNG spill where the vapors originated and would continue to burn as a pool fire."[372] One government study put the hazard range for a vapor cloud up to more than one and a half miles.[373] Researchers from a Pentagon commissioned study found that a gas cloud "might extend at least three miles downwind from a large tanker spill within ten to twenty minutes. It might ultimately reach much farther – perhaps six to twelve miles. If not ignited, the gas is asphyxiating. If ignited, it will burn to completion with a turbulent diffusion flame reminiscent of the 1937 *Hindenberg* disaster but about a hundred times as big. Such a fireball would burn everything within it, and by its radiant heat would cause third-degree burns and start fires a mile or two away."[374] "[A] single cubic meter of spilled LNG can make up to twelve thousand four hundred cubic meters of flammable gas-air mixture."[375] An LNG tanker holding 125,000 cubic feet of LNG "can form between about twenty and fifty billion cubic feet of flammable gas-air mixture."[376]

A vapor cloud explosion at an LNG liquefaction plant in Algeria, which killed 27 people and injured dozens, took eight hours to extinguish. According to scientific studies, including one by Sandia National Laboratories in New Mexico, the radiated heat from an ignited vapor cloud "could burn skin on those outside up to a mile away."[377] "Jerry Havens, a professor of chemical engineering at the University of Arkansas, said the Federal Energy Regulatory Commission...[has] misused two models he devised to calculate how far a vapor cloud would travel should LNG spill from an import terminal. He also said the

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[370] Ibid.

[371] David Fleshler, *Floating gas plant proposal off Fort Lauderdale 'crazy idea'*, South Florida Sun-Sentinel, May 17, 2008.

[372] CRS Report for Congress, *Liquefied Natural Gas (LNG) Infrastructure Security: Background and Issues for Congress*, Congressional Research Service, The Library of Congress, Order Code RL 32073, Sep. 9, 2003, p. CR-8-9.

[373] Mike Hightower, *et al., Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water*, Sandia Report, Sandia National Laboratories, SAND2004-6258, Dec. 2004, p. 15.

[374] Amory Lovins and L. Hunter Lovins, Brittle Power (Jack Howell ed., Brick House Publishing Co. 1982) (1982), p. 88.

[375] Ibid.

[376] Ibid.

[377] Armen Keteyian and Phil Hirschkorn, *Safety Concerns Tie Up LNG Development*, CBS News, Oct. 27, 2007, at http://www.cbsnews.com/stories/2007/10/27/cbsnews_investigates/main3419576.shtml?source=search_story (last visited March 16, 2015).

data FERC has used assumes a relatively small spill, which skews projections for how far vapor rising off leaking LNG could spread."[378]

Third, there is the potential for flameless explosions that could result from LNG spills on water. Known as a "rapid phase transition," LNG could heat up and regasify almost instantly in a "flameless explosion."[379]

Other threats include vapor clouds causing asphyxiation by displacing breathable air, as well as cryogenic injuries and equipment damage.[380] Cryogenic injuries are less of a threat "as a major spill would likely result in a more serious fire."[381]

Historically, one frequently cited accident was the shattering of an LNG storage tank in Cleveland, Ohio in 1944. While this is an old accident, it provides insight into the potential scale for an LNG accident. When the storage tank shattered, "LNG spilled over the containment dikes, into the streets, and into the sewer system, where it vaporized and ignited. A large area of Cleveland was destroyed, and 133 people died."[382] "The subsequent explosion shot flames more than half a mile into the air. The temperature in some areas reached three thousand degrees Fahrenheit."[383] That incident involved a small storage tank with a capacity of only 5,000 cubic meters.[384] A modern-size storage tank is 160,000 cubic meters.[385] The Atlantic Sea Island Group island terminal proposed off New York and New Jersey would have four 180,000 cubic meter storage tanks for a total of 720,000 cubic meters.[386] Exxon, another company proposing an LNG terminal off New Jersey, has ordered the world's largest LNG tanker, which has 266,000 cubic meters of capacity.[387] That is over fifty times larger than the storage tank in Cleveland.

B. Safety Reviews

The DEIS states that "[t]he addition of the proposed Project would minimally increase the safety and hazardous risk in the region. Any incident occurring at the proposed Project would rely on emergency procedures outlined in the Deepwater Port Operations Manual."[388] The DEIS also maintains that "outcomes and possible safety hazards resulting from an attack on an [LNG Regasification Vessel] are manageable by implementing the current daily safety standards for unintentional spills." But Section 5 states that operational reviews and approvals that would increase safety will be completed after the

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[378] Tony Lystra, *LNG expert: Vapor model misused*, The Daily News, Nov. 10, 2007, at http://tdn.com/business/local/lng-expert-vapor-model-misused/article_4f8726ab-4301-5b6f-8680-cd3ca9421969.html (last visited March 16, 2015).

[379] CRS Report for Congress, *Liquefied Natural Gas (LNG) Infrastructure Security: Background and Issues for Congress*, Congressional Research Service, The Library of Congress, Order Code RL 32073, Sep. 9, 2003, p. CR-9.

[380] Ibid., p. CR-9.

[381] Ibid.

[382] Theo van de Kletersteeg, *LNG: Birth of a New Industry*, Canadian Sailings, June 23, 2008.

[383] Amory Lovins and L. Hunter Lovins, Brittle Power (Jack Howell ed., Brick House Publishing Co. 1982) (1982), p. 89.

[384] Theo van de Kletersteeg, *LNG: Birth of a New Industry*, Canadian Sailings, June 23, 2008.

[385] Ibid.

[386] Terminal Design Specifications, Safe Harbor Energy, Atlantic Sea Island Group, at http://www.atlanticseaislandgroup.com/terminal_design_specifications.shtml (last visited March 16, 2015).

[387] Jeff Florian, Exxon to get world's biggest LNG tanker, AME Info, July 8, 2008, at http://www.ameinfo.com/162819.html (last visited July 20, 2008).

[388] Liberty LNG Port Ambrose, Draft Environmental Impact Statement, Section 6, page 6-15

application is approved, not before.[389]

It is not clear how a plan to deal with spills would be able to deal with a terrorist attack. Redacted versions of safety plans regarding Emergency Response, Mitigation, and Vessel Security should be available for the public to evaluate whether Liberty Natural Gas and the Coast Guard will be able to provide an adequate level of protection under extreme circumstances. Operational reviews and approvals related to safety should occur before, not after, approval of the Port Ambrose application.

C. Coast Guard Capacity

Originally submitted in December, 2010, plans for the Liberty LNG "Liberty Deepwater Port" were quickly derailed by a veto letter submitted to MARAD and the USCG by New Jersey Governor Chris Christie. The Governor's letter, sent in February, 2011, stated that "under my authority as Governor of the State of New Jersey, I hereby disapprove the issuance of a license to Liberty."[390] The Governor's veto was explicitly clear as to why the port "would present unacceptable and substantial risks to the State's residents, natural resources, economy, and security":

> *"...the Liberty project would also present significant security risks to our State through increased demands on the U.S. Coast Guard and our State Homeland Security personnel and first responders. The Liberty project would create a heightened risk in a densely developed region, including potential accidents or sabotage disrupting commerce in the Port of New York and New Jersey."*[391]

Based on these economic, environmental, and security arguments, as well as habitat destruction and exclusion area concerns, the Governor disapproved of the port license, and review of Liberty LNG's initial application was stopped.[392]

This proposal will require significant and costly patrolling activities by the Coast Guard to ensure compliance with exclusion zones and possibly even the Navy and Air Force for protection. Thus, it does not promote "support[ing] ocean stewardship in a fiscally responsible manner" as directed by the NOP Executive Order.[393]

This port, situated in the middle of the shipping lanes leading into and out of the busiest port on the east coast, surrounded by the most densely-populated coastline in the nation, at the gateway of the financial capital of the world, is a clear terrorist target. The agencies charged with policing and protecting the LNG port, according to internal Coast Guard reports and New Jersey Governor Christie, do not have the

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[389] Liberty LNG Port Ambrose, Draft Environmental Impact Statement, Section 5, page 5-9

[390] New Jersey Governor Chris Christie License Issuance Disapproval Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0038. Note that the USCG, which maintains the docket, titled this letter as the "License Disapproval Letter" – indicating the agency's acceptance of the letter as an official DPA ACS veto letter, despite MARAD's later decision to accord this veto "no legal significance" (see MARAD Veto Letter, *infra*).

[391] Ibid.

[392] Note that these concerns are all still issues for Liberty LNG's Port Ambrose proposal – reliance on foreign fossil fuels, strain on first responders and national security personnel, direct competition for renewable energy investment, exclusion areas, impacts on fisheries, and risks to the environment, Port of NY/NJ commerce and shipping, and endangered species, to name a few.

[393] NOP Order, at 3.

capacity. The nature of the facility, and the new World Trade Center Tower-size LNG vessels which will be calling on the port, creates an additional layer of risk – accidentally or intentionally, LNG leaks, explosions, or fires can engulf the ocean for miles around each vessel in flames, shutting down commerce, fisheries, and recreation across an entire swath of the ocean. To put it mildly, this port presents a significant safety and security risk to the people, first responders, commerce, economy, and environment of the Mid Atlantic Ocean.

The DEIS section on safety and security makes no meaningful attempt to analyze the burden this port would generate on the region's already over-burdened security agencies. Placing a possibly highly explosive tanker within this area without concrete plans as to ensure the safety of the millions of people is completely unethical and necessitates further review by the agency that reviews that.

(1) Response Capacity. Liberty LNG broadly assumes that the United States Coast Guard would be capable of patrolling, securing, and protecting the Port Ambrose facility, despite reports from the USCG that conclude the opposite – that the USGS is over-stretched with aging fleets that do not have the existing capacity to protect existing ports, much less new ones.[394] According to GAO testimony on the report "legacy vessels have become increasingly costly to maintain and their degraded condition has negatively affected the Coast Guard's operational capacity to meet mission requirements."[395] Even if the USGS had sufficient financial resources, the agency, according to the GAO, does not possess the speed necessary to fully protect the tanker from small fast boats which could cause the most damage and potential terror threat. In the application, Liberty LNG states several times that it is the responsibility of the USCG to escort the LNG tanker into port, yet no analysis is made as to the costs associated with training, maintaining, and operating a USCG presence for LNG tankers in the NY Bight, or where revenues for those costs will come from. [396]

Shortfalls in Coast Guard (or local first responder) response capacity can impact, among other things, the time it takes for personnel to get to an LNG emergency over 25 miles from the nearest marinas, the ability of those first-on-scene professionals to address emergencies on LNG vessels the size of the new World Trade Center Tower, and the ability to respond to cascading impacts from events such as explosions and pool fires to nearby cargo vessels, fishing vessels, or wind facilities. In order to fully review the proposal, all of the costs, burdens, and constraints of the Port Ambrose proposal must be made available to the people and agencies bearing those burdens.

Under DPA implementing regulations, the "deepwater port proposal and reasonable alternatives will be evaluated on the basis of how well they ... [p]ose no compromise to national security."[397] In developing the Final EIS, the USCG must provide an analysis of its current capacity around the Port Ambrose project area, specifically noting the reductions in capacity planned at (or already carried out at) several of the region's USCG bases, as well as the impact of Superstorm Sandy on Coast Guard capacity. Without this

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[394] U.S. GAO - Coast Guard: Legacy Vessels' Declining Conditions Reinforce Need for More Realistic Operational Targets [Reissued on August 30, 2012] (hereafter "USCG GAO Report"). US Government Accountability Office, July 2012. Available at http://www.gao.gov/assets/600/593163.pdf (last visited August 1, 2013).

[395] Coast Guard Mission Performance Challenged by the Declining Condition and Rising Costs of its Legacy Vessel Fleet. Testimony Before the Subcommittee on Coast Guard and Maritime Transportation, Committee on Transportation and Infrastructure, House of Representatives, Statement of Stephen L. Caldwell, GAO. Available at http://www.gao.gov/assets/650/648657.pdf (last visited August 1, 2013).

[396] Liberty LNG Application, Volume I, Report 10, at 10-4.

[397] 33 C.F.R. 148.735.

information, the public (and the USCG) cannot know the extent to which this port compromises natural security.

Furthermore, the USCG and MARAD must specifically assess the burdens that would be added to local first responders, state-level security, and Port of NY/NJ security. This analysis should clearly describe the status quo of the regional, state, and local capacity, especially given Governor Christie's concern from 2011 that:

> *"the Liberty project would also present significant security risks to our State through increased demands on the U.S. Coast Guard and our State Homeland Security personnel and first responders. The Liberty project would create a heightened risk in a densely developed region, including potential accidents or sabotage disrupting commerce in the Port of New York and New Jersey."*[398]

Additionally, the effect of Liberty LNG on this capacity must be assessed prior to Port licensing, as outlined in the DEIS, in order to understand the full impacts on the United States Coast Guard.[399] The DEIS notes that "much of this activity [Liberty's collaboration with USCG] is completed in the post-licensing phase of the application." This would mean that such concerns will not be fully reviewed during the EIS process, which is unacceptable and inadequate.[400]

6.0 CUMULATIVE IMPACTS.

The DEIS fails to adequately consider analysis of all reasonable foreseeable projects, current projects and past projects in the ROI and proximate to the ROI as per NEPA requirements. Rather, the DEIS only considers aggregated impacts from similar projects to Port Ambrose. Such items that need to be evaluated include additional air emissions, waterway traffic, transportation issues associated with onshore construction and preparation for offshore construction, influx of new residents/employees under socioeconomics, etc.

Prior to the completion of the Final EIS, the applicant must provide a table listing such projects, their quantitative and qualitative impacts as well as a comprehensive methodology that explains why each project was selected. Further, as no staging area(s) have been confirmed, the analysis must include a cumulative analysis for EACH potential staging area discussed throughout the DEIS. In sum, the entire section is inadequate and more information is required.

7.0 COASTAL ZONE CONSISTENCY.

The below signatories' position on federal consistency requirements pursuant to the Coastal Zone Management Act (CZMA) has not substantially changed from our comment letter dated August 22, 2013

[398] New Jersey Governor Chris Christie License Issuance Disapproval Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0038.
[399] Liberty LNG Draft Environmental Impact Statement, Section 4 at 5-9
[400] Ibid.

on Liberty LNG's Port Ambrose Deepwater Port License Application.[401] We maintain that the processing of this application without the DPA-required New Jersey and New York coastal zone consistency certifications is illegal.

According to the Deepwater Port Act (DPA) implementing regulations, an application must contain "a request for each [adjacent coastal state's coastal zone consistency] certification required by section 307 of the Coastal Zone Management Act of 1972."[402] The DPA clearly states that, with respect to deficient applications, the Maritime Administration must "take no further action with respect to the application until such deficiencies have been remedied."[403]

In response to a letter sent to the USCG and MARAD notifying both agencies of this missing application requirement, the USCG sent a response acknowledging the deficiency:

> *"As you note, the requirement for an applicant to submit a consistency certification in accordance with the Coastal Zone Management Act is required by 33 Code of Federal Regulations 148.105(j). ... Despite the fact that Liberty had not prepared its New Jersey consistency certification at the time it submitted its application, the Maritime Administrator determined that the application contained sufficient information to commence processing it."*[404]

In other words, the USCG and MARAD admit that the application is deficient, yet are allowing the processing of the application to continue.

It is unclear whether Liberty has submitted CZMA consistency certifications to either New York or New Jersey. Contradictory statements can be found in the DEIS and the table, "Expanded Port Ambrose Combined Comment Data Request Matrix (hereinafter "Data Gaps") posted to the federal docket. Liberty responded to questions about CZMA federal consistency in the Data Gaps table: "December 20, 2013. Ongoing. Liberty is continuing its effort on an application for a Coastal Zone Consistency determination, which will be submitted to New Jersey upon completion." They later posted this statement: "February 28, 2014. Liberty submitted a draft application for a Coastal Zone Consistency determination to New Jersey DEP on January 10, 2014."[405]

However, the December 9, 2014 DEIS states that, "Liberty has provided a "Draft Statement of Compliance with the New York State Coastal Zone Management Program;" however, a formal submittal to the New York State Department of State has not been made as of the writing of this draft Environmental Impact Statement (EIS). Similarly, a submittal to the New Jersey Department of Environmental Protection (NJDEP) has not been made to date."[406] Incredibly, the DEIS does not advise

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[401] Clean Ocean Action. Comments on Liberty LNG's Port Ambrose Deepwater Port License Application; Federal Docket #USCG-2013-0363. *Available at* http://www.regulations.gov/#!docketDetail;D=USCG-2013-0363. August 22, 2013.

[402] 33 CFR 148.105(j).

[403] 33 U.S.C. 1504(c)(1).

[404] Response Letter to Clean Ocean Action from U.S. DHS/CG and U.S. DOT/MARAD, Liberty LNG Docket # USCG-2013-0363-0015.

[405] Expanded Port Ambrose Combined Comment Data Request Matrix (hereinafter "Data Gaps"), Page 55. Docket # USCG- 2013-0363-0013.

[406] Draft Environmental Impact Statement for the Port Ambrose Project Deepwater Port Application. Page 7-1. *Available at* http://www.regulations.gov/#!documentDetail;D=USCG-2013-0363-1076. December 9, 2014.

the public that the failure of the application to have these approvals at this point in the process is contrary to its regulations.

CONCLUSION

As described above, the DEIS is procedurally and substantively flawed. Draft EIS is incomplete, inconsistent, contradictory, and misleading about the project details. The DEIS also fails to disclose important and essential details about the applicant, Liberty Natural Gas, who they are and their interests and capacity. Finally, the below signatories find that, based upon the fatally flawed purpose and need for the project, the strong public opposition to LNG imports, including by the Governor of New Jersey, the continued pursuit of this application by federal agencies is to affront the public trust and the purpose of good government.

Sincerely,

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Clean Ocean Action

Kyle Gronostajksi
Executive Director
Alliance for a Living Ocean

Tim Dillingham
Executive Director
American Littoral Society

Captain Paul Eidman
Founder/Director
Anglers Conservation Network

Rick Anthony
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Bellmore Merrick Democratic Club
Bellmore, NY

Karen Feridun
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Berks Gas Truth

Biltmore Shores Civic Association

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Chair
Bradley Beach Environmental Commission

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North and Central Merrick Civic Association

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Wharfside Condominium Association

U.S. Department of Homeland Security

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16715
CG-OES Policy Letter
No. 01-15
FEB 19 2015

From: R.E. Bailey, CAPT
COMDT (CG-OES)

To: Distribution

Subj: GUIDELINES FOR LIQUEFIED NATURAL GAS FUEL TRANSFER OPERATIONS AND TRAINING OF PERSONNEL ON VESSELS USING NATURAL GAS AS FUEL

Ref: (a) International Maritime Organization (IMO) Resolution MSC.285(86) - Interim Guidelines on Safety for Natural Gas-Fueled Engine Installations in Ships.

1. Purpose. This policy letter provides guidance to Coast Guard Captains of the Port (COTPs)/Officers in Charge, Marine Inspection (OCMIs) regarding vessels that use natural gas as fuel and engage in liquefied natural gas (LNG) fuel transfer operations. It addresses fuel transfer operations and training of personnel working on U.S. and foreign vessels that use natural gas as fuel and conduct LNG fuel transfer operations in waters subject to U.S. jurisdiction. This policy does not apply to vessels regulated as LNG carriers that utilize their boil-off gas as fuel.

2. Action. Cognizant COTPs/OCMIs should use this policy as a guide to evaluate whether natural gas fueled vessels are operated, and affiliated personnel are trained, in a manner that provides a level of safety that takes into account characteristics specific to LNG fueled ships and LNG fuel transfer operations.

3. Directives Affected. None.

4. Background.

   a. Natural gas is considered by the maritime industry to be a prominent future fuel source for commercial vessels. The International Maritime Organization's designation of the North American Emission Control Area under MARPOL Annex VI has imposed stringent emissions limitations on marine engines. Because use of natural gas as ship's fuel would substantially reduce carbon emissions, sulfur emissions, and nitrogen oxide emissions, the shipping industry is exploring conversion from oil-based bunker fuel to much cleaner burning natural gas.

   b. Existing regulations cover design, equipment, operations, and training of personnel on vessels that carry LNG as cargo and facilities that handle LNG in bulk. However, the use

of LNG as fuel is a relatively new concept in the United States. Although some existing regulations apply to LNG fuel transfer operations, the Coast Guard has not established regulations specifically for vessels that receive LNG for use as fuel.

c. As a result, the maritime industry is looking to the Coast Guard to fill the "gap" by recommending appropriate safety measures for the safe transfer of LNG and use of LNG as a marine fuel. This policy letter contains recommendations for LNG fuel transfer operations on vessels using LNG as fuel, and for the training of personnel on such vessels.

d. The existing regulation at 46 CFR 15.405 requires that each credentialed mariner be familiar with the relevant characteristics of the vessel appropriate to his or her duties and responsibilities prior to assuming those duties and responsibilities. Additionally, Enclosure (3) provides training guidance, familiarization training, and information on emergency exercises for personnel who will work aboard vessels using gases or low flashpoint fuels, which includes the use of LNG as fuel.

