



*Ocean Advocacy  
Since 1984*

## Clean Ocean Action

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**RE: Comments on Liberty LNG's Port Ambrose Deepwater Port License Application; Federal Docket #USCG-2013-0363**

SUBMITTED VIA WWW.REGULATIONS.GOV

August 22, 2013

Dear Mr. Bachman and Ms. Ford;

On behalf of the undersigned organizations, Clean Ocean Action (COA), 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, submits the following comments in response to the U.S. Maritime Administration (MARAD) and U.S. Coast Guard's (USCG) request for scoping comments for the draft environmental impact statement (Draft EIS) for the **Liberty Natural Gas (Liberty LNG) Port Ambrose Deepwater Port License Application** (Docket #USCG-2013-0363).<sup>1</sup> These comments are to be considered in addition to those already given by representatives of a few of the undersigned organizations at the scoping hearings held on July 9 and 10, 2013, in Long Beach, NY, and Edison, NJ, as well as in other written submissions made to the federal docket.

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<sup>1</sup> Notice of Intent, 78 F.R. 37878 (Monday, June 24, 2013) (hereafter "Scoping Notice").

Liberty LNG 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 New York Harbor in a water depth of approximately 103 feet.”<sup>2</sup> A Deepwater Port Act license such as the one requested by Liberty LNG, can be authorized by MARAD for the import and “export of oil and natural gas from domestic sources within the United States to foreign markets abroad.”<sup>3</sup> The issuance of such a license is subject to veto by a Governor of an adjacent coastal state, which authority has already been exercised against this applicant for this project.

For all of the many reasons detailed herein, the undersigned strenuously object to the subject application proceeding, at this time, to the required preparation of a draft EIS.

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<sup>2</sup> Scoping Notice, *supra*.

<sup>3</sup> Notice of Application, 78 F.R. 36014 (Friday, June 14, 2013) (hereafter “Application Notice”).

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## I. APPLICATION REVIEW CRITERIA

### a. NEPA Requirements

The National Environmental Policy Act (“NEPA”), 42 U.S.C. 4321 *et seq.*, was enacted in 1969 in order to require federal agencies to consider the quality of the human environment in their decision-making.<sup>4</sup> If the agency determines that proposed federal project would significantly impact the environment, an Environmental Impact Statement (“EIS”) is required.<sup>5</sup> The EIS must include a detailed statement on five factors:

- the environmental impact of the proposed action,
- any adverse environmental effects which cannot be avoided should the proposal be implemented,
- alternatives to the proposed action,
- the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.<sup>6</sup>

There are six major steps in the EIS process: (1) Notice of Intent to Prepare an EIS, (2) the Scoping Process, (3) Notice of Availability of a Draft EIS, (4) Public Comment on the Draft EIS, (5) Notice of Availability of the Final EIS and finally, (6) a Record of Decision. These comments are provided regarding the second of these steps, the Scoping Process.

#### ***The Scoping Process***

The scoping process is “an early and open process” for determining the scope of issues to be addressed in an EIS and for identifying the significant issues related to a proposed action.<sup>7</sup> As part of the scoping process, the federal agency is required to “[i]nvite the participation of affected Federal, State, and local agencies, any affected Indian tribe, the proponent of the action, and ***other interested persons (including those who might not be in accord with the action on environmental grounds)*** . . . .”<sup>8</sup> This is consistent with NEPA requirement that federal agencies involve the public in decision-making that affects the quality of the human environment.<sup>9</sup> The exclusion of the public “flies in the face of the goals of NEPA scoping” and constitutes grounds for legal and equitable relief.<sup>10</sup>

The scope of an EIS consists of the range of actions, alternatives, and impacts to be considered therein.<sup>11</sup> To determine the scope of an EIS, the agency must consider:

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<sup>4</sup> See generally, 42 U.S.C. 4332.

<sup>5</sup> 42 U.S.C. 4332(C).

<sup>6</sup> 42 USC 4332(C).

<sup>7</sup> 40 CFR 1501.7.

<sup>8</sup> 40 CFR 1501.7(a)(1) (emphasis added).

<sup>9</sup> *Los Padres Forestwatch v. United States Forest Serv.*, 776 F. Supp. 2d 1042, 1050 (N.D. Cal 2011).

<sup>10</sup> *Los Padres Forestwatch v. United States Forest Serv.*, 776 F. Supp. 2d 1042, 1050 (N.D. Cal 2011) (citing 40 CFR 1501.7) (granting injunctive relief where the U.S. Forest Service did not allow public input in the scoping process).

<sup>11</sup> 40 CFR 1508.25

- Three (3) types of actions: connected actions (closely related actions), cumulative actions, and similar actions;
- Three (3) types of alternatives: no action, other reasonable courses of action, and mitigation (not in the proposed action); and
- Three (3) types of impacts: direct, indirect, and cumulative.<sup>12</sup>

### ***Types of Actions***

Actions that are closely related with individually insignificant but cumulatively significant effects should be analyzed as a single project.<sup>13</sup> Interdependent actions, or actions that are part of a larger action and dependent upon the larger action for their justification, should be analyzed as a single project.<sup>14</sup> Similar actions have similarities that provide a basis for evaluating their environmental impacts together (such as common timing or geography) and, therefore, may be analyzed as a single project as circumstances dictate.<sup>15</sup>

### ***Alternatives & Mitigation***

As stated in the regulations implementing NEPA, the consideration of alternatives is “the heart of the environmental impact statement.”<sup>16</sup> These regulations require that an EIS “[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.”<sup>17</sup> The agency is further required to “[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits” and must “[i]nclude reasonable alternatives not within the jurisdiction of the lead agency.”<sup>18</sup> Indeed, the requirement for a thorough study and a detailed description of alternatives has long been regarded as “the linchpin” of the entire impact statement.<sup>19</sup> Because of the importance of NEPA’s procedural and informational aspects, if the agency fails to include a proper alternatives analysis in the EIS, then the EIS is insufficient even if the agency’s actual decision was informed and well-reasoned.<sup>20</sup>

The three types of alternatives considered by the agency must include an evaluation of no action, other reasonable courses of action and a mitigation action.<sup>21</sup> The “rule of reason” governs “both *which* alternatives the agency must discuss, and the extent to which it must discuss them.”<sup>22</sup> The range of alternatives that the agency must consider is not infinite, but it does include all feasible or reasonable

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<sup>12</sup> 40 CFR 1508.25 (a), (b), (c).

<sup>13</sup> 40 CFR 1508.25 (a), 40 CFR 1508.27.

<sup>14</sup> 40 CFR 1508.25 (a)(1)(iii).

<sup>15</sup> 40 CFR 1508.25 (a)(3). An agency has discretion to analyze these actions in the same impact statement and “should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives of such actions is to treat them in a single impact statement.”

<sup>16</sup> 40 C.F.R. § 1502.14.

<sup>17</sup> 40 C.F.R. § 1502.14(a).

<sup>18</sup> 40 C.F.R. § 1502.14(b)-(c).

<sup>19</sup> Monroe County Conservation Council, Inc. v. Volpe, 472 F.2d 693, 697-698 (2d Cir. 1972).

<sup>20</sup> Grazing Fields Farm v. Goldschmidt, 626 F.2d 1068, 1072 (5<sup>th</sup> Cir. 1980).

<sup>21</sup> 40 CFR 1508.25(b).

<sup>22</sup> Citizens Against Burlington, Inc. v. Busey, 938 F. 190, 195 (D.C. Cir. 1991) (emphases in original).

alternatives to the proposed action.<sup>23</sup> The existence of “a viable but unexamined alternative renders an environmental impact statement inadequate.”<sup>24</sup>

### ***Impacts***

NEPA requires that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.<sup>25</sup> Federal regulations define “mitigation” as a way to avoid, minimize, rectify, or compensate for the impact of a potentially harmful action.<sup>26</sup> As succinctly stated by the Supreme Court of the United States:

[The] omission of a reasonably complete discussion of possible mitigation measures would undermine the “action-forcing” function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects. An adverse effect that can be fully remedied by, for example, an inconsequential public expenditure is certainly not as serious as a similar effect that can only be modestly ameliorated through the commitment of vast public and private resources.

Recognizing the importance of such a discussion in guaranteeing that the agency has taken a “hard look” at the environmental consequences of proposed federal action, CEQ regulations require that the agency discuss possible mitigation measures in defining the scope of the EIS, in discussing alternatives to the proposed action, and consequences of that action, and in explaining its ultimate decision.<sup>27</sup>

As the last of the scoping criteria indicates, evaluating project impacts requires a consideration of direct, indirect and cumulative impacts. These impacts include, but are not limited to, ecological, aesthetic, historic, cultural, economic, and social or health.<sup>28</sup> Impacts may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.<sup>29</sup>

Direct impacts are caused by the action and occur at the same time and place.<sup>30</sup> Indirect impacts are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.<sup>31</sup> Cumulative impacts are the total impact on the environment resulting from the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what

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<sup>23</sup> City of Grapevine v. Department of Transp., 17 F.3d 1502, 1506 (D.C. Cir. 1994).

<sup>24</sup> Resources Ltd. v. Robertson, 35 F.3d 1300, 1307 (9th Cir. 1993). See also, Curry v. US Forest Service, 988 F. Supp. 541, 554, 556 (WD Pa 1997) (enjoining a proposed action until such time as an EIS containing consideration of a “broad range of reasonable alternatives” was prepared.)