5. Discussion.

a. Waterfront facilities handling LNG in bulk are subject to existing regulations at 33 CFR part 127. Vessels carrying LNG that is intended for transfer to other vessels for use as fuel also are subject to existing regulations, notably 46 CFR subchapter D, and in most cases 46 CFR part 154, and 33 CFR parts 155 and 156. This policy letter and Enclosure (1) provide guidance for COTPs/OCMIs on how these existing regulations apply to LNG fueling operations. COTPs/OCMIs must ensure that LNG fuel transfer operations comply with existing applicable and enforceable regulations.

b. Additionally, this policy letter and Enclosures (1) and (2) provide guidance on recommended safety procedures that COTPs/OCMIs should consider when evaluating proposed LNG as fuel transfer operations so that these transfers can occur safely and securely. As a reminder, it is the responsibility of the operator of the facility and/or the supplying vessel to ensure that the receiving vessel has the necessary personnel and equipment to safely and securely participate in the conduct of an LNG transfer operation, as set forth in 33 CFR Part 127. However, each person in charge on both the receiving vessel and the supplying vessel or facility must complete the declaration of inspection required by applicable federal regulations and verify that all requirements are met.

c. Existing regulations at 33 CFR parts 127, 155, and 156 require transfer procedures be provided. Enclosures (1) through (3) provide recommendations on transfer procedures and training specific to use of LNG as fuel and recommendations for bunkering systems on vessels using LNG as fuel.

d. The existing regulation at 46 CFR 15.405 requires that each credentialed mariner be familiar with the relevant characteristics of the vessel appropriate to his or her duties and responsibilities prior to assuming those duties and responsibilities. Additionally, Enclosure (3) provides training guidance for personnel who will work aboard vessels using gases or low flashpoint fuels, which includes the use of LNG as fuel.

e. Existing regulations at 33 CFR 156.118 allow the COTP to require at least 4 hours advance notice of the time and place of a transfer operation involving certain facilities and/or self-propelled vessels. The COTP should require this notice where applicable, because this may help the COTP/OCMI ensure that transfer procedures and a declaration of inspection are provided as required by the applicable regulations.

f. While in waters subject to the jurisdiction of the United States, vessels should only receive LNG for use as fuel from the following sources:

(1) Waterfront facilities that meet the applicable requirements of 33 CFR Part 105 and 127 , which includes LNG transfers from tank trucks and rail cars;
(2) Vessels that meet the applicable design requirements of 46 CFR Subchapter D and, if applicable, 46 CFR Part 154; or alternate design standards approved by Commandant, U.S. Coast Guard Headquarters, Office of Design and Engineering Standards, (CG-ENG). Please see Enclosure (1), footnote 1, for supplemental information regarding use of manned and unmanned non-self-propelled tank barges.

g. Transfer of LNG from a vessel using natural gas as fuel should not be conducted, except in the case of emergencies that may endanger the safety of life, property, or the environment, or as otherwise authorized by a COTP for tank cleaning, repair, and similar procedures. This guidance does not pertain to vessels that are built and operated to carry LNG as a cargo.

h. This policy letter does not provide guidance on vessel design criteria for natural gas fuel systems. For policy guidance related to the design criteria of such systems on U.S. certificated vessels, please refer to: CG-521 Policy Letter No. 01-12, dated April 19, 2012. It may be accessed at: http://www.uscg.mil/hq/cg5/cg521/docs/0112.pdf. This policy letter does not apply to uninspected vessels; however, the guidance it contains may be considered useful to owners and operators of uninspected vessels desiring to use LNG as fuel. Questions related to LNG fuel use on uninspected vessels should be directed to the local COTP in the zone where the vessel would intend to operate. Foreign vessels operating in U.S. waters should provide documentation indicating that the design of its natural gas fuel system complies with reference (a) and has been reviewed and approved by its flag administration or a class society authorized to act on the flag administration's behalf. Questions related to the design of these systems should be referred to the Coast Guard Marine Safety Center.

i. Except for the guidance on training, this policy letter does not provide guidance on other gaseous fuel systems such as Compressed Natural Gas (CNG) or Liquefied Petroleum Gas (LPG). At this time and unlike LNG, there appears to be little interest in the use of these commodities as a marine fuel. Accordingly, the Coast Guard will evaluate proposals for using these and other gaseous fuel systems on a case-by-case basis. Owners and operators interested in using gaseous fuels other than LNG should contact the Coast Guard Marine Safety Center.

6. Disclaimer. While the guidance contained in this document may assist the industry, public, Coast Guard, and other Federal and State regulators in applying statutory and regulatory requirements, the guidance is not a substitute for applicable legal requirements nor is it a regulation itself. Each COTP has discretionary authority on how best to address specific safety and security concerns within his/her area of responsibility. Nothing in this policy letter is meant to override or subvert the discretion of the COTP when addressing the unique safety and security concerns for an LNG operation.

7. Changes. This policy letter will be posted on the web at www.homeport.uscg.mil. Changes to this policy will be issued as necessary. Suggestions for improvements of this policy should be submitted in writing to Commandant, U.S. Coast Guard Headquarters, Office of Operating and Environmental Standards, (CG-OES) at the address listed on the first page.

#

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Encl: (1) Guidance for LNG Fuel Transfer Operations and Training of Personnel on Vessels Using Liquefied Natural Gas as Fuel
(2) Excerpts of Resolution MSC.285(86), Chapters 2, 5, and 8
(3) Interim Guidance on Training for Mariners on Vessels using Gases or Other Low Flashpoint Fuels

Guidance for LNG Fuel Transfer Operations on Vessels Using Natural Gas as Fuel

The guidelines described below are derived from the Coast Guard's regulations governing the safe design, construction, equipment, inspection, testing and operation of vessels that carry oil and hazardous materials in bulk. As used in this policy letter, "bulk" means without mark or count and directly loaded into a hold or tank on a vessel without containers or wrappers. With regard to procedures for fuel transfer operations and specialized equipment on vessels using natural gas as fuel, the guidelines below may be used to achieve a level of safety that takes into account characteristics specific to LNG fueled ships and LNG fuel transfer operations. Although low pressure natural gas is the end product used for combustion in a vessel's engine, it is normally transfered and stored aboard the vessel as either a cryogenic liquid or a highly pressurized compressed gas. Accordingly, special consideration must be given to the differences that exist between various types of fuel used and handled by vessel personnel. More information and specific details related to natural gas and other alternative fuels can be obtained by visiting the U.S. Department of Energy's Alternative Fuels Data Center website at: http://www.afdc.energy.gov

Existing Regulations for Vessels and Facilities Providing LNG as Fuel

Existing 46 CFR Chapter I, Subchapter D prescribes the rules and regulations for tank vessels, including manned and unmanned tank barges, and provides for the uniform administration of vessel inspection requirements applicable to tank vessels carrying regulated cargoes listed in 46 CFR Table 30.25-1. Existing 46 CFR Part 154 prescribes safety standards for self-propelled vessels carrying bulk liquefied gas cargoes including natural gas.[1]

46 CFR Subchapter D and 46 CFR Part 154 set forth comprehensive regulatory schemes that include requirements for vessel design, construction, equipment, inspections, tests and operations for vessels carrying LNG as cargo. These regulations direct the owner and operator of the vessel, and agent(s), to ensure that personnel involved in transfer operations possess the appropriate qualifications and understand the procedures to complete a safe transfer. To accomplish this, 46 CFR Subchapter D and 46 CFR Part 154 apply certain requirements of 33 CFR Part 155 Subpart C.

Existing 33 CFR Part 127 governs the designation and qualifications of the person in charge of a facility transfer operation and sets forth natural gas transfer procedures, noting that transfer requirements applicable to the vessel are published in 46 CFR Part 154 (see 33 CFR 127.319).

Existing regulations also provide for implementation of safety and security measures by the COTP, such as limited-access safety and security zones, where appropriate (see, generally, 33 CFR part 165).

[1] Manned and unmanned non self-propelled barges are subject to the requirements of 46 CFR Subchapter D. In accordance with 46 CFR 30.01-5(g), manned barges carrying any of the cargoes listed in Table 30.25-1 are considered individually by the Commandant and may be required to comply with the requirements of 46 CFR Subchapter O, as applicable, as well as the requirements of 46 CFR Subchapter D. The U.S. Coast Guard, Headquarters Office of Design and Engineering Standards, Commandant (CG-ENG), has determined that unmanned barges proposed to carry LNG in bulk should also be reviewed under 46 CFR Subchapter O as novel vessel designs that require concept approval.

Operations, Emergency, and Maintenance Manuals

Existing regulations at 33 CFR 127.305 - 127.309 outline the requirements for having operations and emergency manuals at waterfront facilities handling LNG. Additionally, existing regulations at 46 CFR 154.1810 require vessels carrying LNG as cargo to maintain a cargo manual which lists specific details relative to the cargo, cargo systems, emergency measures, symptoms, and corrective actions to be taken in the event of an emergency. To help ensure LNG operations are conducted safely, each owner or operator of a vessel using natural gas as fuel should develop similar information which is based on specific details of their vessel and their intended operations. Each vessel should have an LNG fuel transfer system operations manual and an emergency manual which includes, but is not limited to, the information below. The master of a vessel using LNG as fuel should ensure that all personnel involved with LNG fuel use, transfer, or emergency response are familiar with the contents of the LNG fuel transfer system operations manual and meet the basic standard of competence or advanced standard of competence outlined in Enclosure (3) as appropriate for the duties to which they are assigned.

a. Each LNG fuel transfer system operations manual should contain vessel-specific information, which includes, but is not limited to, the following as applicable:

   (1) A description of LNG, its handling hazards as a liquid or as a gas, including frostbite or asphyxiation, its safety equipment, personal protection equipment (PPE), and necessary first aid measures;

   (2) A description of the dangers of asphyxiation from inert gas on the vessel;

   (3) Identification of the locations where the risk of an LNG leak and damage to steel structures is high and the measures in place (e.g. water curtains, drip pans, spill trays, specialized materials, etc.) to mitigate embrittlement of the steel structures as a result of leakage of LNG during transfer operations;

   (4) A description of the LNG containment system, including pressure and temperature ranges and relief valve settings;

   (5) A description of the LNG tank measurement and instrumentation system for level, pressure, and temperature control.

   (6) A description of the operational conditions (including normal operations and bunkering) of the LNG fuel tanks, including pressures and temperatures for expected operating conditions and associated monitoring equipment;

   (7) A definition of the operating envelope for which safe transfer operations can and cannot occur.

   (8) Descriptions and diagrams of the components of the LNG fuel transfer system, including, but not limited to, the following as applicable:

      (i) Recirculating, vapor, or condensate return system;
      (ii) LNG fuel tank cool down system;

(iii) LNG fuel tank warm-up or vaporization system;
(iv) Gas main system;
(v) LNG fuel tank or compressor relief system and blocked liquid or gas relief system;
(vi) Inerting system;
(vii) Boil-off gas compressor or reliquefaction system;
(viii) Gas detection systems;
(ix) Alarm or safety indication systems;
(x) Systems for venting or using boil-off gas as fuel;
(xi) Inert gas and natural gas return tank system (if any);
(xii) LNG fuel tank filling sequence;
(xiii) Maximum oxygen content after inerting and maximum Nitrogen content after purging; and
(xiv) Emergency Shutdown System.

(9) A detailed diagram of the LNG fuel transfer area identifying:

(i) Electrical ignition sources;
(ii) Rating of all electrical components;
(iii) Emission sources for gas;
(iv) Air intakes, vents, and securing arrangements;
(v) Fire suppression and detection equipment;
(vi) Loading arms, manifold, and valves;
(vii) Hose connections and couplings including emergency release coupling; and
(viii) Emergency shutdown control locations and emergency shutdown devices.

(10) A description of the following conditions and their symptoms, including emergency measures and corrective actions:

(i) LNG fuel transfer or ballast valve malfunction;
(ii) Low and high LNG fuel tank gas pressure and temperature;
(iii) High LNG fuel tank fill level alarms and shutdowns;
(iv) Gas compressor shutdown;
(v) Hull cold spot detection;
(vi) LNG and natural gas piping leaks (including ignited leaks);
(vii) Primary or secondary LNG tank or pipe barrier failures;
(viii) Hold boundary structural failure;
(ix) Fire in vent mast head;
(x) Reliquefaction plant failure;
(xi) Vaporizer malfunction or failure;
(xii) LNG piping or valve freeze-up;
(xiii) Failure of emergency shutdown system devices; and
(xiv) Fire on the supply side of the LNG fuel transfer.

(11) The maximum relief valve setting or maximum allowable working pressure of the LNG fuel transfer system.

(12) The procedures for:

(i) LNG fuel transfer operations which should include, but not be limited to the following:

(a) Verifying advance notice (e.g. time and place) of transfer has been provided to the local COTP (if required);
(b) Ensuring personnel have appropriate PPE and gas detection equipment;
(c) Ensuring weather is within safe operating limits to allow a safe LNG transfer;
(d) Setting, securing, and clearing safety and security areas around the LNG bunkering area.;
(e) Conducting a pre-transfer inspection (see Conduct before a LNG Fuel Transfer below);
(f) System cool-down;
(g) Connection of systems;
(h) Inerting before transfer;
(i) LNG transfer and vapor return;
(j) Conducting inspections during transfer (see Conduct during a LNG Fuel Transfer below)
(k) System draining and purging;
(l) Inerting after transfer; and
(m) Shut down and disconnection of systems (see Conduct after a LNG Transfer below).

(ii) LNG fuel transfer operations start-up and shutdown;
(iii) Communications systems used during LNG fuel transfer operations;
(iv) Gas freeing of tanks and piping systems containing residual natural gas for the purpose of conducting hot work;
(v) Procedures for testing and entering enclosed and/or confined spaces where gas or flammable vapors may accumulate;
(vi) Performing operations simultaneously while LNG transfer operations are taking place (see paragraph (e) under section heading "Transfer Operations"); and
(vii) Handling emergencies during the LNG transfer operations.

(13) Any other safety matters relating to operation of the LNG fuel transfer equipment, systems, or piping;

(14) The duties and responsibilities of each person assigned for LNG fuel transfer operations; and

(15) A definition and description of the LNG bunkering safety and security areas.

b. Each emergency manual should contain the following information, as applicable:

(1) LNG spill and ignited leak response procedures, including contacting response organizations and evacuation or relocation of persons onboard;

(2) Emergency LNG fuel transfer system shutdown procedures;

(3) A description of the fire equipment and systems, and their operating procedures;

(4) A description of the emergency lighting and emergency power systems;

(5) Emergency contact information for local Coast Guard units, hospitals, fire departments, police departments, and other emergency response organizations;

(6) First aid procedures and, if there are first aid stations, the locations of each station; and

(7) Contingency plans for handling the following emergencies:

(i) Fire in or near the vicinity of the location where LNG is being transferred;
(ii) LNG or natural gas leakage;
(iii) Hose, coupling, or loading arm failure;
(iv) Mooring line or mooring equipment failure;
(v) Communication failure;
(vi) Power failure;
(vii) Personnel injuries (frost burns, suffocation, etc.);
(viii) Emergency departure procedures;
(ix) LNG spills that come into contact with the deck or hull;
(x) Breaches in safety or security areas;
(xi) Trapped liquid or blocks in LNG transfer lines; and
(xii) Rollover within LNG tanks.

c. Each maintenance manual should meet the guidelines specified in Chapter 8, Section 8.3, of IMO Resolution MSC.285(86), "Interim Guidelines on Safety for Natural Gas-Fuelled Engine Installations in Ships." (See Enclosure (2) to CG-OES Policy Letter 01-14)

The LNG fuel transfer system operations manual, emergency manual and maintenance manual should be kept up to date and maintained aboard the vessel such that they are readily available to vessel personnel and Coast Guard marine inspectors upon request.

The LNG fuel transfer system operations manual, emergency manual and maintenance manual(s) should be reviewed by the COTP/OCMI for accuracy prior to the first transfer of LNG and periodically during scheduled inspections and cargo transfer monitors. COTPs/OCMIs should discuss and become familiar with intended operations, emergency response actions, and plans for periodic maintenance with vessel owners and operators well in advance of any intended operations.

Transfer Operations

a. Person In Charge (PIC): LNG fuel transfer procedures should designate, either by name or by position in the crew, the person in charge of each transfer operation.

b. Qualifications of PIC: Each person designated as a person in charge of a LNG fuel transfer operation should meet the following qualifications:

(1) Holds an MMC with an appropriate officer endorsement issued under 46 CFR part 10 and 11, or STCW Chapter II or III for foreign flag vessels, authorizing service on board the vessel; and

(2) Meets the training guidance of IMO's, STCW.7/Circ.23, or Enclosure 3, for Advanced training.

c. Notification of Transfer: LNG fuel transfer operations should not be conducted without advance notice given to the local COTP. The time and place of each transfer operation should be provided at least 4 hours before it begins.

d. Transfer Procedures: Vessels using natural gas as fuel should have transfer procedures that meet the appropriate requirements of 33 CFR 155.720 through 155.760, and 33 CFR Part 156 when transferring LNG:

(1) To or from the vessel; and

(2) From tank to tank within the vessel.

e. Simultaneous Operations: The Coast Guard recognizes that simultaneous operations may be necessary in certain situations in order to allow for a non-disruptive flow of ship and port operations. Currently there is limited experience addressing the concept of conducting simultaneous shipboard operations (e.g., passenger, cargo, or ship store loading operations, etc.) while LNG fuel transfer operations are taking place. If simultaneous operations are to occur during LNG fuel transfer operations, a formal operational risk assessment may be conducted by the facility owner to address the added hazards and evaluate the potential risks. The results of the assessment may be used to help the COTP determine whether the operations may be conducted safely. Guidance for conducting risk assessments found in Det Norske Veritas - Germanisher Lloyd's, DNVGL-RP-0006: 2014-01, "Development and Operation of LNG Bunkering Facilities," and ISO's ISO/TS 18683:2015, "Guidelines for Systems and Installations for Supply of LNG to Ships" may be used to help guide the risk assessment process. Vessel owners/operators considering the need to conduct simultaneous operations should contact and discuss their intentions with the local COTP having jurisdiction over the area where the operation will be conducted. Local COTPs should contact Commandant, U.S. Coast Guard Headquarters, Office of Operating and Environmental Standards, (CG-OES) for assistance when considering simultaneous operations in their areas of responsibility.

f. Safety and Security areas: In order to reduce the potential for the introduction of uncontrolled events and ignition hazards, safety and security areas should be established as recommended by ISO/TS 18683:2015, Guidelines for Systems and Installations for Supply of LNG as Fuel to Ships, (2013).

g. Conduct before a LNG Fuel Transfer: The following pre-transfer actions should be conducted by the person in charge of a vessel receiving LNG for use as fuel:

(1) Inspect the transfer piping system and equipment to be used during the transfer and ensure that any worn or inoperable parts are repaired or replaced;

(2) Review and agree with the person in charge of transferring LNG to the vessel as to:

(i) The sequence of transfer operations;

(ii) The transfer rate and duration;
(iii) The duties, location, and watches of each person assigned for transfer operations;
(iv) Emergency procedures; and
(v) For each of the tanks from which LNG will be transferred, note the pressure, temperature, and volume to ensure that they are safe for transfer to the vessel's tanks and piping systems;

(3) Ensure that transfer connections allow the vessel to move to the limits of its moorings without placing strain on the loading arm or transfer piping system;

(4) Ensure that each part of the transfer system is aligned to allow the flow of LNG to the desired location;

(5) Ensure that warning signs are displayed;

(6) Eliminate all ignition sources in the LNG fuel transfer area;

(7) Ensure that personnel are on duty in accordance with the LNG fuel transfer system operations manual;

(8) Ensure that safety and security areas are set and clear;

(9) Ensure firefighting equipment is ready for use;

(10) Test the following to determine that they are operable:

(i) The sensing and alarm systems;
(ii) The emergency shutdown system; and
(iii) The communication systems;

(11) Ensure climatic conditions are within the established safe operating envelope; and

(12) Ensure appropriate paper work has been completed (e.g. Declaration of Inspection required by 33 CFR 127.317 and 33 CFR 156.150).

h. Conduct during a LNG Fuel Transfer: During the LNG fuel transfer operation, the person in charge of receiving LNG for use as fuel should:

(1) Be in continuous communication with the person in charge of transferring LNG to the vessel;

(2) Have continuous control of system pressure, temperature, and tank levels;

(3) Ensure that an inspection of the transfer piping and equipment for leaks, defects, and other symptoms of safety and operational problems is conducted at regular intervals during transfer; and

(4) Ensure that the transfer operations are discontinued before electrical storms or upon notification of any contingency identified in the emergency manual.

i. Conduct after a LNG Fuel Transfer: After a LNG fuel transfer, the person in charge of receiving LNG for use as fuel should ensure that the hoses, manifold, and piping used during the transfer operation are purged so that natural gas levels are below the lower flammability level and are:

(1) Properly drained and inerted prior to disconnecting;

(2) Free of residual LNG; and

(3) Securely blanked.

J. Job aides: In an attempt to establish standardized procedures assosciated with LNG bunkering operations, several industry organizations have developed or are developing job aides that owners and operators of vessels using LNG as fuel may find useful. Names and links to some of the organizations are listed below:

(1) World Ports Climate Initiative (WPCI);
http://www.lngbunkering.org/

(2) Society of International Gas Tanker and Terminal Operators (SIGTTO);
http://www.sigtto.org/publications/publications-and-downloads; and

(3) International Organization for Standardization.
http://www.iso.org/iso/home.html

Owners and operators of vessels intending to use natural gas as fuel are encouraged to become familiar with available industry standards and guidelines. Standards and Guidelines for Natural Gas Fueled Ships, produced by the LNG Ship Fuel Advisory Group and published on its behalf by SIGTTO and the Society for Gas as a Marine Fuel (SGMF) provides a comprehensive listing of the standards and guidelines that are currently available. The list may be viewed at the following web address:

http://www.sgmf.info/media/5637/standards-guidelines-natural-gas-fuelled-v5k1.pdf

Vessel Equipment

a. Bunkering Systems: A vessel's bunkering station and bunkering system should comply with Chapter 2, Sections 2.9.1 and 2.9.2, of IMO Resolution MSC.285(86). (See Enclosure (2) of CG-OES Policy Letter 01-14)

b. Deck Lighting: A vessel engaged in transfer operations between sunset and sunrise should have deck lighting that illuminates the transfer area, and is suitable for service in the intended location including meeting any applicable hazardous area equipment requirements. Lighting should be located or shielded so as not to mislead or otherwise interfere with navigation on the adjacent waterways. Lighting should adequately illuminate:

(1) Each transfer operation's work area and each transfer connection point in use on the vessel; and

(2) Each transfer operation's work area and each transfer connection point in use in the transfer system transferring to the vessel.

Where the illumination is apparently inadequate, it may be verified by instruments that measure the levels of illumination. On a horizontal plane 3 feet above the deck the illumination should measure at least:

(1) 5.0 foot-candles at transfer connection points; and

(2) 1.0 foot-candle in transfer operations work areas.

c. Personnel Protection: Personal protective equipment should be provided to protect personnel involved with LNG handling and transfer operations from exposure to cryogenic liquid. The following personal protective equipment should be provided in a place where it is readily available to personnel:

(1) Gloves;

(2) Full face shields;

(3) Fit-for-purpose clothing;

(4) Protective footwear such as leather, safety-toed work boots (no canvas sneakers should be worn during LNG fueling or transfer operations); and

(5) Hard hats.

d. Portable Gas Detectors: Each vessel using LNG as fuel should have at least two portable gas detectors capable of measuring 0-100% of the lower flammable limit of methane and be readily available for use by personnel engaged in LNG fuel transfer operations.

e. Radio and Communication Equipment: Radio and communication equipment should meet the following specifications:

(1) Radio and communication equipment with antennas located where flammable gas may accumulate should be secured prior to transfer;

(2) Portable radio devices for use during the LNG fuel transfer operations should be tested and listed or certified intrinsically safe (UL 913 or IEC 60079-11, Ex "ia") by an independent laboratory accepted by the Commandant under 46 CFR part 159;

(3) Portable electronic devices such as mobile phones, cameras, and other devices using batteries should not be allowed in hazardous areas unless they are listed or certified intrinsically safe (UL 913 or IEC 60079-11, Ex "ia") by an independent laboratory

accepted by the Commandant under 46 CFR part 159; and

(4) Antennas of radio and communication equipment should be located in non-hazardous locations when possible. The antenna location should not pose an obstruction to helicopter landing areas, platform cranes, or other unit operations, and antenna feed lines should be protected from possible physical damage.

f. LNG Fuel Transfer Hoses: LNG fuel transfer hoses stored on the vessel for the purpose of transferring LNG for use as fuel on the vessel should meet the requirements of 46 CFR 154.551.

Transfer hose connections should include provisions to prevent electrical flow during connection or disconnection of the transfer hose string through the hose string or the loading arm. Insertion of one short length of non-conducting hose without internal bonding in each transfer hose string or installation of an insulating flange should be addressed.

Each transfer hose string should contain only one electrically discontinuous length of hose or insulating flange to prevent electrostatic build-up in the hose string.

g. LNG Bunkering Manifold: The LNG bunkering manifold should be designed to withstand the external loads during bunkering. The connections at the bunkering station should be of a dry-disconnect type equipped with additional safety dry break-away coupling/self-sealing quick release.

h. Spill Protection: Areas of the LNG transfer system where the potential for spillage of LNG is high should be provided with drip trays, spill pans, and/or other means (e.g. water curtains) to protect steel structures of the vessel from coming in contact with LNG.

i. Emergency Shutdown: An emergency shutdown system should be provided for the LNG fuel transfer system at each transfer control location. The transfer operation should be capable of being stopped safely and effectively without release of liquid or vapor by an emergency shutdown device (ESD) signal. The ESD signal should be transmitted both to the ship and to the supplier to ensure that appropriate actions are taken both on the delivering bunkering system as well as on the receiving ship. The system should include mutliple barriers to ensure system shutdown in the event of primary component failures (e.g. ESD1, ESD2, and break-away couplings). The system should be capable of manual, remote, and automatic operation of the shutdown valve recommended in IMO Resolution MSC.285(86), Chapter 2, Section 2.9.2.2, (Enclosure 2 to CG-OES Policy Letter 01-14), and may be integrated with the safety systems described in 46 CFR 62.35-50. Owners and operators are encouraged to incorporate ESD arrangements meeting the Society of International Gas and Tanker Terminal Operators (SIGTTO) publication, " ESD Arrangements & Linked Ship/Shore Systems for Liquefied Gas (2009)." The ESD system should be appropriate for the size and type of vessel and should be activated by some or all of the following:

(1) gas detection;

(2) leak detection;

(3) fire detection;

(4) manual activation from ship and facility;

(5) ship drift/movement of supply vehicle;

(6) power failure;

(7) high level in receiving tank; and

(8) abnormal pressure in transfer system.

j. Alarms and Indicators: Alarms and indicators should be installed as outlined by IMO Resolution MSC.285(86), Chapter 2, Sections 2.9.1.3, 2.9.2.3, 2.9.2.4, and Chapter 5, Section 5.2.2 (Enclosure 2 to CG-OES Policy Letter 01-14), and should be co-located with the controls for manual activation of the emergency shutdown system. Remote indicators for pressure in the transfer lines and between the stop valve and connection to shore at each transfer pipe should also be provided at the transfer control location.

Miscellaneous

Hot Work: Hot work must be conducted in accordance with the regulations to which the vessel is inspected. Alternatively, where no regulations are specified, the requirements outlined in 46 CFR 91.50-1 should be followed. For inspected vessels see: 46 CFR 35.01-1, 71.60-1, 91.50-1, 109.573, 115.710, 126.160, 148.405, 151.50-30, 154.1800, 167.30-10, 176.710, and 189.50-1. Additonally, facility operators must ensure that the requirements of 33 CFR 154.735(l) are met as applicable.

No person should conduct welding, torch cutting, or other hot work on a vessel moored at a facility subject to the requirements of 33 CFR Part 127 unless:

(1) The COTP has issued a permit for that hot work; and

(2) The conditions of the permit are met.

In accordance with 33 CFR 156.120 (dd), welding and hot work are prohibited on vessels during the transfer of flammable or combustible liquids.

RESOLUTION MSC.285(86)
(adopted on 1 June 2009)
(Excerpt of)

INTERIM GUIDELINES ON SAFETY FOR NATURAL GAS-FUELLED ENGINE INSTALLATIONS IN SHIPS

CHAPTER 2

2.9 Fuel bunkering system and distribution system outside machinery spaces

2.9.1 *Fuel bunkering station*

2.9.1.1 The bunkering station should be so located that sufficient natural ventilation is provided. Closed or semi-enclosed bunkering stations should be subject to special consideration. The bunkering station should be physically separated or structurally shielded from accommodation, cargo/working deck and control stations. Connections and piping should be so positioned and arranged that any damage to the gas piping does not cause damage to the vessel’s gas storage tank arrangement leading to uncontrolled gas discharge.

2.9.1.2 Drip trays should be fitted below liquid gas bunkering connections and where leakage may occur. The drip trays should be made of stainless steel, and should be drained over the ship's side by a pipe that preferably leads down near the sea. This pipe could be temporarily fitted for bunkering operations. The surrounding hull or deck structures should not be exposed to unacceptable cooling, in case of leakage of liquid gas. For compressed gas bunkering stations, low temperature steel shielding should be provided to prevent the possible escape of cold jets impinging on surrounding hull structure.

2.9.1.3 Control of the bunkering should be possible from a safe location in regard to bunkering operations. At this location tank pressure and tank level should be monitored. Overfill alarm and automatic shutdown should also be indicated at this location.

2.9.2 *Bunkering system*

2.9.2.1 The bunkering system should be so arranged that no gas is discharged to air during filling of storage tanks.

2.9.2.2 A manually-operated stop valve and a remote operated shutdown valve in series, or a combined manually-operated and remote valve should be fitted in every bunkering line close to the shore connecting point. It should be possible to release the remote-operated valve in the control location for bunkering operations and or another safe location.

2.9.2.3 If the ventilation in the ducting around the gas bunkering lines stops, an audible and visual alarm should be provided at bunkering control location.

2.9.2.4 If gas is detected in the ducting around the bunkering lines an audible and visual alarm should be provided at the bunkering control location.

2.9.2.5 Means should be provided for draining the liquid from the bunkering pipes at bunkering completion.

2.9.2.6 Bunkering lines should be arranged for inerting and gas freeing. During operation of the vessel the bunkering pipes should be gas free.

CHAPTER 5

5.2.2 Each tank should be monitored with at least one local indicating instrument for pressure and remote pressure indication at the control position. The pressure indicators should be clearly marked with the highest and lowest pressure permitted in the tank. In addition, high-pressure alarm, and if vacuum protection is required, low pressure alarm should be provided on the bridge. The alarms should be activated before the set pressures of the safety valves are reached.

CHAPTER 8

8.3 Maintenance

8.3.1 A special maintenance manual should be prepared for the gas supply system on board.

8.3.2 The manual should include maintenance procedures for all technical gas-related installations, and should comply with the recommendations of the suppliers of the equipment. The intervals for, and the extent of, the replacement/approval of gas valves should be established. The maintenance procedure should specify who is qualified to carry out maintenance.

8.3.3 A special maintenance manual should be prepared for electrical equipment that is installed in explosion hazardous spaces and areas. The inspection and maintenance of electrical installations in explosion hazardous spaces should be performed in accordance with a recognized standard.

8.3.4 Any personnel that should carry out inspections and maintenance of electrical installations in explosion hazardous spaces should be qualified pursuant to IEC 60079-17, item 4.2.

TRAINING GUIDANCE FOR MARINERS ON VESSELS USING GASES OR OTHER LOW FLASHPOINT FUELS

This interim guidance is based upon STCW.7/Circ.23, *Interim guidance on training for seafarers on board ships using gases or other low-flashpoint fuels.*

1 GENERAL

1.1 This training guidance recommends the level of competence necessary for the safe operation of natural gas fuel systems. This guidance is consistent with the IMO's STCW.7/Circ.23, *Interim guidance on training for seafarers on board ships using gases or other low-flashpoint fuels.* Accordingly, each mariner onboard a natural gas-fueled vessel should meet the training guidance appropriate for the position they fill on the vessel. This applies equally to inspected and uninspected vessels on domestic or international voyages.

1.2 Mariners on U.S. vessels must comply with requirements in 46 CFR 15.405 (Familiarity with vessel characteristics) and 46 CFR 15.1105 (Familiarization and basic training), as appropriate, before assuming their duties and responsibilities. Mariners on non-U.S. vessels should receive familiarity training required by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, (STCW) Regulations I/14, *Responsibilities of companies.*

1.3 In addition, mariners employed on these vessels should receive appropriate training on the risks and emergency procedures associated with the use of gases or other low flashpoint fuels, in accordance with their duties and responsibilities. On that basis, the following training levels have been identified:

.1 basic training for mariners responsible for designated safety duties associated with the care, use or in emergency response to gases or other low flashpoint fuels; and

.2 advanced training for the masters, engineer officers and all personnel with immediate responsibility for the care and use of the fuel and fuel systems onboard vessels using gases or other low flashpoint fuels.

1.4 For the purpose of these guidelines, "*gases or low flashpoint fuels"* means gaseous or liquid fuel having a flashpoint lower than otherwise allowed under 46 CFR 58.01-10(a)(1).

2 TRAINING GUIDANCE

2.1 Prior to being assigned duties on board a vessel using gases or other low flashpoint fuels, all mariners should receive appropriate training in accordance with this section.

2.2 Mariners responsible for designated safety duties associated with the care, use or in emergency response to the fuel on board these vessels should receive basic training or instruction in accordance with paragraph 3.1 and should meet the standard of competence specified therein.

2.3 Masters, engineer officers and all personnel with immediate responsibility for the care and use of fuel and fuel systems on board these vessels should receive advanced training in accordance with paragraph 3.2 and should meet the standard of competence specified therein.

2.4 Basic and advanced training should be given by qualified personnel experienced in the handling of gases or other low flashpoint fuels and the safety procedures involved.

2.5 It is important to emphasize the value of risk analysis to the mariner. All relevant risk analyses should be made available during training with the intent of improving the student's future decision making so that it results in the mitigation or elimination of any adverse effects during an unplanned event or emergency.

2.6 Reducing training may be appropriate for vessel personnel onboard non-passenger vessels of less than 200 GRT/500 GT using gases or other low flashpoint fuels if there are other appropriate safety precautions in effect. These reductions should be recorded in the documentary evidence listed in Section 5 of this document. These precautions may include, but are not limited to, limiting the quantity of fuel carried to less than 10 cubic meters, the immediate availability of appropriate shore based emergency response, routes limited to within 1 hour of properly trained maintenance personnel, methods of bunkering that include multiple levels of safety under the supervision of someone fully trained in accordance with the advanced standards or a tankerman PIC (LG) and other provisions that adequately allow for safe operations. The company should consider the ability of its shipboard personnel to safely and comprehensively respond to emergency situations and the ability of those personnel to safely operate the equipment, keeping in mind specific hazards associated with using gases or other low flashpoint fuels. Any questions regarding the reduction in training should be directed through a formal request to:

Commandant (CG-OES-1)
Attn: Maritime Personnel Qualifications Division
US Coast Guard Stop 7509
2703 Martin Luther King Jr Ave SE
Washington, DC 20593-7509

CGOES1@uscg.mil

3 STANDARDS OF COMPETENCE

3.1 Standard of competence for basic training

3.1.1 Mariners responsible for designated safety duties associated with the care, use or in emergency response to the fuel on board vessels using gases or other low flashpoint fuels should, before being assigned to shipboard duties:

3.1.1.1 receive basic training or instruction on the use of gases or other low flashpoint fuels so as to:

3.1.1.1.1 contribute to the safe operation of a vessel using gases or other low flashpoint fuels;

3.1.1.1.2 take precautions to prevent hazards on a vessel using gases or other low flashpoint fuels;

3.1.1.1.3 apply occupational health and safety precautions and measures;

3.1.1.1.4 carry out firefighting operations on a vessel using gases or other low flashpoint fuels;

3.1.1.1.5 respond to emergencies; and

3.1.1.1.6 take precautions to prevent pollution of the environment from the release of gases or other low flashpoint fuels;

3.1.1.2 be required to provide documentary evidence of having achieved the required standard of competence to undertake their duties and responsibilities through:

3.1.1.2.1 demonstration of competence in accordance with the methods and criteria for evaluating competence; and

3.1.1.2.2 examination or continuous assessment as part of a training program.

3.1.2 Mariners responsible for designated safety duties associated with the care, use or in emergency response to the fuel on board vessels using gases who have been qualified and certified according to the standards of competence as specified in 46 CFR Part 13 for service on liquefied gas tankers, as Tankerman PIC (LG), Tankerman Engineer (LG) or Tankerman Assistant (LG), should be considered as having met the recommendations specified in this subsection, provided they have also met the requirements of 46 CFR 15.405 and 46 CFR 15.1105.

3.2 Standard of competence for advanced training

3.2.1 Masters, engineer officers and any person with immediate responsibility for the care and use of gases or other low flashpoint fuels being used as fuel serving on board vessels using this fuel, before being assigned to shipboard duties should:

3.2.1.1 receive advanced training on the use of gases or other low flashpoint fuels so as to:

3.2.1.1.1 be familiar with physical and chemical properties of gases or other low flashpoint fuels;

3.2.1.1.2 operate controls of fuel related to propulsion plant and engineering systems and services and safety devices on vessels using gases or other low flashpoint fuels;

3.2.1.1.3 be able to safely perform and monitor all operations related to the fuels used on board vessels using gases or other low flashpoint fuels;

3.2.1.1.4 plan and monitor safe bunkering, stowage and securing of the fuel on board vessels using gases or other low flashpoint fuels;

3.2.1.1.5 take precautions to prevent pollution of the environment from the release of fuels from vessels using gases or other low flashpoint fuels;

3.2.1.1.6 monitor and control compliance with legislative requirements;

3.2.1.1.7 take precautions to prevent hazards;

3.2.1.1.8 apply occupational health and safety precautions and measures on board vessels using gases or other low flashpoint fuels; and

3.2.1.1.9 have knowledge of the prevention, control, firefighting and extinguishing systems on board vessels using gases or other low flashpoint fuels;

3.2.1.2 be required to provide documentary evidence of having achieved the required standard of competence to undertake their duties and responsibilities through:

3.2.1.2.1 demonstration of competence in accordance with the methods and criteria for evaluating competence; and

3.2.1.2.2 examination or continuous assessment as part of a training program.

3.2.1.3 Masters, engineer officers and any person with immediate responsibility for the care and use of fuels on vessels using gases who have been qualified and certified according to the standards of competence specified in 46 CFR Part 13 for service on liquefied gas tankers as Tankerman PIC (LG) or Tankerman Engineer (LG) should be considered as having met the recommendations specified in this subsection, provided they have also met the requirements of 46 CFR 15.405 and 46 CFR 15.1105, and have completed sea going service of three months in the previous five years on board a tanker carrying gases.

4 DOCUMENTARY EVIDENCE

4.1 Documentary evidence such as course completion certificates, company letters, etc. should be issued indicating that the holder has successfully completed the basic or advanced training, as appropriate.

4.2 Mariners working on board an inspected natural gas-fueled vessel who have responsibility for bunkering and/or the operation of natural gas fuel systems must hold a Merchant Mariner Credential (MMC) with an appropriate endorsement as required under 46 CFR 15.401 authorizing service on board the vessel and should hold documentary evidence of meeting the advance training contained in paragraph 3.2 above.

4.3 Mariners working on board an uninspected natural gas-fueled vessel who have responsibility for bunkering and/or the operation of natural gas-fuel systems should either comply with paragraph 4.2 above or be issued a letter of designation by the company listing them as a person-in-charge (PIC) of the transfer of natural gas as fuel and/or the operation of the natural gas-fuel system aboard the vessel or class of vessels upon which they are serving. The letter of designation should state that the holder has received formal advance instruction in accordance with paragraph 3.2 above to ensure his or her ability to safely and adequately carry out his or her duties and responsibilities as PIC. Also, mariners working on board uninspected natural gas-fueled vessels who are not required to hold an MMC but who have designated safety duties associated with the care, use or emergency response to the fuel on board should hold documentary evidence that the holder has received sufficient formal basic training in accordance with paragraph 3.1 above, to ensure his or her ability to safely and adequately carry out his or her duties and responsibilities.

4.4 The Coast Guard will review courses submitted on a voluntary basis that are designed to meet the training guidance outlined in paragraphs 3.1 and 3.2. These courses will be issued a letter attesting to the review and its conformance with the training, as appropriate, in this guidance. If training regulations are published, courses that were subject to this review will have to be re-submitted for approval in accordance with the regulations in 46 CFR 10.402. Course providers may submit the course information to the National Maritime Center, either by mail or electronically. The course information should include: the course name, the name of the

organization providing the instruction, a general description of the course and its objective, and the course content/curriculum, and be directed to:

National Maritime Center
Training & Assessment Division (NMC-2)
100 Forbes Drive
Martinsburg, WV 25404
ATTN: NMC Course Approvals

NMCCOURSES@uscg.mil

4.5 The Coast Guard will not be issuing endorsements to seafarers meeting the training in this guidance.

5 FAMILIARIZATION TRAINING AND EMERGENCY EXERCISES

5.1 A training manual should be developed and a training program and exercises should be specially designed for each individual vessel and its gas installations.

5.2 Emergency exercises on board vessels using gases or other low flashpoint fuels should be conducted at regular intervals (e.g. quarterly). Such gas-related exercises could include for example:

5.1.1 tabletop exercise;
5.1.2 review of fueling procedures based in the fuel handling manual;
5.1.3 responses to potential contingences;
5.1.4 tests of equipment intended for contingency response; and
6.1.5 reviews that assigned seafarers are trained to perform assigned duties during fuelling and contingency response.

5.3 Gas related exercises may be incorporated into periodical drills required by regulation and/or SOLAS. The response and safety system for hazard and accident control should be reviewed and tested.

HMCRP

REPORT 14

HAZARDOUS MATERIALS COOPERATIVE RESEARCH PROGRAM

Sponsored by the Pipeline and Hazardous Materials Safety Administration

Guide for Communicating Emergency Response Information for Natural Gas and Hazardous Liquids Pipelines

TRANSPORTATION RESEARCH BOARD
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HAZARDOUS MATERIALS COOPERATIVE RESEARCH PROGRAM

HMCRP REPORT 14

Guide for Communicating Emergency Response Information for Natural Gas and Hazardous Liquids Pipelines

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2014
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HAZARDOUS MATERIALS COOPERATIVE RESEARCH PROGRAM

The safety, security, and environmental concerns associated with transportation of hazardous materials are growing in number and complexity. Hazardous materials are substances that are flammable, explosive, or toxic or that, if released, produce effects that would threaten human safety, health, the environment, or property. Hazardous materials are moved throughout the country by all modes of freight transportation, including ships, trucks, trains, airplanes, and pipelines.

The private sector and a diverse mix of government agencies at all levels are responsible for controlling the transport of hazardous materials and for ensuring that hazardous cargoes move without incident. This shared goal has spurred the creation of several venues for organizations with related interests to work together in preventing and responding to hazardous materials incidents. The freight transportation and chemical industries; government regulatory and enforcement agencies at the federal and state levels; and local emergency planners and responders routinely share information, resources, and expertise. Nevertheless, there has been a long-standing gap in the system for conducting hazardous materials safety and security research. Industry organizations and government agencies have their own research programs to support their mission needs. Collaborative research to address shared problems takes place occasionally, but mostly occurs on an ad hoc basis.