<sup>25</sup> Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352, 109 S. Ct. 1835, 1847; 104 L. Ed. 2d 351, 371 (1989).

<sup>26</sup> 40 C.F.R. § 1508.20.

<sup>27</sup> Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352, 109 S. Ct. 1835, 1847; 104 L. Ed. 2d 351, 371 (1989).

<sup>28</sup> 40 C.F.R. § 1508.8.

<sup>29</sup> 40 C.F.R. § 1508.8.

<sup>30</sup> 40 C.F.R. § 1508.8(a).

<sup>31</sup> 40 C.F.R. § 1508.8(b).

agency (federal or non-federal) or person undertakes such other actions.<sup>32</sup> The failure to consider the cumulative impacts of all parts of the project constitutes a fatal error.<sup>33</sup>

In sum, the EIS helps ensure that the agency takes a “hard look” at the environmental consequences of its proposed action, and makes information on the environmental consequences available to the public, which may then offer its insight to assist the agency’s decision-making through the comment process.<sup>34</sup> A thorough, comprehensive and open scoping process lays the foundation for a proper EIS.

#### **b. Deepwater Port Act Requirements**

Under the DPA, a broad set of criteria shall be used to “evaluate a deepwater port as proposed in an application.”<sup>35</sup> Those criteria, developed as DPA implementing regulations, must, under the law, gauge for each proposed port

*“(1) the effect on the marine environment; (2) the effect on oceanographic currents and wave patterns; (3) the effect on alternate uses of the oceans and navigable waters, such as scientific study, fishing, and exploitation of other living and nonliving resources; (4) the potential dangers to a deepwater port from waves, winds, weather, and geological conditions, and the steps which can be taken to protect against or minimize such dangers; (5) effects of land-based developments related to deepwater port development; [and] (6) the effect on human health and welfare.”<sup>36</sup>*

As promulgated in 33 CFR 148, Subpart G, these review criteria also incorporate elements of review from the Council on Environmental Quality, the Department of Homeland Security Directive 5100.1, Environmental Planning Program, and the USCG’s Commandant Instruction M16475.1D.<sup>37</sup>

For the development of this Liberty LNG Port Ambrose Draft EIS, the application must be reviewed for both the port’s “effects on the environment *and* for the environment’s effects on the port and any of its shoreside support facilities.”<sup>38</sup>

Here, Liberty LNG entirely fails to include sufficient (if any) information on the proposed shoreside support facilities (to analyze the environment’s effect on those facilities or the facilities’ effect on the environment), or the foreseeable environmental effect on the port (e.g., Superstorms like Hurricane Sandy, sea level rise, climate change). Since this information is not contained in the application “as proposed,” it cannot yet be fully reviewed in a Draft EIS.<sup>39</sup> These deficiencies are more fully discussed below.

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<sup>32</sup> 40 C.F.R. § 1508.7.

<sup>33</sup> Huntington v. Marsh, 859 F. 2d 1134, 1143 (2<sup>d</sup> Cir. 1988) (improper for U.S. Army Corps of Engineers to defer analysis of the cumulative effects of waste dumping when designating a new waste disposal site in Long Island Sound).

<sup>34</sup> Dubois v. U.S. Dep’t of Agric., 102 F. 3d 1273, 1285 (1<sup>st</sup> Cir. 1996).

<sup>35</sup> 33 U.S.C. § 1505(a).

<sup>36</sup> 33 U.S.C. § 1505(a)(1)-(6).

<sup>37</sup> 33 C.F.R. § 148.702(a)-(c).

<sup>38</sup> 33 C.F.R. § 148.707(a).

<sup>39</sup> 33 U.S.C. § 1505(a).

Furthermore, the DPA regulations for environmental review require that there must be evaluations for “construction, operation, and decommissioning of the proposed location, and at least one alternative site.”<sup>40</sup> Here, again, there is a significant deficiency in the application that is overlooked by the USCG and MARAD in their scoping/environmental review plan. According to the Notice of Intent and Request for comments, issued by the USCG and MARAD,

*“The proposed action requiring environmental review is the Federal licensing of the proposed deepwater port described in “Summary of the Application” below. The alternatives to licensing the proposed port are: (1) licensing with conditions (including conditions designed to mitigate environmental impact), or (2) denying the application, which for purposes of environmental review is the “no-action” alternative.”<sup>41</sup>*

The agencies, in developing the Draft EIS, and in soliciting comments from the public, make no mention of reviewing “at least one alternative site.” Similarly, throughout the Liberty LNG application, in impact evaluation sections ranging from discussions on biological resources to water and air impacts, the only impacts assessed are for one location’s construction, operation, and decommissioning. Neither the agencies nor the applicant have included environmental review of “at least one other site” in materials presented to the public to date.