Acknowledging this gap in 2004, the U.S. DOT Office of Hazardous Materials Safety, the Federal Motor Carrier Safety Administration, the Federal Railroad Administration, and the U.S. Coast Guard pooled their resources for a study. Under the auspices of the Transportation Research Board (TRB), the National Research Council of the National Academies appointed a committee to examine the feasibility of creating a cooperative research program for hazardous materials transportation, similar in concept to the National Cooperative Highway Research Program (NCHRP) and the Transit Cooperative Research Program (TCRP). The committee concluded, in *TRB Special Report 283: Cooperative Research for Hazardous Materials Transportation: Defining the Need, Converging on Solutions,* that the need for cooperative research in this field is significant and growing, and the committee recommended establishing an ongoing program of cooperative research. In 2005, based in part on the findings of that report, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) authorized the Pipeline and Hazardous Materials Safety Administration (PHMSA) to contract with the National Academy of Sciences to conduct the Hazardous Materials Cooperative Research Program (HMCRP). The HMCRP is intended to complement other U.S. DOT research programs as a stakeholder-driven, problem-solving program, researching real-world, day-to-day operational issues with near- to mid-term time frames.

HMCRP REPORT 14

Project HM-15
ISSN 1073-4872
ISBN 978-0-309-30831-1
Library of Congress Control Number 2014958651

NOTICE

The project that is the subject of this report was a part of the Hazardous Materials Cooperative Research Program, conducted by the Transportation Research Board with the approval of the Governing Board of the National Research Council.

The members of the technical panel selected to monitor this project and to review this report were chosen for their special competencies and with regard for appropriate balance. The report was reviewed by the technical panel and accepted for publication according to procedures established and overseen by the Transportation Research Board and approved by the Governing Board of the National Research Council.

The opinions and conclusions expressed or implied in this report are those of the researchers who performed the research and are not necessarily those of the Transportation Research Board, the National Research Council, or the program sponsors.

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Published reports of the

HAZARDOUS MATERIALS COOPERATIVE RESEARCH PROGRAM

are available from:

Transportation Research Board
Business Office
500 Fifth Street, NW
Washington, DC 20001

and can be ordered through the Internet at:

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Printed in the United States of America

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This guide was prepared under HMCRP Project 15, "Guide for Communicating Emergency Response Information for Natural Gas and Hazardous Liquids Pipelines," sponsored by the Pipeline and Hazardous Materials Safety Administration of the U.S. Department of Transportation. A panel of experts, representing diverse aspects of the pipeline industry, regulators, and emergency responders, oversaw this project. The research team acknowledges and thanks the members of the HMCRP Project Panel on Best Practices in Hazardous Materials Pipeline Emergency Response Plans (DHM 015) and the Transportation Research Board Staff Officer for their input and guidance. The team would also like to thank the participants in the research workshops and the reviewers who assisted with developing the guide. We also acknowledge the guidance and support provided by the HMCRP Project 15 panel.

In addition, a group of stakeholders met in the summer of 2013 to review a preliminary guide. The stakeholders represented major national public safety and local government organizations. This group contributed valuable insights to the development of this product.

FOREWORD

By William C. Rogers
Staff Officer
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HMCRP Report 14: Guide for Communicating Emergency Response Information for Natural Gas and Hazardous Liquids Pipelines provides pipeline operators and emergency responders with guidance on how to share appropriate information in advance of a pipeline emergency so that the response plan can be quickly and effectively put into operation with the assurance that the best steps are taken in correct sequence to bring optimum resolution to the pipeline emergency. The guide focuses on the appropriate emergency response content that pipeline operators should provide to emergency responders, effective means of disseminating this guidance by pipeline operators to recipient emergency response organizations and by those emergency response organizations to sub-units, and strategies for implementing and exercising emergency response plans.

Pipelines that transport hazardous materials are ubiquitous in the United States, crossing under water and over land from densely populated areas to the most remote uninhabited locations. Current federal regulations require pipeline operators to develop emergency response plans and implement public awareness programs. Under these regulations, pipeline operators must provide the affected public with information about how to recognize, respond to, and report pipeline emergencies. Emergency responders and local public officials must be provided information about the location of transmission pipelines to enhance emergency response and community growth planning. Affected municipalities, school districts, businesses, and residents must be advised of pipeline locations.

Under HMCRP Project 15, the Christian Regenhard Center for Emergency Response Studies was asked to (1) summarize current federal and state, and representative local and tribal regulations and ordinances governing emergency response plans for natural gas and hazardous liquids pipelines; (2) identify and describe lessons learned and best practices from recent significant U.S. pipeline emergencies with respect to communicating the emergency response plans and their effectiveness; (3) develop a failure mode and effect analysis of the process for disseminating, exercising, and implementing emergency response plans for natural gas and hazardous liquids pipeline incidents, including the roles and responsibilities of both pipeline operators and emergency responders; (4) and prepare a guide for pipeline operators and emergency responders to aid them in how to share appropriate content in advance of a pipeline emergency so that plans can be quickly and effectively put into operations with assurance that the best steps are taken in correct sequence to bring optimum resolution to the pipeline emergency.

CONTENTS

Note: Photographs, figures, and tables in this report may have been converted from color to grayscale for printing. The electronic version of the report (posted on the web at www.trb.org) retains the color versions.

SUMMARY

Guide for Communicating Emergency Response Information for Natural Gas and Hazardous Liquids Pipelines

Analysis of major pipeline incidents suggests a recurring challenge in communication between emergency responders and pipeline operators. In some cases, critical information such as determining the presence of pipelines or identification of the pipeline owners took considerable time. These delays contributed to greater damage as a consequence of these incidents.

HMCRP Report 14: Guide for Communicating Emergency Response Information for Natural Gas and Hazardous Liquids Pipelines (the guide) is designed for use as a pre-incident planning tool for both pipeline operators and public safety agencies, such as fire departments, law enforcement, and emergency management agencies. It is intended to provide information to assist all parties in identifying information needs and the means for communicating this information. The reader should consider incorporating this information into emergency operations plans. The research team consulted researchers and practitioners with considerable experience pertaining to each element of the project including pipeline emergency response.

Findings in the guide are the result of several steps. The first was review of national and state regulation, industry best practices, and pipeline incident reports from the National Transportation Safety Board (NTSB). Next, there was a series of workshops held with diverse stakeholder participants representing pipeline operators, public safety, and environmental protection or regulatory officials at the state and federal levels. These workshops were designed to identify information needs of various stakeholders, and identify challenges to effective communication. Based on data obtained in the workshops, a group of experts, representing these same constituencies, completed a Failure Modes and Effects Analysis (FMEA). This analysis identified information needs in the early stages of a pipeline emergency as well as criticality of the information and likelihood that it would be transmitted effectively.

The guide uses a role-based approach for understanding information needs and flows. Functions are associated with specific roles. This approach recognizes the reality that multiple organizations collaborate in pipeline emergency response, and may fulfill multiple or differing functions at a pipeline emergency. The time of notification, magnitude of the incident, and cause of the incident can all affect the information flows and their specific requirements. The research team defined key roles and identified organizations that commonly fulfill those roles.

The vast geographic coverage of pipelines, and the complex nature of local emergency response organizations makes outreach and maintenance of contact difficult. Public safety 9-1-1 dispatch centers (known as Public Safety Answering Points ([PSAPs]) play a crucial

role that should not be overlooked. These centers can serve as institutional memory for critical communication procedures, and are often the first step in recognizing potential pipeline involvement in reports of unusual conditions from the public.

Both pipeline operators and local emergency responders must work together to ensure that communication is a primary component of pre-incident plans. Preparedness begins with the public emergency responder identifying pipeline operators with facilities in his/her service areas. With this information, and an understanding of common challenges and experience of past incidents, key parties can improve readiness for an incident, and improve the ability to respond in a timely and effective manner. This guide includes federal emergency planning guidance on integrating pipeline emergency communications into larger emergency operations plans and incident management frameworks.

The Hazardous Materials Cooperative Research Program (HMCRP) conducted the project with funding provided by the U.S. Department of Transportation's (DOT's) Pipeline and Hazardous Materials Safety Administration (PHMSA). This guide is one of four products of the project. The other three products are Appendix 1: Contractor's Final Report for HMCRP Project 15; Appendix 2: Summary of Current Federal, State, and Representative Local and Tribal Regulations and Ordinances Governing Emergency Response Plans for Natural Gas and Hazardous Liquids Pipelines; and Appendix 3: Review and Summary of Voluntary Consensus Standards for Best Practices Related to Communicating Emergency Response Plans and Their Effectiveness. These appendices can be found online at www.trb.org by searching for *HMCRP Report 14.*

CHAPTER 1

About the Guide

Purpose and Scope

Pipeline incidents can have negative consequences for life, property, and the environment. Analysis of previous incidents indicates that communication (the exchange of information) is crucial in the early stages of a pipeline emergency. Challenges may include recognition of the pipeline emergency, identification of the appropriate pipeline operator, and passing information back and forth from pipeline operators to emergency responders in the field. The need to focus on communication needs in pipeline emergencies is critical to produce a favorable outcome, and must be planned prior to an incident.

This guide's scope is limited to pre-incident planning for communication between local emergency responders and pipeline operators. It only addresses communications, and does not address operational aspects of pipeline response. The target audience is personnel tasked with developing plans for responding to pipeline emergencies, regardless of their affiliation, as well as those responsible for communicating applicable information in the plans to appropriate emergency responders and agencies. The focus is on lessons and observations from actual incidents and response scenarios to inform the need to identify communication procedures ***before*** *an incident.*

In this guide, the research team provides suggestions for a common basis of understanding and organizing communications necessary to respond to pipeline emergencies. It is intended to "bridge the gap" between the pipeline operators and the emergency response community, defined primarily as those local public safety agencies that make initial response to reported pipeline emergencies: fire, police, and emergency medical services.

The purpose of this guide is to

- Fill a gap between the emergency response literature for pipeline emergencies and the intent of regulation and good practice that encourages local public emergency response organizations to become familiar with the pipeline operators in their response areas.
- Assist pipeline operators in better understanding the needs of the emergency response community.
- Assist emergency responders in better understanding the needs of pipeline operators.
- Help form a common basis for local emergency services and pipeline operators to engage in a dialogue around the transfer of critical information both prior to and during a pipeline emergency.

Each agency or organization that responds to a pipeline emergency has information needs that are unique. Terminology differs between pipeline operators and emergency responders, and even between emergency response organizations. The ability to share critical information with the right organization at the right time is the key to a successful response. For pipeline operators, the guide provides a framework for understanding the complexity and variation in emergency responder information needs, as well as for understanding the tremendous variation in capacity and organization across the United States. For emergency responders, the guide provides a framework for understanding pipeline operator information needs.

Of course, communications for such a complex and specialized emergency requires considerable planning and preparation. This guide provides the information necessary to begin or improve the process in your community. Information needs elicited from both pipeline operators and emergency responders in response to actual pipeline emergencies and in planning activities associated with potential pipeline response scenarios are included. The guide also reflects lessons learned from an analysis of actual pipeline emergencies.

References to emergency response in the role-based scenarios are made to inform and motivate the need for pre-incident communications planning. The use of role-based information allows the reader to generalize across multiple contexts, and recognize the variation in responsibilities across different organizations, which can vary depending on the stage of the incident, and the circumstances particular to any individual event.

The research team recommends applying this process at a local level, to reflect variations in local operating conditions

and hazards. Then, incorporate the findings of local planning efforts into local emergency operations plans. These finding will also become part of emergency planning training and exercises in your local jurisdiction.

Limitations

This guide is a pre-emergency guidance tool. It is only for use during the planning phase of an emergency response. Pipeline incidents may be complex and involve many organizations and individuals who do not routinely work together. The guide provides suggestions only for that purpose. While there is considerable difference in terminology within disciplines and even organizational responsibilities throughout the country, this guide portrays common roles and responsibilities.

Although federal pipeline regulation is common across the United States, state-level regulations may vary in the requirements placed on pipeline operators and emergency responders. Locally, different levels of resources may be available to assist in the event of a pipeline emergency. The guide intends to provide general guidance, and does not explicitly address these differences.

Finally, the guide attempts to deal with pipelines carrying multiple products and modes of operation. The guide, by necessity, generalizes in order to summarize and draw conclusions and develop guidance. The guide is not a substitute for knowledge of local pipeline operations or reliance on expertise of local, state, and federal organizations who serve your area.

How to Use the Guide

This guide is designed to facilitate the planning process for pipeline emergency response. It is designed to be a reference for emergency responders such as local police, fire, and emergency medical services, and public safety emergency communications (9-1-1) centers. The guide is also intended as a planning resource for pipeline operators to help them identify and work with local emergency responders to prepare for potential incidents.

The guide consists of five chapters:

- Chapter 1: About the Guide
- Chapter 2: Introduction: Why Plan for Communications at Pipeline Incidents
- Chapter 3: Decisions, Roles, and Organization Affiliations: The Role Determines the Decisions and Information Needs
- Chapter 4: Developing and Exercising the Communications Plans
- Chapter 5: About the Project

It also includes a reference list and three appendices:

- Appendix 1: Contractor's Final Report for HMCRP Project 15
- Appendix 2: Summary of Current Federal, State, and Representative Local and Tribal Regulations and Ordinances Governing Emergency Response Plans for Natural Gas and Hazardous Liquids Pipelines
- Appendix 3: Review and Summary of Voluntary Consensus Standards for Best Practices Related to Communicating Emergency Response Plans and Their Effectiveness

These appendices are unpublished herein but can be found online at www.trb.org by searching for *HMCRP Report 14*.

Although the guide is written to be concise, the relevant chapters can be consulted directly for additional information. It is not necessary to read the entire guide before proceeding.

CHAPTER 2

Introduction: Why Plan for Communications at Pipeline Incidents

Selected Characteristics of Pipelines

Minor pipeline incidents occur frequently and are handled safely and effectively by pipeline operators and the emergency response community. However, there are also pipeline emergency scenarios, such as those involving transmission pipelines, which have the potential to quickly escalate into high consequence events. As low frequency/high consequence events, first responders and pipeline operators are sometimes not fully prepared or cognizant of the effort necessary or procedures needed to successfully respond to this type of incident (*1*). Pipeline emergencies can be inherently complex events, requiring the coordination of multiple response agencies and organizations, and having both short-term and long-term impacts that go well beyond the response phase of the incident.

Analysis of past pipeline incidents indicates that communication in the first critical minutes of an event—most often communication between emergency responders and pipeline operators—is critical to determining the outcome of an incident. Incomplete, inadequate, or unclear communication can result in a delayed response, and can contribute to human casualties, excess release of hazardous substances into the environment, and excess property damage.

Challenges to communications include failure to recognize the potential involvement of a pipeline in a release scenario, inability to identify the product(s) that are being released, and not knowing when or whom to notify to respond to the release.

About Pipelines

Pipelines are a highly efficient means for moving large quantities of both hazardous liquid and natural gas materials. An estimated 70 percent of petroleum products travel via pipeline (*2*). As such, pipelines are a crucial component of America's energy system. Although certain parts of the country have greater concentrations of pipelines, the overall mileage of pipelines is extensive and touches every state. Table 2.1 shows data on pipeline mileage by type of pipeline. The greatest mileage is found in natural gas distribution lines, which are used to deliver natural gas directly to consumers. Oil and hazardous liquids pipelines account for just over 185,000 miles of the 2.6 million miles of pipeline in the United States.

Types of Pipeline: Product and Function

While all pipelines have many commonalities, they can be classified by either function or by the product(s) they are designed to carry. In this section, the research team provides a high-level overview that can be useful for understanding pipeline differences.

Pipelines by Function

Pipelines can be classified according to their function. Regulatory definitions may be complex, and the reader should refer to the Code of Federal Regulations for complete definitions. Pipelines are classified as follows:

Gathering. Gathering *pipelines* transport gases and liquids such as oil or natural gas from the commodity's source—like rock formations located far below the drilling site—to a processing facility, refinery or a *transmission line* (49 CFR 195.2). Storage facilities exist that may receive shipments from multiple gathering pipelines. The shipments are then stored in tanks. Producers of the product may own gathering pipelines. Gathering pipelines can be found transporting product from multiple production sites to regional storage facilities.

Transmission. A transmission line is a pipeline used to transport natural gas from a gathering, processing, or storage facility to a processing or storage facility, large volume customer, or distribution system. A large volume customer may receive similar volumes of gas as a distribution center, and includes factories, power plants, and institutional users of gas. The term, transmission line, also refers to a pipeline used

Table 2-1. Types of pipeline and mileage (2012).

Type of Pipeline	Mileage
Hazardous Liquid	185,425
Natural Gas (Gathering)	16,288
Natural Gas (Transmission)	302,776
Natural Gas (Distribution Mains)	1,246,248
Natural Gas (Distribution Service Lines)	891,954
Grand Total	2,642,691

Source: Pipeline and Hazardous Materials Safety Administration. (http://phmsa.dot.gov/portal/site/PHMSA/menuitem.7c371785a639f2e55cf2031050248a0c/?vgnextoid=3b6c03347e4d8210VgnVCM1000001ecb7898RCRD&vgnextchannel=3b6c03347e4d8210VgnVCM1000001ecb7898RCRD&vgnextfmt=print).

to transport crude oil from a gathering line to a refinery and refined products from a refinery to a distribution center. The term is often used to describe hazardous liquids pipelines. (http://primis.phmsa.dot.gov/comm/glossary/index.htm?nocache=9525#TransmissionLine see also 49 CFR 192.3).

Indeed, some transmission pipelines traverse the entire continent. Transmission lines, especially those covering long distances, are often owned by specialized companies whose sole function is the operation of these specialized components of the pipeline infrastructure. Transmission pipelines are of larger diameter, and have greater flows and pressures than other types of pipelines. Because of this, they have the potential for greater consequences in the event of a release.

Distribution. Distribution pipelines are unique to natural gas systems. Distribution pipelines are used to deliver the product to end-users or customers. Storage facilities and transmission lines feed these lines. Distribution lines have the smallest diameter. While distribution lines are more frequently involved with leaks, the consequences are more limited, but because they tend to be in populated areas, they may be more likely to threaten structures and people.

The research team distinguishes between transmission and distribution pipelines in some places of this guide. The response scenario, the differing operating environments, and the characteristics of each pipeline can have an effect on communication needs and the entities involved in responding to a pipeline emergency.

Pipelines by Product Carried

Although pipelines have many common characteristics, an important distinction is based on the products they are designed to carry. Different products require different pipeline operating processes and characteristics. The physical characteristics of gases versus liquids will determine operating pressures and flow characteristics. These differences ultimately affect pipeline design and operations. That is, a pipeline designed to carry natural gas would not typically be able to carry a liquid such as crude oil or refined products. However, the same liquid pipeline may be used for multiple liquid products. For example, a pipeline from an oil refinery to a distant storage tank distribution facility can be used to send different grades of gasoline, diesel fuel, or heating oil.

Shipments through a liquid pipeline are sometimes referred to as "batch" systems because different grades or types of product may be shipped through the same pipeline at different times in so-called batches. The batch system is very common in liquid pipelines. The mixing that occurs between different grades of product is known as "transmix." Depending on the nature of the product and its end-use, the transmix may be subject to additional treatment before being sold or used (*3*).

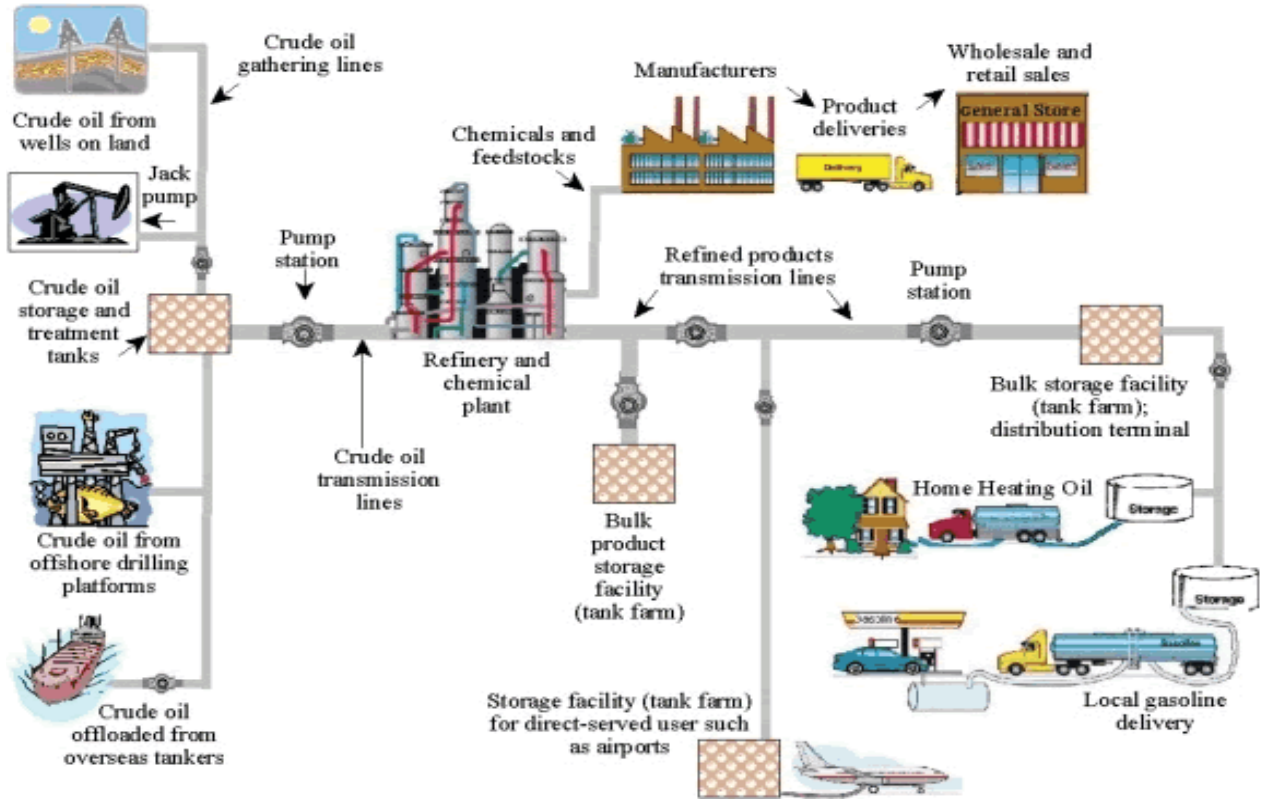
Characteristics of Pipeline Systems

Figures 2-1 and 2-2 provide the layout and overview of petroleum product and natural gas pipeline systems, respectively. Both diagrams move from production on the left to consumption on the right. The raw material is produced, either from wells or introduced to the system from a tanker or other external source. From there, the material is stored and may undergo some basic processing to remove contaminants. Next, the product enters the transmission line and goes either to a refinery or processing plant. The hazardous liquid or natural gas is transported from the refinery or processing plant through the transmission line. The product is kept moving along the line either through pumps (liquid lines) or compressors (natural gas) located along the route. Large liquid volume customers may access product directly from the transmission line, but most users receive the product from a storage tank distribution facility. Natural gas customers generally receive product through the local distribution pipeline system, which is usually operated by a local utility. Odorant can be added to natural gas at the city gate as shown, but is also required in some transmission pipelines in heavily populated areas. Please refer to regulations for specific details.

Pipeline Operations

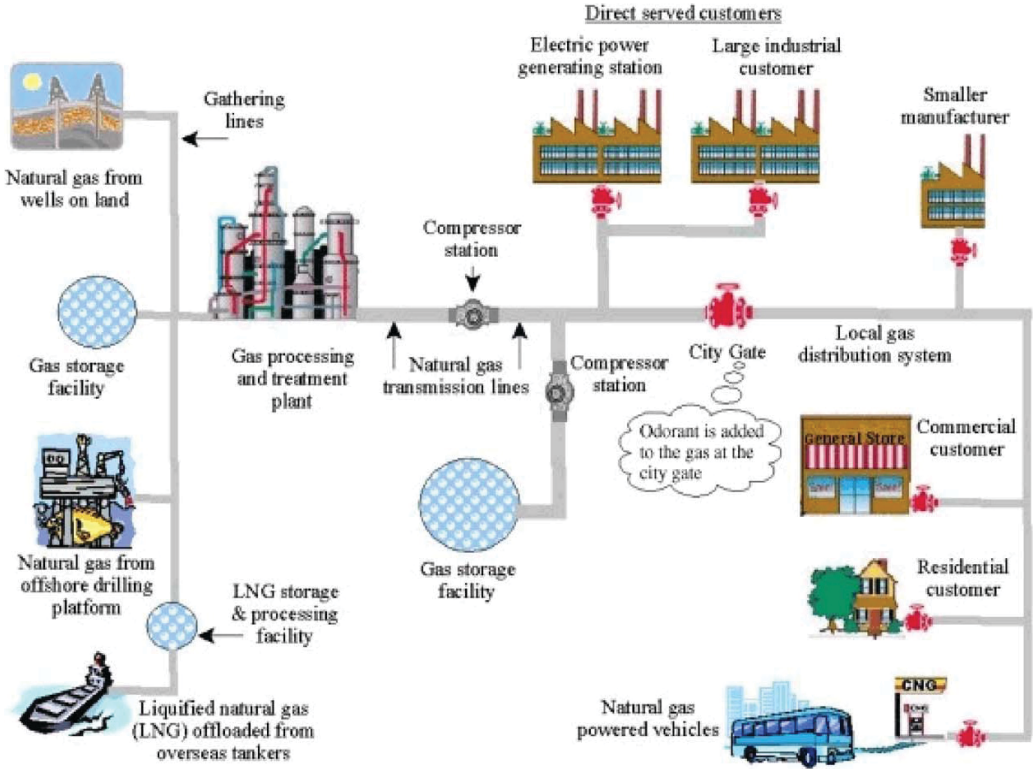
Pipeline operations are highly specialized and overseen by personnel working throughout the system. While maintenance personnel and limited operations staff work in the field, most control operations are centralized at the pipeline's "control room."

Control rooms oversee routine and emergency operations of the pipeline. In the past, many functions relied on personnel located in the field to perform readings, monitor equipment, and open and close valves. Today, many of these functions are carried out remotely, from a centralized control room, using sophisticated monitoring and operation systems and software.



Source: PHMSA "Petroleum Pipeline Systems."
http://primis.phmsa.dot.gov/comm/PetroleumPipelineSystems.htm?nocache=6756

Figure 2-1. Petroleum pipeline systems overview.



Source: PHMSA "Natural Gas Pipeline Systems."
http://primis.phmsa.dot.gov/comm/NaturalGasPipelineSystems.htm?nocache=464

Figure 2-2. Natural gas pipeline systems overview.

Supervisory Control and Data Acquisition (SCADA) systems describe a distributed network of sensors and associated controls. These systems monitor the status of gates and valves, flow of product, pressures, and other operating characteristics. These SCADA systems for pipelines are extensive, and automate many functions of pipeline operation.

Computational pipeline monitoring (CPM) systems use sensors to monitor flow, mass balance, and other pipeline operating characteristics to detect leaks. These systems compare pipeline flows at various stages along the pipeline, and attempt to reconcile differences across these locations.

Control room personnel rely on SCADA and CPM systems to monitor the status of the pipeline and detect abnormal conditions. The highest priority is to identify a leak or unsafe condition as quickly as possible. In many cases, the control room operators must interpret multiple sources of information to infer that a leak has occurred. Reports from field personnel, the public, or emergency responders can help speed this process.

Even when a leak is detected, the proper valve or valves must be closed. All valves are not capable of being remotely operated which may require field personnel to drive to a location and manually operate valves. The flow of residual product may continue for some time even after valves are closed.

Although extensive technology is in place to monitor pipeline operations and identify leaks along the pipeline, depending on the pipeline size, location, and product involved, it may be difficult to initially detect a leak or its specific location. According to PHMSA data, public or emergency responders discover a significant percentage of pipeline leaks after a report from the public (*4*).

Please refer to *Pipeline Emergencies, Second Edition*, for a more complete introduction to pipelines and operational concerns of emergency response. This resource is available free of charge online and as a downloadable smart phone "app" via the National Association of State Fire Marshals and U.S. DOT at http://www.pipelineemergencies.com (*5*, *6*). For additional information on pipelines go to http://www.pipeline101.com and http://pipelineemergencies.com.

Review of Significant Pipeline Incidents: The Critical Role of Communication

Communication at pipeline emergency incidents is complex, and includes communication within pipeline companies, between pipeline companies and emergency responders, among emergency response organizations, and between the public and PSAP/Dispatch. This web of organizations and their communication flows illustrates the complexity of communications for pipeline emergency response. Each of the parties plays an important role, and the effectiveness of communication between and within the roles is crucial to the successful response to a pipeline emergency (Figure 2-3).

Emergency responders must quickly identify the product involved, which is a key piece of information particularly where multiple pipelines may be in the area or within a common pipeline right of way. Knowledge of the pipelines and products carried can greatly ease the process of determining that a call about an unknown odor, sound, or other physical manifestation of a release is a pipeline emergency. This knowledge can shorten the time to notify the pipeline operator and to dispatch appropriate public safety and industry resources.

Analysis of Major Incidents

By studying past incidents, one can learn about areas for improvement for emergency response. Relying on reports from regulatory agencies and oversight bodies, such as the

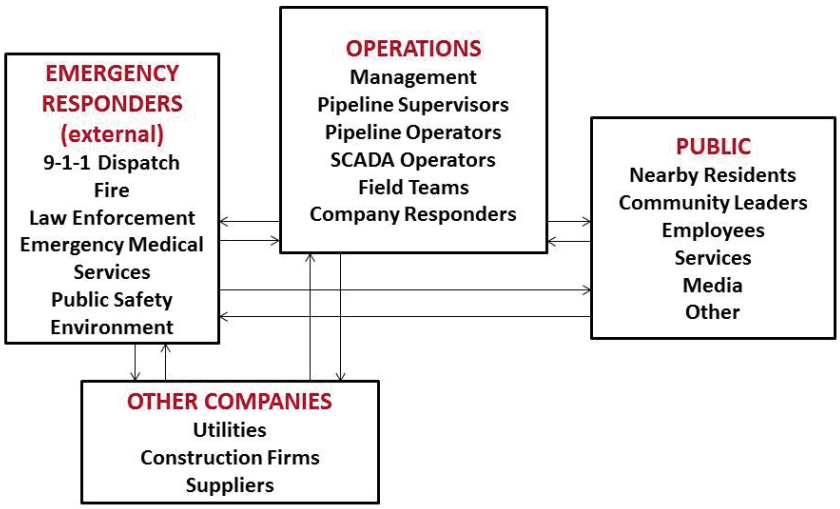


Figure 2-3. Roles, organizations, and communication flows.

NTSB, can drive improvements in safety through a mix of technological improvement, advancing industry practices, and regulatory actions. This guide relied primarily on post-incident investigative data from the PHMSA and the NTSB. The NTSB data was limited to major incidents. In addition to this data, the study involved interviews, surveys, and meetings with groups of professionals representing pipeline operators, state and federal regulators/emergency responders, public safety communications centers, and public emergency response organizations.

In examining NTSB reports for the 32 most recent major pipeline incidents (1994–2012), one can see a pattern of failures that contributed to excess losses. Fifty-nine percent of major incidents had one or more deficiencies identified in the NTSB reports that contributed to those outcomes.

The incidents are listed in Table 2-2. The incidents collectively resulted in 84 fatalities, 310 injuries, and losses in excess of $1.1 billion (2012 dollars). These incidents occurred in 25 states.

The research team analyzed the critical incidents identified in the previous discussion to determine contributing factors related to this study. The team selected the following categories to classify incident-related deficiencies. Multiple deficiencies were possible for a single incident. Table 2-3 summarizes

Table 2-2. Summary of losses from major pipeline incidents 1994–2012.

Incident Date and Location	Number of Fatalities	Number of Injuries	Total Cost of Damages ($M)	Total Cost Current Value (2012) $M
2012 Sissonville, WV	0	0	Not available	Not available
2010 Marshall, MI	0	320*	>$760	$760
2010 San Bruno, CA	8	15	$44.0	$46.0
2008 Rancho Cordova, CA	1	5	$0.27	$0.29
2008 Plum Borough, PA	1	1	$1.00	$1.1
2007 Carmichael, MS	2	7	$3.38	$3.8
2005 Bergenfield, NJ	3	4	$0.86	$1.03
2004 Kingman, KS	0	0	$0.68	$0.8
2004 DuBois, PA	2	0	$0.80	$0.98
2003 Wilmington, DE	0	14	$0.30	$0.37
2003 Glenpool, OK	0	0	$2.36	$2.9
2002 Cohasset, MN	0	0	$5.60	$7.2
2000 Winchester, KY	0	0	$7.10	$9.5
2000 Greenville, TX	0	0	$18.00	$24.1
2000 Chalk Point, MD	0	0	$71.00	$95.2
2000 Carlsbad, NM	12	0	$1.00	$1.34
1999 Knoxville, TN	0	0	$7.00	$9.64
1999 Bridgeport, AL	3	6	$1.40	$1.93
1999 Bellingham, WA	3	8	$45.00	$62.0
1998 South Riding, VA	1	3	$.025	$0.35
1998 Sandy Springs, GA	0	0	$3.20	$4.48
1998 Saint Cloud, MN	4	11	$0.40	$0.56
1997 Indianapolis, IN	1	1	$2.00	$2.85
1996 Tiger Pass, LA	0	0	Not available	Not available
1996 San Juan, PR	33	69	$8.50	$12.5
1996 Murfreesboro, TN	0	0	$5.70	$8.38
1996 Lively, TX	2	0	$0.22	$0.32
1996 Gramercy, LA	0	0	$7.00	$10.29
1996 Fork Shoals, SC	0	0	$20.50	$30.14
1994 Waterloo, IA	6	7	$0.25	$0.39
1994 Edison, NJ	1	93	$25.00	$38.70
1994 Allentown, PA	1	66	$5.00	$7.74

*Note: Includes people experiencing symptoms of exposure to oil.

Table 2-3. Common deficiencies identified in pipeline incidents 1994–2011.

Deficiency	Percent of Incidents (Number)
Delayed notification to pipeline operator	19 percent (6)
Delayed notification to emergency responders	25 percent (8)
On-scene coordination problem between pipeline operator and emergency services	6 percent (2)
Delayed action by pipeline operator	9 percent (3)
Emergency service on-scene problem	13 percent (4)
Pipeline operator on-scene problem	3 percent (1)
Other deficiencies not noted above	13 percent (4)

Note: Percentages are greater than 100 due to multiple contributing factors for some incidents.
Source: Analysis of NTSB reports.

the categories used and their frequency of occurrence in the 32 incidents. Nearly 60 percent of major incidents had some deficiencies in incident management.

In summary, the most common problems are failure to promptly notify emergency services or the pipeline operator, followed by delayed action by a pipeline operator. The findings from the pipeline incident reports showed that delays in the initial notification to both emergency responders and/or pipeline operators are dominant, but that on-scene issues of coordination or proper action on the part of pipeline operators or emergency services also occurred at over 20 percent of incidents. Improved communications, both during the planning and response phase of incidents, would influence nearly all of the deficiencies noted.

Communication Characteristics in Pipeline Emergencies

There are several ways to characterize communication issues during pipeline incidents. These are summarized as follows:

Timeliness. Timeliness is multi-dimensional and encompasses many functions. It pertains to the time it takes to recognize and identify a pipeline release, to determine its specific location, to isolate the product flow, and to control any release. It also refers to how quickly emergency responders are notified, arrive on the scene, and initiate response strategies and tactics to reduce the consequences and impacts of the incident. This could include isolation of the area, initiating public protective actions (evacuation or sheltering-in-place), leak and spill control, vapor suppression, and fire extinguishment.

Although pipeline operators maintain sophisticated systems for monitoring pipeline flows and pressures and detecting leaks, incident experience suggests that small leaks may not be initially detected through these control systems. Even in cases of significant releases, direct observation by the public, pipeline personnel or contractors, and public emergency responders accounts for well over one-half of all first reports of releases, according to a study commissioned by PHMSA (*4*). This means that information flow from the public and emergency responders, which is typically routed through public safety communications centers, often represents the initial notification. The timely ability to identify a pipeline emergency is the most important step in the incident management process.

Extent of The Release and Initial On-Scene Conditions. Information on the extent of the release may not be readily apparent to emergency responders or even pipeline control room operators. On-scene emergency personnel need to be able to visually confirm that a release has occurred and provide an initial estimate of the magnitude of the spill or leak. This critical information is also necessary for initiating public protective actions, including decisions to evacuate civilians and summon additional resources to the scene. For example, in the Bergenfield, New Jersey, incident, public safety units and the pipeline operator were on the scene of an outside leak from a gas distribution pipeline. However, they did not anticipate that the natural gas could migrate underground into nearby structures. No evacuation was undertaken, and as a consequence, three people were killed when an explosion resulted (*7*).

Contacting a local one-call center by dialing 8-1-1 before engaging in any digging activities helps avoid excavation damage to pipelines. When pipeline damage does occur, the responsible party must promptly report the emergency to 9-1-1. Several major incidents were identified where delays

in notification led to increased incident damage and severity. First-hand observations of contractors, who may have detailed information on the location of a leak or site hazards, were often lost as workers reported the emergency to their supervisors or third parties rather than directly alerting public safety emergency responders using 9-1-1 (*8*).

Ideally, the public safety emergency communications center can ascertain that a pipeline is involved, begin making notifications early in the incident, and begin the coordination of multiple public emergency responder agencies. In some cases, other utilities may have underground infrastructure that crosses, or even shares right of way with a pipeline. Communication among different utility companies has been identified as a problem in some incidents, that is, a problem in one utility has affected the stability of an adjacent pipeline.

Human Behavior and Communication Failures

Behavioral factors can influence the flow of information and must be anticipated in the design and implementation of communications systems, especially during the initial assessment, alerting, and notification phases. For example, in the Marshall, Michigan, incident, the NTSB identified "confirmation bias" as a factor that inhibited communications between PSAP/Dispatch operators, the public, and emergency responders (*9*). Confirmation bias occurs when strongly held beliefs prevent people from paying attention to subsequent communications (*10*).

Combating confirmation bias is especially important when call takers and public safety emergency communications dispatchers may be accustomed to receiving calls for minor natural gas leaks or odors, and unintentionally rule out the possibility of a major pipeline emergency.

Other behavioral factors include what influences people to trust or defer to certain sources of information over others, as well as how people interpret high risk situations and response scenarios (*11*, *12*). People will sometimes underestimate or deny the presence of significant hazards and extreme risks (*13*).

People also tend to view emergencies from the perspective of their own roles. This can interfere with the likelihood that they will attend to the information needs of people in other roles who must respond to a pipeline emergency. Research about pipeline emergencies revealed that the two most likely ways in which information is not provided are (1) the information is not collected in the first place and (2) the information is sent too late. Both of these failure modes reflect preparedness problems among persons who are the sources of information. Persons who should transmit information may be unaware that someone else needs it, or they may simply be so caught up in their immediate responsibilities that the information is not sent early enough in an incident.

Public Safety Emergency Responders: Learning About Pipelines in Your Service Area

As described in the previous section, knowing the locations and products carried in pipelines in a community is the single most important step in preparing for a potential incident. Visual clues, such as markers, can also provide assistance in locating pipelines. However, distribution pipelines may or may not be marked, or are not marked as well as larger lines are marked.

An agency should begin with the PHMSA National Pipeline Mapping System (https://www.npms.phmsa.dot.gov/) to find out what hazardous liquid or gas transmission pipelines are running in a particular area. Representatives from public safety emergency response organizations can get an account that will permit access to the detailed maps for their respective county or jurisdiction. In addition to this tool, readers can search for organizations operating pipelines by state, county, or zip code using https://www.npms.phmsa.dot.gov/FindOperator/PublicSearch.aspx. This system allows public safety emergency responders to identify companies operating in their response area, enabling emergency response agencies to make contact with the pipeline operator and get additional information.

The PHMSA mapping system does not include distribution or gathering pipelines. Public safety emergency response agencies will need to contact their local gas utility for more information on these pipelines. In addition, networking with oil or gas producers should identify gathering pipelines, if such activities are ongoing in their area. Once this initial assessment is made, the pipeline operators should be contacted to verify the routing of pipelines and the products carried.

Pipeline Operators: Learning About Emergency Responders in Your Service Area

Pipeline systems traverse numerous political subdivisions and entities. An important, if not primary, piece of information for pipeline operators is to know how to contact the PSAP or dispatch facilities serving public emergency responders located along pipeline right of way. This requires knowing the 10-digit direct-dial number for each facility. Jurisdiction of law enforcement, emergency medical services, and fire services may not be the same, and some jurisdictions may even overlap. While the trend in many parts of the country is to consolidate emergency communications on a countywide basis, this practice is far from universal, and many variations exist. The National Emergency Number Association (NENA) offers a service to provide such contact information for pipeline operators.

Another key piece of information is to know the capabilities of public emergency responders protecting portions of pipeline. It is critical to establish personal relationships with representatives of key public safety agencies along the pipeline right of way. Depending on the product carried and capacity of the pipeline, specialized response equipment and resources may be necessary to respond in a safe manner. Resource demand for such an incident will commonly require the services of multiple agencies summoned under mutual aid agreements for all but the largest public safety agencies. The "Emergency Response Capability Database and Reporting Tool," operated by the Pipeline Association for Public Awareness (http://www.pipelineawareness.org/welcome-government-and-emergency-officials/response-capability-survey-reporting-tool/), is one measure that provides this information on a voluntary basis.

The Pipeline Regulatory Framework: How It Relates to Planning for Communications and Response

Federal, State, and Local Regulatory Roles

Federal, state, and tribal authorities share responsibility for pipeline safety and emergency planning oversight. Federal pipeline safety regulations require pipeline operators to carry out specific pipeline emergency planning activities, including written emergency response plans and requirements for communication of emergency plans to fire, police, and other government officials.

Nearly all states and the District of Columbia have elected to adopt by reference federal pipeline safety regulations. Through agreements with the U.S. DOT and the Office of Pipeline Safety (OPS), these states have an assigned pipeline inspection and enforcement entity.

More information on specific pipeline regulations is contained later in this guide. This guide summarized salient federal and state regulation; it is necessary for users to verify state and local regulation that may exist in their communities.

Several federal regulations require emergency plans and response procedures [Code of Federal Regulations (CFR) 2012, Titles 30, 40, and 49], including the following:

- Notification of appropriate fire, police, and other public officials and coordinating response
- Pipeline controller emergency procedures
- Evacuation plans for pipeline facilities must be coordinated with local public safety officials
- Disclosure of hazards, layout, facilities, and quantities of materials present at facilities

Thirteen states have additional emergency planning or response requirements in place. These range from filing federal plans with the appropriate state agency to more elaborate requirements including the following:

- Notification of appropriate local emergency response agencies
- Annual meetings with fire departments along the right of way
- Cooperation with training local responders
- Notification of schools located within 1,000 feet of a pipeline, providing information on the location of the pipeline, products transported, designated emergency number for the pipeline operator, and information on excavation notification, recognition, and procedures to follow in the event of a leak.

Although some states have additional regulatory requirements, only some of these requirements directly pertain to emergency response. For the most part, state notification requirements are not well defined, and are not standardized or specific with regard to how notifications shall occur. The PHMSA maintains links on its website to each state pipeline regulatory office.