Until the agencies reissue a public request for comments clearly articulating the agencies’ plans to review impacts of “at least one other site” in a Draft EIS for Liberty LNG, this environmental review does not comply with nondiscretionary regulatory requirements (and the application cannot be said to be complete).

The Deepwater Port Act implementing regulations, at 33 C.F.R. § 148.737, also set forth a list of statutes and executive orders which may apply to any given port application. That list includes over 50 requirements for any port review:

Abandoned Shipwreck Act (ASA)  
American Indian Religious Freedom Act (AIRFA)  
Antiquities Act  
Archeological and Historic Preservation Act (AHPA), 16 U.S.C. 469;  
Archeological Resources Protection Act (AHPA)  
Architectural Barriers Act  
Clean Air Act (CAA)  
Clean Water Act (CWA)  
Coastal Barrier Resources Act (CBRA)  
Coastal Zone Management Act (CZMA)  
Community Environmental Response Facilitation Act (CERFA)  
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)  
Consultation and Coordination With Indian Tribal Governments Executive Order  
Coral Reef Protection Executive Order  
Department of Transportation Act

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<sup>40</sup> 33 C.F.R. § 148.707(b).

<sup>41</sup> 78 F.R. 37878, at 37879.



Emergency Planning and Community Right-to-Know Act  
Endangered Species Act of 1973 (ESA)  
Energy Efficiency and Water Conservation at Federal Facilities Executive Order  
Environmental Effects Abroad of Major Federal Agencies Executive Order  
Environmental Quality Improvement Act  
Farmlands Protection Policy Act  
Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations Executive Order  
Federal Compliance with Pollution Control Standards Executive Order  
Federal Insecticide, Fungicide, and Rodenticide Act  
Federal Records Act (FRA)  
Federalism Executive Order  
Fish and Wildlife Act of 1956  
Fish and Wildlife Coordination Act  
Fisheries Conservation and Recovery Act of 1976  
Flood Disaster Protection Act  
Flood Plain Management and Protection Executive Order  
Greening the Government Through Leadership in Environmental Management Executive Order  
Historic Sites Act  
Indian Sacred Sites Executive Order  
Intergovernmental Review of Federal Programs Executive Order  
Invasive Species Executive Order  
Locating Federal Facilities on Historic Properties in our Nation's Central Cities Executive Order  
Magnuson-Stevens Fishery Conservation and Management Act  
Marine Mammal Protection Act of 1972 (MMPA)  
Marine Protected Areas Executive Order  
Marine Protection, Research, and Sanctuaries Act of 1972  
Migratory Bird Treaty Act  
National Environmental Policy Act of 1969 (NEPA)  
National Historic Preservation Act of 1996 (NHPA)  
Native American Graves Protection and Repatriation Act (NAGPRA)  
Noise Control Act of 1972  
Pollution Prevention Act of 1990 (PPA)  
Protection and Enhancement of Cultural Environmental Quality Executive Order  
Protection and Enhancement of Environmental Quality Executive Order  
Protection of Children from Environmental Health and Safety Risks Executive Order  
Protection of Wetlands Executive Order  
Recreational Fisheries Executive Order  
Resource Conservation and Recovery Act of 1976 (RCRA)  
Responsibilities of Federal Agencies to Protect Migratory Birds Executive Order  
Safe Drinking Water Act (SDWA)  
Toxic Substances Control Act (TSCA)  
Wild and Scenic Rivers Act

The Liberty LNG deepwater port application contains some of the reviews and materials required by some of these statutes (e.g., Clean Water Act water pollution permit statement), but there is no full accounting of the port's adherence to or fulfillment of these statutes and orders. Because this

regulation binds the USCG and MARAD as much as the applicant, the Draft EIS should contain a full accounting of whether the application (and the proposed port) comply with each of these laws and executive orders (or, if a specific law or executive order does not apply, demonstrate why not).

## **II. DATA GAPS AND APPLICATION DEFICIENCIES**

According to regulations established by the Council on Environmental Quality (CEQ) for the implementation of the National Environmental Policy Act (NEPA), scoping should “be an early and open process”<sup>42</sup> that provides for the establishment of “the range of actions, alternatives, and impacts to be considered in an environmental impact statement [(EIS)].”<sup>43</sup> As presented, the Notice of Application, Notice of Intent, and the posted Liberty LNG application have several major deficiencies which preclude the full, open, review of the range of actions, alternatives, and impacts that should be reviewed in this EIS. As such, the process should be delayed until these overarching deficiencies are remedied.