Recent Regulatory Activity and Developments Concerning Communications

The PHMSA issued an Advisory Bulletin October 11, 2012 (Federal Register, Vol. 77, No. 197) directing pipeline operators to make direct contact with the appropriate PSAP for any indication of a pipeline emergency (*14*). This advisory is designed to help the pipeline operator confirm an emergency or to provide assistance and information to public safety personnel who may be responding to the event. Notification of the appropriate PSAP may be challenging due to the large number of PSAPs that may be responsible for portions of a pipeline. NTSB issued this advisory as a result of its investigation of the San Bruno, California, gas pipeline rupture and explosion on September 9, 2010 (*15*).

Shortly after this advisory was issued, NENA, a trade group for the public safety 9-1-1 centers, announced a service to provide contact information for PSAPs mapped to pipeline routes (http://nenapipedb.com/).

Among its many provisions, the federal law, Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, (CFR 49 Public Law 112-90 2012) requires that, within 18 months of the date of the legislation, the U.S. DOT establish time limits of 1 hour or less for telephone or electronic notification of the DOT and the U.S. Coast Guard's National Response Center (NRC) (*16*). This will impact owners and

operators of gas and hazardous liquid pipeline systems and liquefied natural gas (LNG) facilities. The legislation reflects the following:

- Prompt, accurate communication about the estimated extent of damage for pipeline accidents or incidents to the National Response Center (NRC) is already required.
- PHMSA's new rule will establish specific time limits for telephone or electronic notification to the NRC about pipeline accidents or incidents.
- Notification will be established as being not later than 1 hour after confirmed discovery of an accident or incident, and information communicated must include:
  - Name of the operator
  - Name of the person making the report
  - Telephone number of the person making the report
  - Location of the incident
  - Number of fatalities and injuries
- Revision of initial telephonic or electronic notice to the NRC will still be required within 48 hours regarding the amount of product released, the number of fatalities and injuries and any other significant changes.

Finally, the U.S. Government Accountability Office recently provided testimony before the Senate suggesting the development of performance criteria for pipeline operators who arrive at incidents (*17*). These recent developments suggest that refinements to pipeline emergency response are recognized as a concern by both the legislative and executive branches of the federal government. Additionally, both the pipeline and emergency response communities are working to improve pipeline emergency response.

CHAPTER 3

Decisions, Roles, and Organization Affiliations: The Role Determines the Decisions and Information Needs

Common Decisions

Safe and effective response to a pipeline emergency requires timely and clear communication. Communication is defined as the exchange of information among people. The information and the method of communication during a pipeline emergency depend upon the response and mitigation role played by individual people within their respective organizations. Roles determine decisions and information needs. It is important to distinguish between *role* and *organization.* Table 3-1 shows key roles and organizations that typically perform these roles.

Common decisions that need to be made at a possible pipeline incident include the following:

- Do we have a pipeline emergency?
- Where is the leak or release?
- Whom do we notify?
- Is there an immediate life or property threat?
- What specialized resources are needed; where will we get them?
- Should we shut down the pipeline?
- Do we need to start an evacuation or other public protective action?
- Will state or federal resources be required?

Each of these decisions must be made for each incident. Critical information is required to make these decisions. Often this critical information will be mediated through public safety communications (PSAP/Dispatch) centers. The management of a pipeline emergency depends on knowing what information is needed, who needs it, when they need it, and how they can obtain it. Failure to plan these aspects of communications, before an incident, can cause delays in getting the appropriate resources to the scene, increase risks to both emergency responders and the public, and increase the severity and resultant impacts of the incident.

Key Roles in Pipeline Emergencies

Roles Refer to Specific Operational Responsibilities Or Functions. The use of roles is contrasted with organizational identity. There are two primary reasons for using a role-based approach within this document. First, organizational roles differ across the United States. Second, in spite of their primary or perceived functions, organizations may be involved in multiple roles at an incident. Likewise, multiple organizations may share responsibility or functional activity in a single role.

For example, evacuation is often considered primarily a fire or law enforcement role. However, depending on the nature of the incident and when assistance arrives, evacuation may be coordinated through the local emergency management agency and performed by occupants of buildings near the emergency, pipeline operators, emergency medical services, or almost any other responsible party.

The role determines the information needed at each particular point in the progression of an incident. Organizations may have a set of information as their primary interest, but their information needs may vary depending on the particular role they fulfill. For example, if evacuation is a priority in the initial stages of an incident, law enforcement may be deeply involved in alerting and removing occupants of nearby structures from the hazardous area. Once sufficient fire service resources arrive, their attention may shift to issues of traffic control or expediting access to the scene for certain resources, such as pipeline crews. All personnel performing a singular function or responsibility generally have similar needs for information, regardless of their organizational affiliation.

The roles in a pipeline emergency are listed below. These roles were used to define information needs and flows required to successfully manage a pipeline emergency. Well-defined

Table 3-1. Roles and organizations that typically perform these roles.

Role	Organizations
Initial Receipt of Notification by Pipeline Operator	-Pipeline Operator -Public Emergency Communications (PSAP)
Control of Pipeline Release	-Pipeline Operator -Fire Department
First Arriving Responder	-Law Enforcement Agency -Fire Department -Emergency Medical Service -Pipeline Operator
Public Safety Call Taking and Dispatch	-Public Emergency Communications
Public Protective and Response Actions	-Fire Department -Law Enforcement -Emergency Management -Pipeline Operator
Federal and State Support for Environmental Protection	-State pipeline regulatory agency -State environmental agency -U.S. Environmental Protection Agency -U.S. Coast Guard

roles enable entities to plan for communications by anticipating the information needed in an actual emergency.

Initial Receipt of Notification by Pipeline Operator

Although pipeline operators maintain sophisticated systems to monitor pipeline flows/pressures and to detect leaks or ruptures in their pipelines, research into previous incidents has shown first reports of an incident often come from the public, emergency responders, contractors, or field-based employees of the pipeline operator.

Control of Pipeline Release

Control of the pipeline release involves personnel charged with closing valves to isolate the release, or mitigate the effects of the release. These personnel may be pipeline control center personnel, field-based pipeline employees, or emergency responders on the scene of an incident.

First Arriving Responders

Emergency responders (operator personnel on-site or public agency) are generally the first trained personnel to arrive on scene during the initial stages of a reported incident. Personnel assigned to public safety response organizations, such as fire departments, police departments or, in the case of coastal water-based incidents, the U.S. Coast Guard, usually fill the role of first responder.

Public Safety Answering Point Call Taking and Dispatch (PSAP/Dispatch)

PSAP call taking and dispatch refers to the organization receiving and transferring 9-1-1 calls for a particular geographic area. These geographic areas usually coincide with political subdivisions such as counties, cities, towns, or other governing areas.

The call taking role may be shared among one or more organizations. The PSAP receiving the initial call may transfer the caller and information to a specialized call taking facility where additional details are obtained.

Dispatch is the last stage of this role. Information collected in the first phase of this process is used to determine the number and type of resources (personnel and equipment) required to respond to a reported incident. The dispatch process is ordinarily governed by locally determined protocols and procedures.

Notification of supporting agencies and organizations is another key function of this role and is usually undertaken at the point of dispatch. Supporting agencies can include the pipeline operator, specialized response resources, and state or federal agencies. Such notifications may also occur at the federal level through the NRC.

Incident Commander/Dispatch Resource Response Request

The Incident Commander/dispatch resource response request role refers to the interaction and coordination between the on-scene Incident Commander and the supporting PSAP/Dispatch center. In the early stages of the incident, the Incident Commander will likely be the local ranking senior fire officer. Both entities are charged with identifying the need for and source of additional resources and support for the management of the reported incident. Communication between the Incident Commander and dispatcher is critical to develop a common understanding of the incident (common operating picture), and is dependent on the flow of information between the Dispatch center and Incident Commander.

Interagency Coordination

Interagency coordination refers to the process of exchanging necessary information to ensure a coordinated response after multiple organizations are notified of a reported emergency. This coordination includes criteria such as (1) establishing a common operating picture; (2) comprehending the incident's magnitude, severity, and potential for escalation;

(3) understanding the resources required and where to obtain them; (4) having knowledge of an incident's likely progress (i.e., control of the release, quantity of materials released, threats to people, property, and the environment); and (5) awareness of regulatory requirements and informed decision making. The Incident Commander, PSAP personnel, and the pipeline operator often fulfill this coordination role. In significant incidents, this role may be fulfilled by the local emergency management agency working with the pipeline operator and other governmental agencies.

Public Protective and Response Actions

First arriving responders implement public protective and response actions to safeguard life, property, and the environment. Depending on the nature of a spill or release, the role may include (1) evacuation, (2) sheltering-in-place, (3) environmental assessment, (4) confinement of runoff, or (5) firefighting.

Federal and State Support for Environmental Protection

Environmental agencies at the state and federal levels play an important role in terms of (1) reporting of releases, (2) provision of expertise and support for mitigation of incidents, and (3) environmental restoration. On-scene support may be provided for large releases, or release of materials harmful to human health or the environment. Such support ranges from provision of technical specialist guidance to perform air monitoring, delivering specialized equipment.

The research team has described the roles necessary for the successful resolution of pipeline emergencies. The following subsections describe the roles of agency or organizational affiliations. Although agencies may typically fulfill a particular role at an incident, this does not mean they may not perform other roles depending on the circumstances of an incident. Knowing the agencies involved and the role or roles they are fulfilling is critical to understanding their information needs.

Types of Organizations

The organization of emergency services and the associated legal frameworks will vary across locales. The process of identifying the necessary roles and which organizations perform them is carried out locally during the planning phase.

Pipeline Operator. Pipeline operators are usually either private corporations or municipal governments. Organizational differences between pipeline companies depend on the type of pipeline operated. Pipeline categories are defined by their operating characteristics and purpose.

Pipeline operators are responsible for maintenance and operation of pipelines and related facilities, which may include pumping stations, valve locations, and storage and distribution facilities. In emergencies, they are responsible for isolating the product flow, providing emergency on-scene responders with pipeline expertise, resources, equipment, and support. Pipeline operators should be part of the unified command structure or have a liaison at the Incident Command Post (ICP).

Pipeline operations are coordinated from pipeline control rooms, which are typically distant from the incident location. Control room staff are responsible for pipeline operation, monitoring and controlling the flow of product through the lines and any associated storage and distribution facilities, as well as for responding to and correcting abnormal conditions (*3*).

Fire Service. Fire service refers to the provision of fire and rescue services by public fire departments. Fire departments provide different types and levels of specialized emergency services and this varies widely across the nation. While most departments provide basic fire and rescue services, others may provide emergency medical services, medical transport (ambulance) service, technical rescue, and hazardous materials (hazmat) response. Firefighting equipment also varies. Fire services may range from rural, all-volunteer organizations with minimal capabilities, to large, metropolitan fire services staffed with career personnel that provide a wide range of specialized emergency planning and response services. Hazardous materials capabilities may range from First Responder Operations-level responders, with minimal protective equipment and minimal detection capabilities, to a Hazardous Materials Response Team staffed at the HazMat Technician level.

Hazardous materials services provided can include fire suppression, standby for hazardous conditions, hazardous materials response, and initial evacuation or sheltering decisions carried out with the support of law enforcement and emergency management agencies.

Law Enforcement. Law enforcement refers to the local agency charged with answering criminal complaints and enforcing the local criminal code. Often, multiple agencies have overlapping jurisdictions. For example, a municipal police agency and a Sheriff's office or State Police may share the same enforcement area. Depending on the location and local organization and agreements among jurisdictions, any of these agencies may be the first responding law enforcement agency on the scene of a pipeline emergency.

Law enforcement agencies at a pipeline emergency are typically responsible for scene control and public protective actions. Their capabilities may be limited as they self-protect and identify materials or directly deal with the product released.

PSAP Call Taker. The PSAP call taker is the information entry point into the 9-1-1 system. These services are commonly provided at the county, parish, or major city level and, sometimes, are also provided in even smaller political jurisdictions. The call taker may be a representative of an independent public safety communications organization, emergency management, or public safety agency. The function of the call taker is to determine the nature of the problem (police, fire, or EMS), the jurisdiction involved, and then to transfer the call or information to the respective public safety dispatcher.

PSAP/Dispatch. Dispatchers may serve one function (police), reside in a combination center serving more than one service (fire, police, EMS), or have multiple dispatch centers that serve each service. The critical distinction of multiple dispatch centers is the need to recognize that (1) the call taker is probably not in direct communication with on-scene resources or the Incident Commander and (2) multiple dispatch centers may serve both police and fire, which means that information must be relayed to both services thereby introducing additional coordination challenges. In small agencies, a single person may fulfill both the role of call taker and the role of dispatcher.

Incident Command. Incident command refers to the on-scene responder in charge of the field response. This person is usually affiliated with a traditional public safety emergency response organization, and command may be transferred based on the size and nature of the incident. However, in certain circumstances, the initial on-scene Incident Commander may be a representative of the pipeline operator, or a state or federal response agency (e.g., U.S. Coast Guard). In this structure, pipeline operators may serve as a liaison to the Incident Commander.

Unified Command. Unified command will likely be employed at large or long duration incidents and entail key agencies collaboratively managing the incident. Under unified command of an incident, multiple agencies with different legal, geographic, and functional responsibilities interact effectively to manage, coordinate, and plan. Participants and procedures are usually identified in advance. Unified command would be ideal in a pipeline emergency because of the complex nature of these incidents.

Unified command is characterized by the following:

- A shared understanding of priorities and restrictions
- A single set of incident objectives
- Collaborative strategies
- Improved internal and external information flow
- Less duplication of efforts
- Better resource utilization (*18*)

The Incident Commanders within the unified command make joint decisions and speak as one voice. Incident Commanders work out differences before taking action. Unified command would customarily incorporate pipeline operator representatives.

Emergency Management Agency. The Emergency Management Agency is usually an "All Hazards" coordinating agency responsible for establishing and staffing the jurisdiction's Emergency Operations Center (EOC). The EOC serves as an off-site location for management of an incident to facilitate resource requests and to enable the formation of strategic objectives. Emergency Management Agencies are established at the state level and have a working relationship with the Federal Emergency Management Agency (FEMA) through its regional offices.

Locally, emergency management is usually organized at the county or city level. Smaller political entities may have emergency management functions assigned to fire or police departments and/or operate the EOC. Depending on the size or scope of the incident, multiple EOC's may be activated at the local, county, and state levels. Under principles of the incident command system, these centers would support the on-scene Incident Commander and pass resource requests from the lowest to highest levels.

State Pipeline or Environmental Agency. States retain authority over some aspects of pipeline operations and control environmental quality in areas not regulated by the federal government. Responsibility for pipeline safety varies widely given that each state has an environmental agency to lead environmental aspects of a pipeline spill or release.

Each state (except Alaska and Hawaii) has its own governmental entity responsible for oversight of pipeline operations and safety within that state. Some of these offices are administrative in nature while others have a field response or investigative role during or after an incident. Some states divide responsibility between two or more agencies, such as a Fire Marshal and Public Utilities Commission. Requirements for notification in the event of a pipeline release exist in almost all cases. For additional information, refer to the National Association of Pipeline Safety Representatives' 2013 publication, *Compendium of State Pipeline Safety Requirements and Initiatives Providing Increased Public Safety Levels Compared to the Code of Federal Regulations* (*19*).

Emergency responders should know their state's requirements and the procedure for notification of the state pipeline agency in the event of an emergency.

Principal Federal Agencies. The federal government has an important overarching role in pipeline incidents that result in release of oil or hazardous substances. While the on-scene role

may be limited for smaller events, it has a critical role for reporting incidents and providing technical support. It is important to be aware of the federal structure, which is designed to support emergency response at the state and local levels. Two primary entities have a functional role in mitigation of, or support for, pipeline emergency response: the PHMSA and the National Response Team (NRT). Many other federal agencies contribute expertise.

PHMSA. PHMSA, within the U.S. DOT, is the principal federal agency regulating pipeline safety. It supports the response efforts of other agencies; however, its response role is limited. PHMSA's responsibilities include efforts to improve pipeline integrity; regulation of pipeline safety and risk; administration of a national pipeline inspection program, including operator requirements; and provision of technical assistance to state pipeline safety programs.

The NRT is the principal federal entity managing pipeline emergency response. The team structure comprises 15 agencies designed to harness the expertise and resources of federal agencies in support of local and state responders working to mitigate a pipeline emergency when there is an environmental threat. The team is authorized by federal legislation including the Clean Water Act (subsequently modified by the Oil Pollution Act of 1990), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the National Contingency Plan) (*20*). The first response would come from one of 13 Regional Response Teams (RRT) that are based throughout the continental United States, Alaska, Hawaii (and Pacific Islands), and Puerto Rico (and U.S. Virgin Islands).

The NRT is activated for incidents where major spills or releases overwhelm regional resources, pose a threat to the environment or property, or occur in an incident affecting multiple states. The lead federal official representing the NRT or RRT is known as the Federal On-Scene Coordinator (FOSC). These response teams are planning, policy-coordinating bodies whose primary role is to provide assistance to the FOSC during an event.

Separate reporting requirements exist for oil and hazardous substances. Federal guidance requirements are detailed under the CERCLA (CFR 2012, Title 40, Chapter 1, Environmental Protection Agency) (*21*) and the Clean Water Act. The Emergency Planning and Community Right-to-Know Act includes a list of hazardous substances and reporting quantities (*22*).

The NRC is the federal government's federal notification point for oil or hazardous substance spills or releases. Notification to the NRC begins the process of bringing federal resources to bear in emergencies through a FOSC who serves as the federal government's focal point for assessing the incident. Depending on the severity of the incident, actions can range from notification, monitoring, on-site assessment, or activation of the RRT or NRT.

U.S. Environmental Protection Agency. The Environmental Protection Agency (EPA) is also responsible for protecting human health and the environment from pollutants and chemical exposure resulting from industrial activity or other sources. The EPA is the lead agency for enforcement and regulation in several key areas related to consequence management in the event of a pipeline emergency.

The EPA participates in the federally organized RRTs and the NRT. The EPA administers numerous legal and regulatory programs for emergency response to oil or hazardous substance releases, including those resulting from pipeline incidents.

U.S. Coast Guard. The U.S. Coast Guard reports to the Department of Homeland Security during peacetime. It has a broad and diverse mission encompassing search and rescue, military support, border security and inspection, drug interdiction, investigation of maritime accidents, and response to environmental emergencies occurring in or adjacent to navigable waterways. It is organized into nine geographic districts, and has facilities located throughout these areas.

The U.S. Coast Guard's role as a federal agency is unique. It acts as a first responder for events that occur on or near waterways and, through the NRT, provides expert advice and assistance to state and local Incident Commanders for incidents resulting in release of oil or hazardous materials from a pipeline or other source that may impact a navigable waterway. The U.S. Coast Guard has special expertise in responding to such incidents because pipeline facilities often traverse waterways, and many terminals or petroleum processing facilities are located on or adjacent to waterways.

Key Information Needs

As the previous section indicated, it is important to plan for communication well before a pipeline emergency occurs.

The lists presented in Tables 3-2 through 3-11 are not exhaustive, but rather are designed to identify those pieces of information that are both critical AND likely missing or poorly communicated in the initial stages of an incident. The research team presents the source and destination for each of these critical information elements, and summarizes the information needs by major role, the "most important information you need" in that role and the "most important information you need to provide to others." Common sources for information are also provided.

Readers should view these tables as the basic information needs that the respective organizations need to receive and supply to others. The last column, "Decisions Where Information Needed," provides context for why the information needs are important to the management of the incident. These tables are a good way to define the information needs to initiate the pre-emergency planning process for pipeline emergency communication.

For example, in Table 3-2, it is known that pipeline operators need to rely on public safety dispatch to identify the locations of incidents. This means that pipeline operators must identify the dispatch centers serving their operating areas, and review the content and means for how to report information about the location of an incident.

Please refer to Appendix 2 for a complete enumeration of information needs.

Pipeline Operator

Table 3-2. Most important information you need.

Information	Sources	Role Where Information Needed	Decision(s) Where Information Needed
Location of incident	Public safety dispatch	Initial receipt of notification	Do we need to respond?
			Who do we send?
			What public safety agencies do we ask to respond?
Scene conditions (investigation by local responders); impact of hazard on environment, life safety and infrastructure	Investigation by local public safety responders via public safety dispatch	Initial receipt of notification	Do we need to respond?
			Do we shut down the pipeline?
			Where and how do we shut down the pipeline?
Amount of release	Investigation by local public safety responders via public safety dispatch	Control pipeline release	Do we shut down the pipeline?
	Pipeline employees	Control pipeline release	Where and how do we shut down the pipeline?

Table 3-3. Most important information you need to provide to others.

Information	Recipient	Function Where Information Needed	Decision(s) Where Information Needed
Material released, rate of release (diameter of pipeline)	Public safety dispatch	Dispatch/Incident Command resource request	What types of resources and how many should I request?
Scope, quantity & location of event (public affected, time to shut down)	Public safety dispatch	Interagency coordination	How do we establish coordination? What agencies will be involved?
State/federal agency notifications	State/federal regulatory agencies (e.g., National Response Center)	Interagency coordination	How do we establish coordination? What agencies will be involved?
		Federal and state support for environmental protection	

Public Safety Emergency Responder (Police, Fire, EMS)

Table 3-4. Most important information you need.

Information	Sources	Function Where Information Needed	Decision(s) Where Information Needed
Product identification and associated hazards	Physical observation Public safety communications Pipeline operator	First arriving responder	What are my initial actions?
			Is this a pipeline incident?
Physical damage (Is excavation in progress?)	Physical observation	First arriving responder	Is this a pipeline incident?
Responder resource available (Personal Protection Equipment [PPE]/training)	Public safety communications	First arriving responder	Is this a pipeline incident? Do I need additional public safety resources?
Consequences of non-entry to life safety, property, and environment	Physical observation	First arriving responder	What are my initial actions?