### **a. Same application, same concerns**

First and foremost, this application is the same as the Liberty LNG deepwater port license application from 2012, withdrawn after being vetoed by Governor Christie. Under DPA regulations, “information contained in previous applications or reports that the applicant has submitted to the application staff” may be incorporated into the application.<sup>44</sup> As such, the comments submitted to the docket for the Liberty Deepwater Port application (Docket # USCG-20120-0993) should be incorporated into this Draft EIS and this DPA license application record. Most significantly, the veto letter submitted by Governor Christie, as affirmed by the New Jersey Office of the Attorney General in 2012, should be considered throughout the NEPA and DPA processes as a standing comment from the State of New Jersey.

### ***Application, veto, and amendments***

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.”<sup>45</sup> 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 proposed deepwater port area] supports recreational and commercial fishing, shellfisheries and tourism industries that are vital to the state. Marine waters in the proposed project area function as a critical migration corridor for both federally endangered marine mammals and sea turtles. ... The proposed [pipeline and port will] adversely impact[] seafloor habitat, aquatic life, and prime fishing grounds. The discharge of wastewater, regasification*

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<sup>42</sup> 40 CFR § 1501.7.

<sup>43</sup> 40 CFR § 1508.25.

<sup>44</sup> 33 CFR § 148.110(b).

<sup>45</sup> 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*).

*effluent, and stormwater would also harm our marine waters and the species that depend on a health environment. The environmental impacts could threaten the recent ocean water quality improvements the State has worked hard to achieve.”<sup>46</sup>*

*“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, which would undermine progress made by New Jersey and this nation to promote sustainable energy.”<sup>47</sup>*

*“Finally, the Liberty project would also present significant security risks to our State through increased demands on the U.S. Coast Guard and out 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.”<sup>48</sup>*

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.<sup>49</sup>

In November of 2011, Liberty LNG submitted an amended application to MARAD and the USCG, changing several elements of their application – including, among other things, the location, size, scope, and pipeline connection.<sup>50</sup> These changes were considered significant enough to trigger the submission of a new application, identifying two proposed port locations. In a letter from February, 2012, Liberty LNG gave official notice of its preferred site among the two identified in the November amendments.<sup>51</sup>

In the letter sent in February, 2012 from Liberty LNG to MARAD, the applicant explicitly stated that:

*“On November 29, 2011, Liberty submitted an application amendment (Amendment), which revised its initial project proposal by, among other things, eliminating the onshore and nearshore pipelines by proposing an offshore interconnection with an existing subsea pipeline, similar to the operating deepwater ports offshore Boston. Liberty also reduced its project size to two buoy systems. ... Liberty [designated as its proposed site location] Area 3, which is located approximately 30 miles offshore Monmouth Beach, New Jersey, and approximately 19 miles*

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<sup>46</sup> New Jersey Governor Chris Christie License Issuance Disapproval Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0038.

<sup>47</sup> New Jersey Governor Chris Christie License Issuance Disapproval Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0038.

<sup>48</sup> New Jersey Governor Chris Christie License Issuance Disapproval Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0038.

<sup>49</sup> 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.

<sup>50</sup> See Liberty Natural Gas Revised Application, Liberty Deepwater Port Docket # USCG-2010-0993-0111.

<sup>51</sup> Holland & Knight Letter of 2/23/12 Regarding Liberty Natural Gas DWP Location, Liberty Deepwater Port Docket # USCG-2010-0993-0111. See also a map of Liberty Deepwater Port proposed location, as withdrawn in 2012 (Scoping Comments Attachment A), *Id.*

*south of Jones Beach, New York ... [and] includes approximately 2.4 miles of pipeline in New York state waters.*<sup>52</sup>

Furthermore, Liberty LNG told the Federal Energy Regulatory Commission (FERC), with whom it had applied for licenses and certificates for onshore pipeline components, that:

*“On November 29, 2011, Liberty submitted an application amendment to MARAD and the Coast Guard, which revised its project proposal by, among other things, eliminating the onshore FERC jurisdictional pipeline and instead proposing to interconnect offshore with the Transco Lower New York Bay Lateral pipeline.”*<sup>53</sup>

In submitting their amended application, Liberty LNG was complying with Deepwater Port Act regulations, promulgated by the USCG, which **allow for changes to applications**: “If at any time before the Secretary approves or denies an application, the information in it changes or becomes incomplete, the applicant must promptly submit the changes or additional information” by sending those changes to MARAD, the USCG, and any ACSs.<sup>54</sup> Under those regulations, the USCG “may determine that the change or required information is of such magnitude that it warrants submission of a complete revised application.”<sup>55</sup>

Contrary to indications from the USCG and MARAD during the Port Ambrose scoping process, there is no law, regulation, or policy at the USCG or MARAD which treats revised applications, submitted in full to the docket, as anything short of official.<sup>56</sup> In fact, in a later letter from MARAD to the State of New Jersey (informing the state of the acceptance of Liberty LNG’s application withdrawal), MARAD Chief Counsel Franklin Parker describes the pending application as the “Liberty Natural Gas LLC (Liberty) Amended Deepwater Port License Application,” stating that the “amended deepwater port license application” had been withdrawn from the “Federal review process.”<sup>57</sup>

Clearly, the applicant, the agencies, and the public considered the amended application from Liberty LNG to be the official application.