Table 3-5. Most important information you need to provide to others.

Information	Recipient	Function Where Information Needed	Decision(s) Where Information Needed
Scene conditions (investigation by local responders); impact of hazard on environment, life safety and infrastructure	Investigation by local public safety responders via public safety dispatch	Initial receipt of notification	Do we need to respond?
			Do we shut down the pipeline?
			Where and how do we shut down the pipeline?
Amount of release	Investigation by local public safety responders via public safety dispatch	Control pipeline release	Where and how do we shut down the pipeline?
	Pipeline employees	Control pipeline release	Where and how do we shut down the pipeline?
Scope, quantity, type, location of release	Pipeline operator, On-scene responders via public safety communications	Environmental protection	Will Environmental protection agencies respond?

Environmental Protection

Table 3-6. Most important information you need.

Information	Sources	Function Where Information Needed	Decision(s) Where Information Needed
Scope, quantity, type, location of release	Pipeline operator, On-scene responders via public safety communications	Environmental protection	Will Environmental protection agencies respond?
Are oil or hazardous chemicals released?	On-scene responders via public safety communications	Environmental protection	Need to assess health effects/air monitoring?
	Pipeline operator, on-scene responders via public safety communications		Will state or federal environmental protection assets respond?

Table 3-7. Most important information you need to provide to others.

Information	Recipient	Function Where Information Needed	Decision(s) Where Information Needed
Will state or federal environmental agencies respond?	Public safety communications	Environmental protection	Need to assess health effects/air monitoring?

Public Safety Communications (PSAP/Dispatch)

Table 3-8. Most important information you need.

Information	Sources	Function Where Information Needed	Decision(s) Where Information Needed
Location	Public via 9-1-1 Pipeline operator	Public safety dispatch/call taking	What questions do I ask caller?
Severity of incident	Public via 9-1-1 Pipeline operator On-scene public emergency responder	Public safety dispatch/call taking	What resources do I dispatch?
			What questions do I ask caller?
Presence of possible ignition sources?	Public via 9-1-1 Pipeline operator On-scene emergency responder	Public safety dispatch/call taking	What resources do I dispatch?
			What questions do I ask caller?
Are there any injuries?	Public via 9-1-1 Pipeline operator On-scene public emergency responder	Public safety dispatch/call taking	What questions do I ask caller?
			What resources do I dispatch?

Table 3-9. Most important information you need to provide to others.

Information	Recipient	Function Where Information Needed	Decision(s) Where Information Needed
Location	On-scene public emergency responders Public or pipeline operator	Initial Incident Command	If pipeline incident confirmed, what type of resources and how many should I request?
	Pipeline operator	Public safety dispatch/call taking	What questions do I ask caller?
Material released	On-scene emergency responders	Dispatch/Incident Command resource request	What types of resources and how many should I request?

Incident Command/Interagency Coordination

Table 3-10. Most important information you need.

Information	Sources	Function Where Information Needed	Decision(s) Where Information Needed
Location	On-scene public emergency responders Public or pipeline operator via Public safety communications	Initial Incident Command	If pipeline incident confirmed, what type of resources and how many should I request?
Exposures/population density	On-scene emergency responders Public safety communications	Initial Incident Command	If pipeline incident confirmed, what type of resources and how many should I request?
Identification of material released	On-scene emergency responder Pipeline operator or public via public safety communications	Initial incident command	If pipeline incident confirmed, what type of resources and how many should I request?
Consequences of not evacuating on life safety	On-scene emergency responder Pipeline operator or public via public safety dispatch	Public protective action	Do we need to start public protective actions?
Number, physical condition, and locations of people affected	On-scene emergency responder Public safety communications	Interagency coordination	Do we need to start public protective actions?
			Can we and do we need to remove people from the hazardous area?

Table 3-11. Most important information you need to provide to others.

Information	Recipient	Function Where Information Needed	Decision(s) Where Information Needed
Scene Conditions (investigation by local responders); impact of hazard on environment, life safety, and infrastructure	Pipeline operator	Initial receipt of notification	Do we need to respond?
			Where and how do we shut down the pipeline?
	Media/Public warning	Public protective actions	Do we need to start public protective actions?
Amount of Release	Pipeline operator via public safety dispatch	Control pipeline release	Do we shut down the pipeline?

CHAPTER 4

Developing and Exercising the Communications Plans

Developing an emergency response plan, acquiring the necessary resources and equipment, training responders to perform their expected tasks and skills, and conducting exercises to test the desired operational capability are the cornerstones of an effective emergency response program. Underlying all of these elements is the need for a communications system that integrates the key players who will be involved in a pipeline emergency, including emergency responders, the pipeline operators, and the PSAP and communications centers. Networking and relationships developed during the planning process will help develop a level of trust that will be critical during the response phase.

A key player during the planning process will be the local or county emergency management agency, because its role is to facilitate the coordination of the planning and response processes, especially when the use of mutual aid resources is anticipated. The general approach to planning for pipeline emergency communications is drawn from FEMA doctrine, and supplemented with information gathering techniques developed as part of this research.

Given the risks involved in a pipeline emergency and the relative infrequency with which major incidents occur, a collaborative effort is essential to integrate emergency responders, the pipeline operators, and the PSAP and communications centers. This collaborative effort will ensure the development and delivery of an effective emergency preparedness capability. A successful incident outcome will not be achieved in the absence of addressing critical information needs and communications processes.

The Critical Role of Public Safety Emergency Communications (PSAP/Dispatch) Centers

One of the most important functions that must be performed in a pipeline emergency is to coordinate the flow of information at an incident. Most commonly, in the early stages of an incident, this will involve transmitting information from responders in the field to pipeline operators. In most cases, the information flow is mediated by the public safety dispatch facility. This critical linkage between pipeline operators and the emergency response community is not always recognized and acknowledged. The role of the public safety dispatcher or call taker is thus crucial to the communications process.

There are a number of technologies that may be used to facilitate the exchange of information among organizations responding to a reported pipeline emergency. The following are the most common technologies:

- Telephone
- Radio
- Computer/Electronic Data Exchange

The technologies used to exchange information between emergency responders and pipeline operators should be identified in advance. In most cases, pipeline operators must rely on telephone communication to speak to first responders; however, other technologies may be usable with prior training. Advances in 9-1-1 system technology, the widespread use of computer aided dispatch systems by public emergency responders, and greater availability of computers with wireless connectivity in the field will all offer opportunities for greater connectivity in the future. Regardless of the technologies used, they should be in good working order, which is critically important for the communication function. Alternative technologies and redundant modes of communication should be available as well in the event that the most commonly used mode is not available.

Guidance Documents for Public Safety Communications Centers and Pipelines

Model Protocol for 9-1-1 Centers and Pipeline Emergencies

NENA publishes a model procedure known as the "Pipeline Emergency Operations Standard/Model Recommendation.

Document 56-007" (*23*). This document provides a structured protocol for handling pipeline emergencies. The protocol requires that dispatch personnel be provided with information about physical signs of a pipeline release so they can recognize a potential pipeline emergency based on equivocal or incomplete information. Lay personnel may provide this information when reporting an unusual situation to PSAP.

While the protocol advises PSAPs to be aware of pipeline companies and contact information in their service areas, the centers may need to rely on identifying pipeline markers or calling 8-1-1 to reach the local "one call center." The centers may also need to identify emergency contact information for the pipeline operator(s) in question. In addition, the procedure includes a listing of common pipeline leak indicators as described by 9-1-1 callers. These indicators include smells, sounds, and visual indicators such as liquid pooling, dead vegetation, and frozen ground in the summer or a melted patch of snow in the winter. Also included in the protocol is information to determine if the caller is in danger and instructions to provide guidance under common scenarios depending on the nature of the hazard, distance from the leak, and physical indicators.

Immediate notification of the pipeline operator is indicated and the dispatcher is directed to obtain additional information on hazards near the location of the leak or spill as well as determine the response time and any actions to be taken by the pipeline operator.

Pipeline operators, the American Petroleum Institute (API), and PSAP personnel jointly designed NENA's Document 56-007 (*23*). The document is available at NENA's website, http://www.nena.org.

NENA Pipeline Database

In response to PHMSA Advisory Bulletin ADB 12-09, NENA established a pipeline database designed for use by pipeline operators to determine the appropriate PSAP along the route of a pipeline (*24*). The database provides a 10-digit direct-dial number to each of the PSAPs along a pipeline route, and can also be used for identifying the appropriate PSAP for a given location.

Released in October 2012, the PHMSA Advisory Bulletin reinforces PHMSA's intent that operators of gas, hazardous liquid, and liquefied natural gas pipelines should have the ability to make immediate contact with the appropriate PSAP located at any point along the pipeline route. The purpose of this communication is not only to advise emergency responders of a possible hazardous condition, but also to assist the pipeline operator in gathering first-hand observations made by callers to 9-1-1 centers or by on-scene emergency responders. Such information can be crucial in verifying a leak and reducing the amount of time before taking action to close valves or otherwise isolate the problem.

NENA has maintained the U.S. database of all 9-1-1 centers for a long time. This database, which was initially developed for interconnection between 9-1-1 centers and cell sector call routing, has been expanded to include 10-digit numbers for the call centers. These services are available on an annual license, with data updated quarterly (http://nenapipedb.com).

Pipeline operators or other users provide a list of counties in which they have facilities, and the NENA database cross-references the list and creates a tabular database list of PSAPs based on locations along the pipeline route. This service is particularly valuable because many counties are served by multiple PSAPs, and the service area boundaries are not always apparent.

The use of an authoritative service, such as that provided by NENA, can be an efficient way for pipeline operators to maintain emergency reporting capabilities for local authorities.

Planning Process

Pre-incident planning for pipeline emergency communications can follow the same approach used in developing emergency operations plans. The research team briefly describes the planning process, identifies key information sources and flows necessary to manage an incident, and suggests approaches to effectively carry out the planning process. As previously noted, the local emergency management agency can be a key player in coordinating and collaborating with multiple organizations and disciplines.

Characteristics of Effective Emergency Plans

The planning effort should involve all stakeholders to ensure that key players are represented. Minimum participation includes the pipeline operator, public emergency responders, and public safety emergency communications agencies that serve the response agencies. A representative of each center should participate in cases where multiple communications centers serve the agencies that would respond. This should include (a) the agency dispatch center(s), (b) the PSAP, and (c) any communications center that receives wireless 9-1-1 calls. This ensures all centers that may handle any portion of the critical communication are involved.

A systematic process should be used to address uncertainty around potential hazards and threats. For example, FEMA already requires states and many local jurisdictions to develop a Threat and Hazard Identification and Risk Assessment (THIRA) as part of its "all hazards" planning process. In the case of pipelines, responders should consider variables such as the type and products carried by pipelines, and their presence in sensitive locations. The pipeline operator's expertise and familiarity with previous incidents can help the operator anticipate possible outcomes.

Public emergency responders routinely plan and practice for a number of hazards, often under their jurisdiction's

Emergency Operations Plan (EOP). Planning for pipeline emergency communications should follow the same general steps, but the research team suggests some refinements in this area. The benefit of incorporating pipeline emergencies into the jurisdiction's EOP is that it has the support of the entire political jurisdiction and engages other agencies beyond public emergency responders, who would play a role in responding to and mitigating a major pipeline emergency. Further, this approach is consistent with FEMA's notion of "whole community" planning (*25*).

The mission and supporting goals of each entity in the plan should be clearly specified. This stage of the planning process enables identification and clarification of resource constraints and roles.

The planning process should have active participation of senior personnel from all participating agencies. Involvement of participants with the ability to speak for their organizations, make commitments, and resolve uncertainties is critical to the process.

FEMA identifies three levels of planning: strategic, operational, and tactical. Strategic planning sets overall policy objectives. Operational planning addresses roles, responsibilities, tasks, and action. The tactical level planning addresses personnel functions, equipment needs, and resource management. To be effective, the planning of emergency communications must reach down to the tactical level. It is important to establish specific technologies for exchange of information, means of sharing information among all parties, and contacts for key individuals and offices.

An objective of this planning effort is to support the development of a "common operating picture," whereby all entities involved have a shared and consistent understanding of not only where things are, but also where they are expected to go in the near term. A common operating picture describes having a situation awareness among those agencies and organizations involved in the response to a pipeline emergency. The goal of the planning effort is to be able to achieve this common operating picture or situation awareness as quickly as possible after an incident is reported to any party.

To summarize, the planning for pipeline emergency communications should be consistent with emergency planning already practiced and embedded in the agency's larger process of developing emergency operations plans. The planning effort is a process. It should be integrated into training exercises and evaluations. Once completed, revisit the process to ensure that it remains current and effective (Figure 4-1).

Source: Federal Emergency Management Agency.

Figure 4-1. The preparedness cycle.

Managing the Incident: Unified Command and the EOC

Efforts to plan for communications and incorporate that information into EOPs should be consistent with federal guidance in the National Incident Management System (NIMS) and the National Response Framework (NRF). The use of terminology and resource descriptions should be consistent with NIMS guidance. The reader is referred to the national planning frameworks published by the U.S. Department of Homeland Security because they are critical to understanding the need for planning communications for pipeline emergency response. The national planning frameworks provide an overarching vision for the relationship between pre-event mitigation, emergency response, and recovery. The activities associated with planning for communications in pipeline emergency response would fall under the planning function of the National Mitigation Framework (*26*).

The National Infrastructure Protection Plan (NIPP) is another resource designed to protect the nation's critical infrastructure and key resources (CIKR). See http://www.dhs.gov/nipp for additional information. The CIKR Support Annex and Private-Sector Coordination Support Annex provide detailed guidance regarding implementation of the NIPP, including roles and responsibilities, concept of operations, and incident-related actions.

Incident and Unified Command

In the incident command function, a local public emergency responder, usually the ranking officer on scene from the most relevant public safety agency will assume the role of Incident Commander. The incident command system (ICS) has the capability to integrate pipeline operator representatives as liaisons, where they can efficiently share information with the Incident Commander. This level of integration may be sufficient for smaller incidents of limited duration and commitment of resources.

However, for larger or more complex incidents, the concept of unified command brings together all critical agencies that play a crucial role in managing the incident. Organizations or agencies may be defined as candidates for participation in unified command based on provision of expertise, resources, jurisdiction, or legal responsibility.

Unified command, in which on-scene command is shared by multiple agencies, is a method to recognize the multidisciplinary nature of pipeline events, and the important role played by other agencies, such as law enforcement, human services, environmental protection, hazardous materials response teams, and the specialized expertise of pipeline operator responders. Implementing a unified command structure enables development of a single integrated incident organization.

In the early stages of an incident, communication between the pipeline operator and emergency responders is likely to be mediated by the public safety dispatcher, with such communications typically taking place over radio. When a pipeline company representative arrives at the scene of an incident, the primary means of communication shifts so that it is direct, usually face-to-face between the Incident Commander, or a member of his/her staff, and the pipeline company representative. Assuming an ongoing incident, implement a unified command at this stage.

Generally speaking, distribution pipelines, such as those operated by natural gas utilities, will have pipeline representatives on the scene of an incident sooner than transmission pipeline operators. This is due primarily to the more urban nature of distribution pipeline systems, and the long distances that must be covered by transmission pipeline operators. Furthermore, local emergency services are likely to have a closer and better established relationship with local pipeline operators because of their proximity and the higher frequency of incidents occurring on local natural gas distribution systems.

The Role of the Public EOC

Pipeline incidents can be complex events, requiring the response of multiple agencies from different disciplines and different levels of government. Often, such incidents may affect multiple jurisdictions as well. Diverse agencies require multiagency planning, which presents a coordination challenge.

As an incident escalates in terms of its scope or duration, a decision will likely be made to activate the local EOC. The local EOC may be activated on larger or longer duration incidents to assist in coordination, resource management, and fulfillment of functions. Functions may include tracking resources, ordering specialized resources, and providing legal and financial support, such as executing contracts, and accounting for funds.

As multi-agency coordination centers, EOCs are designed to serve as a means to coordinate the flow of information between the incident scene and other agencies and support entities. EOCs bring together key decision makers to provide guidance and direction to support the on-scene incident management activities.

Putting Plans into Practice: Exercises

Exercises enable organizations to evaluate plans in a risk free environment. The purpose of exercises is to clarify roles and responsibilities and to identify areas where the need for improvement may exist. Exercises are designed to take place before an incident to help the participants and their organizations improve their capacity to respond to an actual event. Exercises are important because they help ensure that the effort and information developed in the plan will actually translate into action. The discussion of exercises is limited to planning pipeline emergency communications. In addition to FEMA, *TCRP Report 86/NCHRP Report 525: Transportation Security, Volume 9: Guidelines for Transportation Emergency Training Exercises* may serve as a useful reference (*27*).

Exercises exist in a hierarchy. They range from a simple review of key plan components with critical players, to elaborate full-scale exercises that may involve hundreds of personnel from dozens of organizations. Figure 4-2 shows the hierarchy of exercises in terms of their sophistication.

The research team advocates developing communications plans at least at the operational level. Identify and test communication methods and links among all critical parties as identified in the plan. Any pipeline-related exercises should also include tests of communications procedures among all the primary entities previously identified.

Situation Awareness Information Requirements Analysis

The Situation Awareness Information Requirements Analysis (SAIRA) was designed to be effective in particular contexts of identifying role-based information needs based on real-world decision making. This technique, described briefly in

Source: Federal Emergency Management Agency IS-120a Course.

Figure 4-2. Hierarchy of exercises.

Chapter 5, lends itself to identifying information needs in an emergency communications context.

Interoperability and Controlling Communications Traffic

Communication during a pipeline emergency requires coordination with numerous government agencies and private companies. A mixture of technologies will undoubtedly be used by the various organizations that must interact to successfully resolve a pipeline emergency. Before an incident, identify contact information and methods for communicating with pipeline operators in the community. Important steps to prepare for this task include the following:

- Document intra-agency communication technologies and procedures.
- Identify relevant organizations and agencies for notification and coordination.
- Identify preferred communication technologies and procedures for notification and coordination.

Identify in advance pipeline operators with facilities in the response area. State or federal agencies that would respond to a significant event, along with their contact information, should also be identified in advance.

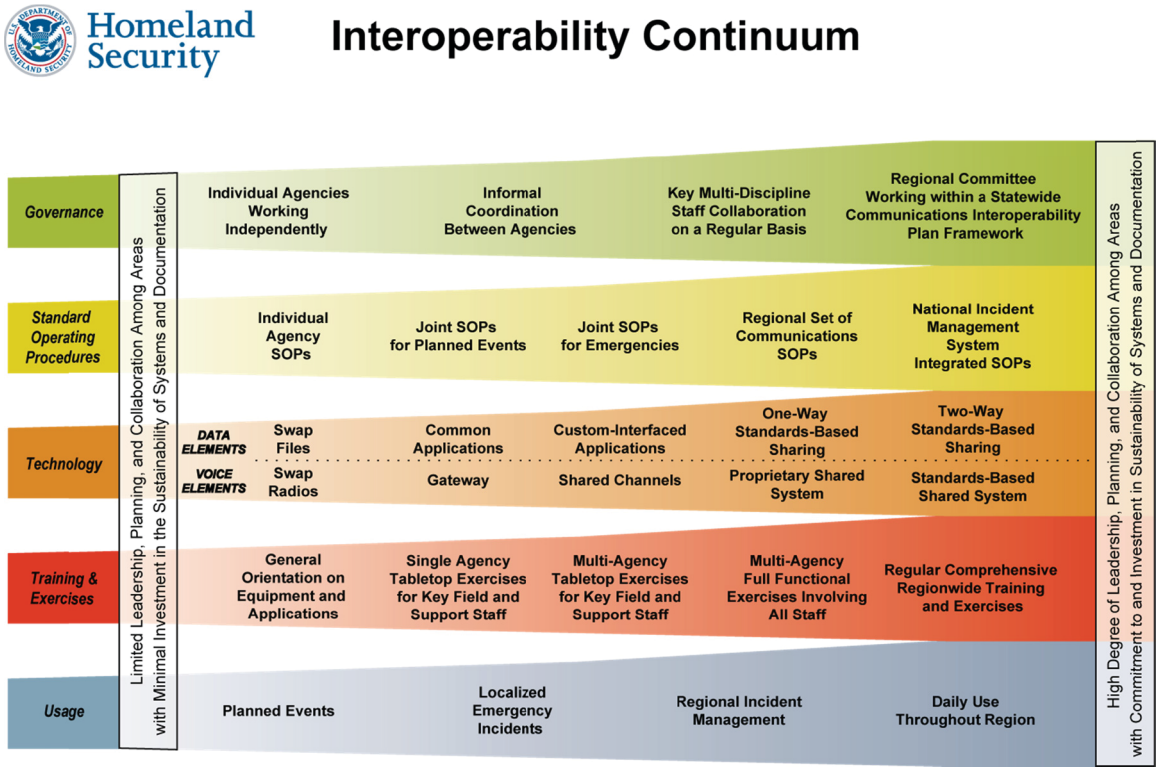
Interoperability

Interoperability is a concept that has received considerable attention in recent years. While interoperability can extend beyond communication, the research team uses it to refer to the ability of different organizations to communicate directly through some technology accessible to all necessary participating organizations.

Interoperability is defined as "the ability of emergency responders to work seamlessly with other systems or products without any special effort. Wireless communications interoperability specifically refers to the ability of emergency response officials to share information via voice and data signals on demand, in real time, when needed, and as authorized" (*28*).

The concept of interoperability is important to pipeline emergency response because the dispatch center or EOC will fulfill a critical role and facilitate communication among personnel and equipment located at the scene of the incident and specialized resources, including state, federal, and industry assets.