### ***Veto Affirmation and Withdrawals***

On March 2, 2012, MARAD called the State of New Jersey (specifically, the New Jersey Department of Environmental Protection) to discuss the “Liberty Natural Gas November 2011 Deepwater Port

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<sup>52</sup> Holland & Knight Letter of 2/23/12 Regarding Liberty Natural Gas DWP Location, Liberty Deepwater Port Docket # USCG-2010-0993-0111. See also a map of Liberty Deepwater Port proposed location, as withdrawn in 2012 (Scoping Comments Attachment A), *Id.*

<sup>53</sup> Holland & Knight Letter of 2/24/12 Regarding FERC Application, Liberty Deepwater Port Docket # USCG-2010-0993-0111.

<sup>54</sup> 33 CFR § 148.211(a).

<sup>55</sup> 33 CFR § 148.211(b).

<sup>56</sup> Note that the USCG and MARAD at the public scoping meetings held for Port Ambrose told the public that the 2011 amended Liberty application would not have been an “official change” until the license was granted, despite failing to providing any legal basis for such a claim.

<sup>57</sup> U.S. DOT/MARAD Response to Honorable Jeffrey S. Chiesa, Liberty Deepwater Port Docket # USCG-2010-0993-0113.

Amended License Application.”<sup>58</sup> This meeting, according to State Attorney General Jeffrey Chiesa, was held so MARAD and the USCG could ask “if Governor Christie maintained his opposition to the proposed deepwater port project.”<sup>59</sup> If this was the case, according to the Attorney General, “the federal agencies would advise Liberty to withdraw its application (amended or otherwise).”<sup>60</sup>

Attorney General Chiesa submitted a letter to MARAD shortly thereafter, summarizing the conversation and detailing the position of the State of New Jersey:

*“The NJDEP advised that Governor Christie’s veto remained in effect, as to both the original and revised applications. ... We request that MARAD and the other federal agencies promptly notify the State, if you determine to review or continue to review the “amended” application. We thank you for your courtesies in this matter, and look forward to hearing from you regarding MARAD’s disclosure to Liberty that Governor Christie remains steadfast in his opposition to the proposed deepwater port.”*<sup>61</sup>

Less than three weeks after MARAD and the USCG were informed that the Governor’s veto “remained in effect, as to both the original **and revised applications**,” Liberty LNG withdrew its license application.<sup>62</sup> Again, both MARAD and the USCG were informed in March, 2012, that the amended configuration, plan, design, and scope of the amended Liberty Deepwater Port proposal – which is identical to the proposed Port Ambrose configuration, plan, design, and scope – was officially opposed by the Governor of New Jersey. On April 26, 2012, over a month after the State of New Jersey reaffirmed its veto as to the new amended port proposal, and almost fifteen months after Governor Christie officially vetoed the application, MARAD gave notice on the federal docket for the project that the application was closed.<sup>63</sup>

### ***Incorporating the original application into Port Ambrose review***

At the public meetings and in official notices of the present Port Ambrose application, MARAD and the USCG claimed that Port Ambrose was an entirely different design, scope, and location, despite the fact that the proposal officially withdrawn in April, 2012, was of the exact same design, scope, and location submitted in September, 2012, just five months later. For the Port Ambrose scoping hearings, the agencies stated:

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<sup>58</sup> State of New Jersey - Office of the Attorney General, Liberty Deepwater Port Docket # USCG-2010-0993-0114.

<sup>59</sup> State of New Jersey - Office of the Attorney General, Liberty Deepwater Port Docket # USCG-2010-0993-0114.

<sup>60</sup> State of New Jersey - Office of the Attorney General, Liberty Deepwater Port Docket # USCG-2010-0993-0114. Note that, according to the Attorney General, who, at the time of this scoping comment submission, is the U.S. Senator for the State of New Jersey, “federal officials explained that the licensing procedure is a time-consuming procedure. Therefore, if Governor Christie intended to veto the amended project after the public process, then as a practical matter, the federal agencies have no reason to go forward on Liberty’s application.” *Id.*

<sup>61</sup> State of New Jersey - Office of the Attorney General, Liberty Deepwater Port Docket # USCG-2010-0993-0114.

<sup>62</sup> State of New Jersey - Office of the Attorney General, Liberty Deepwater Port Docket # USCG-2010-0993-0114 (emphasis added). See also, Liberty Natural Gas LLC – Withdrawal, Liberty Deepwater Port Docket # USCG-2010-0993-0115.

<sup>63</sup> U.S. DOT/MARAD - Acknowledgement Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0116.

*“For clarification, this is a different project than the Liberty Deepwater Port proposed in 2010. Port Ambrose, as proposed, would be **further east, have only two submerged-turret loading buoys, and no shore crossing or onshore pipeline component.**”<sup>64</sup>*

This statement by the USCG and MARAD to interested parties and the public is directly contradicted by Liberty LNG’s own language from their revised application cover letter:

*“Liberty has revised its project design to interconnect with an existing offshore pipeline (Transco’s Lower New York Bay Lateral), which **eliminates the previously proposed onshore pipeline facilities** and the installation of any offshore pipeline infrastructure in Raritan Bay. Liberty has also **reduced its project size to two buoy systems.**”<sup>65</sup>*

At issue here is the fact that Liberty LNG had legally and officially changed their application in the exact way that, during Port Ambrose scoping hearings, the USCG and MARAD told interested parties and the public that they hadn’t. This is an unacceptable failure in transparency.

The previous application’s status, and ultimate outcome, is relevant to scoping because, in establishing the purpose and need to be reviewed in the EIS, it is misleading for MARAD and the USCG to claim that this configuration is different than the official application withdrawn during the last Liberty LNG process. In order to be an “open process”, the true timeline of the project’s previous attempt to obtain a deepwater port license should be clarified. MARAD, in May, 2011, stated:

*“While we understand that the Governor does not support Liberty’s application, his views expressed at this point in the process - before any public hearings have been held - have no legal significance. As a practical matter, however, they constitute a potential impediment that cannot be ignored.”<sup>66</sup>*

As concerns that “cannot be ignored,” the Governor’s veto rationale should be openly included in the review of this Port. Not only do they apply directly to Port Ambrose (through the March, 2012 veto affirmation by Attorney General Chiesa), they also inform the alternatives analysis (as the reason why closer sites to New Jersey were not chosen), the no action alternative (as evidence of the fisheries, renewable energy, and environmental interests of the state in managing ocean uses), and a host of other areas of the Draft EIS review (safety, security, shipping, water and biological resources, to name a few).

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<sup>64</sup> Port Ambrose DIP Letter, Liberty LNG Docket # USCG-2013-0363-0014 (emphasis added). Note that the USCG originally posted this “Port Ambrose DIP Letter” on the Port Ambrose docket labeled as “Liberty Deepwater Port DIP Letter” before removing the posted document and replacing it with the presently-named “Port Ambrose DIP Letter.” This, of course, is exactly what Liberty LNG did when it took the Liberty Deepwater Port off the federal docket and submitted the same materials with a new name. See <http://www.regulations.gov/#!documentDetail;D=USCG-2013-0363-0014>.

<sup>65</sup> Liberty Natural Gas Revised Application Cover Letter of 11/29/11, Liberty Deepwater Port Docket # USCG-2010-0993-0111 (emphasis added).

<sup>66</sup> Letter from K. Denise Rucker Krepp, Chief Counsel, U.S. DOT/Maritime Administration to Liberty LNG, Liberty Deepwater Port Docket # USCG-2010-0993-0110 (hereinafter, MARAD Veto Letter).

**Any Draft EIS must include a discussion of the views of the Governor of New Jersey (which “cannot be ignored”) about the energy, economic, environmental, security, and safety concerns the State had with the Amended Liberty Deepwater Port, because Port Ambrose is identical to the Amended Liberty Deepwater Port and the comments are directly relevant to NEPA review.**

**b. Redacted sections are vital to this review and should be released for full public consideration**

As part of the application for a deepwater port license, Liberty LNG submitted a host of information, totaling over 2,700 pages (not including attachments) of “technical” data. This information has not been released to the public, depriving the public of a full review of the Port Ambrose project. This limitation precludes robust and transparent NEPA scoping review. The Technical Data reports should be released to the public docket and the public should be given the opportunity to comment on the validity of the data that the USCG, MARAD, and applicant are using for NEPA and licensing decisionmaking.

According to the cover pages for Volume III (Technical Data), released to Clean Ocean Action through a Freedom of Information Act request, the following reports and analyses were developed for agency, but not public, review:

- Metocean Study
- Vessel traffic data
- Foreign Utility Crossing Report
- Geophysical Investigations Field Summary Report
- Archeological Survey and Cultural Resources – Preliminary Assessment
- Shallow Hazards Report
- Archeological Resource Survey and Cultural Resources Assessment (Federal and State Reports)
- LNG Regasification Vessel Design Specifications
- STL Buoy System Technical Documents
- Pipeline System Technical Documents
- List and Abstract of Project Studies
- Draft Operations Manual
- Security Philosophy
- Certified project drawings
- Draft Marine Mammal and Sea Turtle Strike Avoidance Plan