While interoperability is commonly thought of as involving voice radio communication, the concept also applies to the ability to communicate with data across disparate agencies. Figure 4-3 shows the interoperability continuum. The U.S. Department of Homeland Security's SAFECOM Office developed this figure. While the diagram is elaborate, it aids in understanding interoperability and its components given the needs of emergency communications in pipeline events.



Source: U.S. Department of Homeland Security.

Figure 4-3. Interoperability continuum.

Examine the continuum by starting at the left side, which represents the lowest level of integration and interoperability, and move progressively toward the right side of the presentation where there are higher levels of integration and interoperability. Interoperability as a concept is divided into five distinct components:

- Governance
- Standard operating procedures
- Technology
- Training and Exercises
- Usage

The continuum is a useful guide when envisioning communication strategies used during a prospective pipeline emergency. The far right column is not necessary in this application, but shows useful concepts to stress the importance of coordinating joint procedures and exercises to practice communication.

Elements of a Good Communications System

FEMA defines the elements of a desirable communications system. It is important to keep these elements in mind when designing plans and exercising communications procedures for pipeline emergency communications.

Communications systems need to have the following characteristics:

- Interoperable—able to communicate within and across agencies and jurisdictions.
- Reliable—able to function in the context of any kind of emergency.
- Portable—built on standardized radio technologies, protocols, and frequencies.
- Scalable—suitable for use on a small or large scale as the needs of the incident dictate.
- Resilient—able to perform despite damaged or lost infrastructure.
- Redundant—able to use alternate communications methods when primary systems go out (*29*).

Again, while these requirements are designed for public safety communications systems, procedures and technology should be in place to develop some level of redundancy. Redundancy provides for an alternate means of communication, between the pipeline operator and the public safety first responders. If a primary means of communication is disrupted in operational terms, this burden would fall primarily on the pipeline operator, because public safety communications systems are designed with redundancy and resilience in mind (see Figure 4-3).

CHAPTER 5

About the Project

The information in Chapter 3 came from research conducted through HMCRP Project 15. The research had three parts: (1) cataloging the current federal and state regulations governing pipelines, (2) examining NTSB investigations of pipeline incidents, and (3) writing this guide for improving communications during pipeline incidents.

Chapter 3 provides the information about decisions and roles obtained from two workshops with representatives from public safety agencies (fire and police departments), pipeline operators (both utilities and large-scale operators), and federal agencies (the U.S. EPA, the U.S. Coast Guard, and the U.S. Department of Homeland Security). The workshops used a method called a SAIRA. Workshop participants helped the project team define the roles, decisions, and information required for pipeline emergencies. The SAIRA uses a goal hierarchy approach that reveals the relationships among roles, goals, decisions, and information requirements. For every role, there are goals to pursue, and for every goal, there are actionable decisions to make to respond appropriately to a pipeline incident. Also, for every decision, there are types of information required by the decision maker. Figure 5-1 displays the logic of the analysis. The SAIRA method clarifies the specific types of information needed to make the key actionable decisions associated with each role. It also clarifies who needs each type of information and why that information is needed. Effective communication is often difficult during emergencies, and the SAIRA reveals both (1) what information people need to request to fulfill their roles and (2) what information people should be prepared to provide, in an accurate and timely manner, to other individuals in roles other than their own.

The various responding public agencies and pipeline operators should plan for how to obtain each type of required information once they determine the situation awareness information requirements. This "information flow" analysis simply involves figuring out who has the information, who needs the information, and how to convey it early enough in an incident to improve the likely outcome. Tabletop exercises are well suited to conducting information flow analyses.

Another part of the research examined the types of communication problems that can occur during pipeline emergencies. The method used for this part of the study was a failure modes and effects analysis (FMEA), a method often used by systems safety engineers. The method examines the various ways that a system's components can fail (i.e., the failure modes), along with the likelihood that such failure modes will occur and the effects on the system's ability to fulfill its functions when components do fail.

The "system" examined in the FMEA was derived from the SAIRA. The system is a generic pipeline emergency communications system. In this context "generic" means that the system is general enough to apply to communications during all types of pipeline emergencies. The components of the system were the types of information required to make key actionable decisions, as identified in the SAIRA. Data for the FMEA were collected using a panel of 15 technical specialists. The panel rated (1) the likelihood that failure modes would prevent each type of information from reaching the people who need it and (2) the consequences for recipients being able to make decisions if the information is not received. Table 5-1 displays the failure modes the panel used.

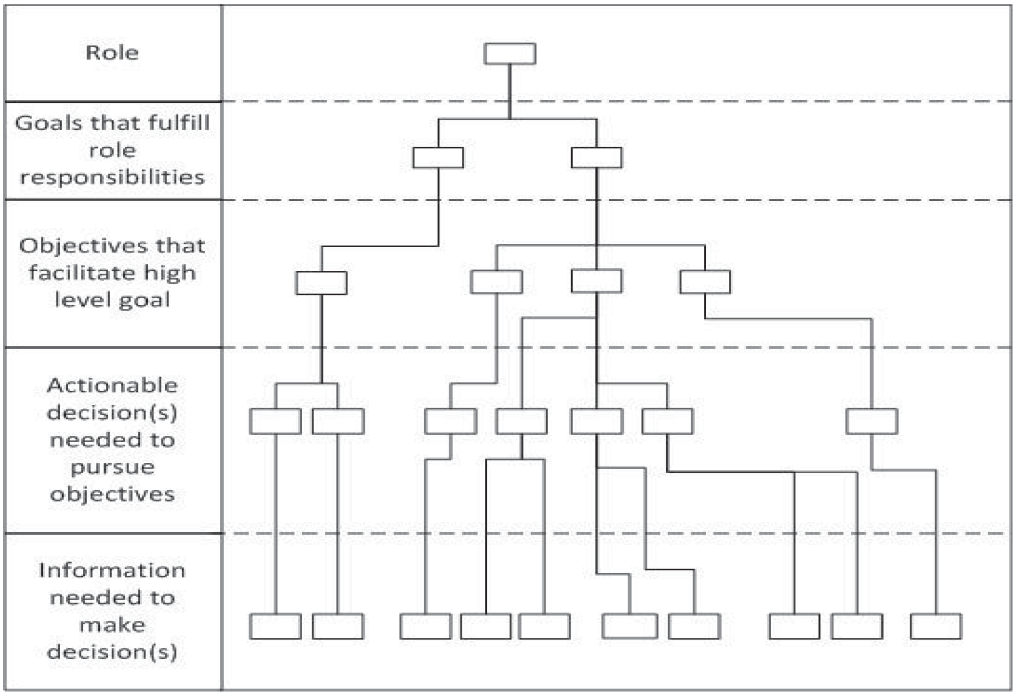


Figure 5-1. Situation Awareness Information Requirements Analysis.

Table 5-1. Failure modes and effects analysis.

Failure mode	Definition
Information not collected	The information does not exist, or the potential source of the information does not collect, assemble, or observe the needed information.
Recipient unknown	The original source of the information, or whoever is supposed to forward the information, does not know to whom the information should be sent.
Source unknown	Whoever needs the information does not know from whom to request it.
Request poorly communicated	The request from the recipient is unclear; the expectations of the requesting party are not clear to the source.
Information not sent or poorly expressed	The source does not convey the information to the user/requesting party in a clear manner, only part of the information is transmitted, the information is inaccurate, equipment or communication issues may distort the message.
Value of information unclear	The recipient does not understand the importance or value of the information, the source of the information is unclear, the source of the information is not trusted.
Information sent too late	The source does not collect and send the information soon enough to be useful in making the decision.
Technology unavailable or fails	Information cannot be sent because the source or the recipient does not have the available technology, the equipment lacks interoperability, or the means of transmitting the information is unreliable.

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APPENDICES 1–3

The following appendices are unpublished herein but can be found online at www.trb.org by searching for *HMCRP Report 14*:

Appendix 1: Contractor's Final Report for HMCRP Project 15

Appendix 2: Summary of Current Federal, State, and Representative Local and Tribal Regulations and Ordinances Governing Emergency Response Plans for Natural Gas and Hazardous Liquids Pipelines

Appendix 3: Review and Summary of Voluntary Consensus Standards for Best Practices Related to Communicating Emergency Response Plans and Their Effectiveness

Abbreviations and acronyms used without definitions in TRB publications:

A4A	Airlines for America
AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI–NA	Airports Council International–North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HMCRP	Hazardous Materials Cooperative Research Program
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
MAP-21	Moving Ahead for Progress in the 21st Century Act (2012)
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
PHMSA	Pipeline and Hazardous Materials Safety Administration
RITA	Research and Innovative Technology Administration
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation

Comments to NYC Council.
Ruth Hardinger
Damascus Citizens for Sustainability
April 3, 2015

I write to support the important Resolution # 549, calling for Governor Cuomo to veto Port Ambrose.

New York City is interested and committed to reducing greenhouse gases, and supporting the People's Climate March which increased awareness of how the Earth is being damaged. Climate change (CC) is the biggest threat to life on the planet Earth. Citizens of the City are looking forward to addressing the elephant in the room that few talk about. One problem is that often the serious impacts are being underplayed while the sobering developments are escalating risk of both during short and long times. Climate change affects everything everywhere…. air, food, wildlife, wind, water, temperatures, species migrations, and more. As we experience the growing forces of climate change, those who spent decades in CC denial (or just ignorance) are waking up and are taking initiatives, and urging quickly to get off fossil fuels. Any additions of fossil fuel use will throw away and leave in vain the significant efforts of the New York City's government's honorable aspirations to lead the City to a positive, non-fossil fuel, environment. The expense to the City and its population could well become unbearable. Sandy cost the City over $3Billion. Climate change will add to catastrophic financial loss.

There are abundant strong reasons why the Port Ambrose would be such a negative and backward step for New York City. Others have given strong support for a veto of the Port Ambrose. I want to focus on a larger perspective of impacts.

Climate Change:
Scientists who are not working for industry have an arms-length perspective on climate change. For example, IPCC being conservative in their reports, contrary to advertising that gas reduces the emissions when burned, say that 50% (or 60%) less than CO2 is only a drop in the bucket. It does not help reduce emissions in any way beneficial to overarching GHG reduction. To repeat the words being said across the planet, supported by largely every scientist, (except for those paid by the industry) **climate change is caused by fossil fuel use**.

Natural gas, **a fossil fuel**, aka/methane gas, in spite of the ambitious advertising, is known to be a significant contributor to the upsetting weather changes occurring in New York City and the rest of the globe. Additionally, the City has high levels of fugitive emissions of methane from pipelines[i],with larger leaks causing explosions of pipelines and man-hole covers blowing up; consequently health and life are threatened by gas infrastructure. Adding another GHG source, the Port Ambrose, increases that infrastructure list of issues.

Introducing new pipelines or sending more gas through the old and older existing pipelines could easily increase the methane emissions. Even repairing of pipelines will allow methane to leak into the atmosphere (natural gas is largely comprised of methane). Methane is a highly potent greenhouse gas (GHG). Science values of methane GHG levels have been considered to be 84-86 times stronger than CO2 in the 20 yr time frame, but the newest news considers methane to be 104-108 times stronger than CO2 in a ten year frame, which is quite appropriate since the degrading from CH4 (methane) to CO2 takes only 10-12 years after it is emitted. Science has discovered that CH4, the damaging GHG, is actually more powerful – and for that reason, bringing in more natural gas is simply insane and surely irresponsible.

Again, from the larger perspective, climate change news this week is "THE ARCTIC CLIMATE THREAT THAT NOBODY'S EVEN TALKING ABOUT", another methane nightmare. As this methane melts, it will escalate the GHG level. The melting could be a much faster process than is being described in the article because as the heat of melting increases so will the speed of melting multiply the increasing GHG. These sources join with the thermogenic and anthropogenic methane heights, and these **thermogenic and anthropogenic methanes are a cause of the methane melting in the Arctic.** It's a circular affect that cannot be undone, but can be possibly slowed down if leaky extraction, transportation, compression, distribution and burning are stopped. In the Arctic, the methane hydrates in the ocean could well be rising to the surface as water with methane is bubbling up and being observed.[ii]
The Arctic climate threat that nobody's even talking about ...

Washington Post

What is the fear of getting off fossil fuels? Who is getting hurt here if we don't? Everybody. All species are vulnerable and too many species are dying already at extreme speeds. I've heard that even 1000 species per year are going extinct.
http://www.indybay.org/newsitems/2013/06/09/18738180.php

Hundreds of North American bird species are threatened by Climate Change
http://www.environmental-watch.com/2014/10/02/hundreds-north-american-bird-species-threatened-climate-change/

The drought in California is becoming an enormous health and life problem, another example of the climate changes happening. The reluctance to really change to do as much as we can needs to be critically examined. I do not want New York City to be in that same situation where money is more important than the occupants who live here.

Is it more important to destroy so much for the income some will have by continuing fossil fuel? How is money more important than protecting life on the Earth?

Depletion rates:

Further, the shale gas future is not rosy. The wells in Pennsylvania are depleting quickly, often in 1-2 years. Then a new well is built, the construction of which emits more methane. The 100 year quantity of gas is a myth. PA wells could deplete in 6 years. [iii] "-By 2040, production rates from the Bakken Shale and Eagle Ford Shale will be less than a tenth of that projected by the Energy Department. For the top three shale gas fields — the Marcellus Shale, Eagle Ford and Bakken — production rates from these plays will be about a third of the EIA forecast."

-"The three year average well decline rates for the seven shale gas basins measured for the report ranges between 74-percent to 82-percent. "

Further depletion rates information is linked below.[iv]

Shale gas may not be extractable in the not so far future; therefore to install such a project at Port Ambrose does not make any sense. It would waste tremendous amounts of money with only a short-span of function, which is enormously problemantic from the beginning. All the funds would be wasted. This makes no sense.

Methane comments:

IPCC has changed the name of these radiative forces from SLCP (short lived climate forcing) to NTCF Near-Term climate forcers. IPCC " discourages the use of CO2 equivalence because these gases have an array of life cycles.

What are our real carbon levels? CO2, the well-known carbon dioxide, is the strongest greenhouse gas contributor on the 100 year time frame, and now it is approximately at 400 ppm. Yet there are other sources of greenhouse gases that participate in escalating climate change, the Intergovernmental Panel for Climate Change (IPCC) in 2014 says: "The Fifth Assessment Report (AR5) of the IPCC provides the latest comprehensive evaluation of the factors driving climate change. Regarding short-lived climate pollutants (SLCPs), AR5 finds larger contributions to climate change from methane and carbonaceous aerosols than the previous IPCC assessment while noting that uncertainties in the influence of aerosols remain large.

The AR5 highlights the difference in the climate impacts of SLCP's and long-lived gases (such as carbon dioxide). It reports that although simple metrics are commonly used to assess the relative impact of different pollutions, 'values are very dependent on metric type and time horizon" … impact analysis needs to consider multiple endpoints such as both near-term and long-term climate change and rates of climate change. These conclusions imply that SLCP's could not be traded against CO2 as any method to establish equivalence in particular impact would not hold for other impacts." **This means that you can't compare**

CO2 with methane, because they have different processes. And "Some gases have chemical feedbacks that change their lifetimes. For example, the increasing CH_4 abundance leads to a longer lifetime for CH_4

To evaluate the total greenhouse effect of a given gas molecule, one needs to know, first, how long it remains in the atmosphere and, second, how it interacts chemically with other molecules.

My understanding of this is that we are probably at the tipping point, as was presented by Bryce Payne, PhD at our Teach In last year - **we may well be at 450 – 480 PPM, or even higher if these near-term climate forcers are added to the CO2 levels. Most scientists agree that 500 PPM is the point of no return.**

This is not the time to mess around. Get off fossil fuels. No Port Ambrose.

Ruth Hardinger
Damascus Citizens for Sustainability

[i] http://www.damascuscitizensforsustainability.org/?s=fugitive+emissions+manhattan

[ii] 2 days ago
Rapid Arctic warming is expected to lead to the melting of permafrost, which will emit carbon dioxide and methane to the atmosphere.

Permafrost's turn on the microbes - Research & Development
www.rdmag.com/news/2015/03/permafrosts-turn-microbes

Mar 04, 2015 · As the Arctic warms, tons of carbon locked away in Arctic tundra will be transformed into the powerful greenhouse gases carbon dioxide and methane, but ...

Siberian Arctic permafrost decay and methane escape ...
climatestate.com/2015/01/18/siberian-arctic-permafrost-decay-and...

Widespread seafloor gas release from the seabed offshore the West Yamal Peninsula, suggests that permafrost has degraded more significantly than previously thought.

http://barentsobserver.com/en/arctic/2015/01/alarm-over-kara-sea-permafrost-thawing-09-01

The title “nobody’s talking about yet…” is the sad situation of the USA. What is
http://www.nbcnews.com/id/15828892/ns/world_news-world_environment/t/analysis-global-warming-killing-some-species/#.VR7x-VyLG-I

[iii] http://www.desmogblog.com/2014/10/27/drilling-deeper-post-carbon-institute-fracking-production-numbers

[iv] - http://shalebubble.org

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I represent: Metropolitan Waterfront Alliance

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Name: CINDY ZIPF

Address: 18 HARTSHORNE DRIVE, SUITE 2 HIGHLANDS NJ

I represent: CLEAN OCEAN ACTION

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Address: 135 W 225th ST BRNX

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Address: 2232 Decon St East Meadow NY 11554

I represent: SANE Energy Project.

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Name: Anne Lazares

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I represent: me

Address: _____

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Name: Richard Thomas, Councilman

Address: City of Mt. Vernon

I represent: Councilman Rich Thomas

Address: 1 Roosevelt Square, Mt Vernon NY

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Name: Max Wass Tech Klein

Address: M Rosenthal Ser Hollman

I represent: ~~Sui 322 8th Ave Suite 1100 NY NY 10001~~

Address: ~~370 W 77th~~

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Name: John Cori

Address: Rockaway Beach

I represent:

Address:

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Date: 4/1/2015

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Name: Anthony Rogers-Wright

Address: 369 Parkside Avenue BK, NY 11226

I represent: Environmental Action

Address: See Above

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Date: 4-1-15

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Name: Mary Jenkins

Address: 41 Central Pk W.

I represent: League of Women Voters

Address: 44 W 43rd St NYC

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(PLEASE PRINT)

Name: Denise Katzman

Address: 271 Madison Ave

I represent: Environhancement

Address: _____

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. ~~Res. No.~~ 549 Res. No. 549

☒ in favor ☐ in opposition

Date: 4/1/15

(PLEASE PRINT)

Name: Jennifer Scabozzi

Address: 250 Palisade Ave Bronx NY

I represent: Bronx Climate Justice North

Address: _____

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☑ in favor ☐ in opposition

Date: April 7 15

(PLEASE PRINT)

Name: Forest Happel

Address: 2415 Morris Ave B53 Bronx NY

I represent: —

Address: —

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. 549

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: JESSICA TROFF

Address: 595 President St. Brklyn NY 11215

I represent: Catskill Mountainkeeper

Address: Livingston Manor

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. 549

☑ in favor ☐ in opposition

Date: 4/1/15

(PLEASE PRINT)

Name: Alex Beauchamp

Address: 371 State St #3 Brooklyn, NY 11217

I represent: Food & Water Watch

Address: 66 Jay St #713 Brooklyn, NY 11201

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____
☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: MAV MOORHEAD

Address: POB 195 10113 NYC

I represent: NYH2O, PCS

Address: 261 BWAY NYC

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. 549
☑ in favor ☐ in opposition

Date: 4/1/15

(PLEASE PRINT)

Name: Edith Kahtrowitz

Address: 333 McDonald Ave - #5D, Brklyn NY 11218

I represent: United For Action

Address: _____

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on ~~Int. No.~~ ~~Res 549~~ Res. No. 549
☒ in favor ☐ in opposition

Date: April 1

(PLEASE PRINT)

Name: WENDY BYRNE FOR LING TSOU

Address: 450 E 20 ST, 11B, NEWYORK, NY 10009

I represent: United for Action

Address: _____

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. CNG Res. No. 549

☐ in favor ☑ in opposition

Date: 4-1-15

(PLEASE PRINT)

Name: DAVE DOCC

Address: 7825 4th ave BKLYN 11209

I represent: SAVE ENERGY - B. CARP ETC

Address: NYC

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. 549

☒ in favor ☐ in opposition

Date: 04/01/15

(PLEASE PRINT)

Name: Andrea Leshak

Address: 232 E. 74th St apt PHA NY NY 10021

I represent: Natural Resources Defense Council (NRDC)

Address: 40 W. 20th St, NY, NY 10011

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. 549

☒ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: MATT GOVE

Address: 72 S. Portland Ave. Apt 3

I represent: Surfrider Fandation NYC Chapter

Address: _____

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. ________ Res. No. 549

☑ in favor ☐ in opposition

Date: April 1, 2015

(PLEASE PRINT)

Name: Catherine Skopic

Address: 140 West Broadway

I represent: People's Climate Movement-New York

Address: ________

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. ________ Res. No. 549

☐ in favor ☐ in opposition LN8-PSAT

Date: 4/1/2015 AMBROA

(PLEASE PRINT)

Name: PETE STUBBEN

Address: 188 B 123 ROCKAWAY 11694

I represent: ________

Address: ________

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. 549

☑ in favor ☐ in opposition

Date: 4/1/15

(PLEASE PRINT)

Name: Aileen Sheil

Address: 9 Murray St NY, NY 10007

I represent: NYPIRG

Address: "

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. ~~535~~ Res. No. 539

☐ in favor ☒ in opposition

Date: _____

(PLEASE PRINT)

Name: BRUCE FERGUSON

Address: 109 DIETZ ROAD CALLICOON CNTY NY

I represent: CATSKILL CITIZENS FOR SAFE ENERGY

Address: PO BOX 103 FREMONT CNTY NY 12736

Please complete this card and return to the Sergeant-at-Arms