More specifically, Liberty LNG uses confidential conclusions to support its claims of port safety, need, or impacts:

- **49 times in the Deepwater Port License Application (Volume 1) itself (over just 103 pages);**
- 3 times in Volume 1, Appendix A (Army Corps Permit);
- 1 time in Volume 1, Appendix C (Draft NPDES Permit);
- 2 times in Volume 1, Appendix D (New York State Coastal Consistency);
- 11 times in Volume 2, Topic Report 1 (Project Description, Purpose, and Need);
- 3 times in Volume 2, Topic Report 2 (Alternatives);
- 7 times in Volume 2, Topic Report 3 (Water and Sediment Quality);
- 10 times in Volume 2, Topic Report 4 (Biological Resources);
- 18 times in Volume 2, Topic Report 5 (Cultural Resources);
- 2 times in Volume 2, Topic Report 6 (Socioeconomics);

- 10 times in Volume 2, Topic Report 7 (Geology);
- 4 times in Volume 2, Topic Report 8 (Coastal Zone Use);
- 1 time in Volume 2, Topic Report 9 (Air and Noise Quality);
- 10 times in Volume 2, Topic Report 10 (Safety);

All of these reports are directly relevant to the scoping process. In fact, Liberty LNG cites these confidential data numerous times throughout all parts of their publicly reviewable application, usually as references supporting conclusions, or for more information on the specific impacts and threats that the environment poses for the port, or vice versa.

**i. Significant sections of the application withheld; must be included in Draft EIS**

These **131 citations to confidential data and conclusions** from over a dozen confidential sections of the application are vital for scoping review; many of the most significant questions about the port's construction, operation, and decommissioning risks, impacts, and economics are not released to the public. Among those are the following.

**(1)** Estimates “of the Project’s construction cost, as well as an estimate of the cost to remove the marine components (other than pipelines that lie beneath the seabed)” – vital components to any socioeconomic analyses, and the analysis asked of the public when the USCG and MARAD look for input on the license.<sup>67</sup> **Any Draft EIS must disclose these costs in discussions on the economic impact of the proposal, especially compared to the no action/status quo alternative.**

**(2)** Details about the construction schedule – important for determining, specifically, what fisheries, shipping, or offshore recreation and boating conflicts will occur.<sup>68</sup> Without specifics like this, entire sectors of existing ocean economic uses are being left in the dark as to how this Port can and will affect their interests. **Any Draft EIS must disclose these timelines in discussions on the economic impact of the proposal, especially compared to the no action/status quo alternative.**

**(3)** Specifics about the “Various construction methods [which] will be deployed to accommodate water depth and lowering requirements” are kept confidential despite their clear relevance to water, sediment, air, and noise impacts.<sup>69</sup> Likewise, the applicant fails to disclose “information regarding the roles to be performed by” a wide variety of vessels performing the installation of Port components, including “the Heavy Lift Vessel (HLV) and the Dive Support Vessel (DSV) for installation of the STL Buoy systems, and one or more pipelaying vessels (including purpose-built vessels), plow vessels, and other vessels.”<sup>70</sup> Also, the details about how the “hot tap” into the offshore Transco pipeline are precluded from public review, despite this hot tap being the closest component of the port to the beach and to high-traffic recreational fishing areas, and one of the most dangerous component pieces of the entire port.<sup>71</sup> So long as the “detailed description[s] of the installation” are kept confidential, the public cannot meaningfully comment on the economic or environmental impacts of this port.<sup>72</sup> **Any Draft EIS**

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<sup>67</sup> Liberty LNG Application, Volume I, at 22.

<sup>68</sup> Liberty LNG Application, Volume I, at 22.

<sup>69</sup> Liberty LNG Application, Volume I, at 37.

<sup>70</sup> Liberty LNG Application, Volume I, at 74.

<sup>71</sup> Liberty LNG Application, Volume I, at 77.

<sup>72</sup> Liberty LNG Application, Volume I, at 74.



**must specify the exact nature of each construction method proposed (and for which part of the construction process), quantify the impacts proposed in confidential volumes of the Liberty LNG application, and compare those impacts to the status quo/no action alternative.**

**(4)** For cultural resources and areas of significance, there is no way for the public to comment on impact significance, avoidance, or effect on the environment or local economies because the “criteria ... to avoid disturbance to features of a historical or other significance that are located during site survey work” will only be developed “[d]uring detailed design of the Project” – meaning that the applicant will only look to minimize (or maximize, considering we have no information, standards, or data to prove otherwise) impacts on these resources.<sup>73</sup> **Any Draft EIS must show exactly what cultural resources would be affected and must describe in detail the criteria and processes Liberty LNG will be forced to comply with to avoid any impacts to cultural resources.**

**(5)** Many of the environmental impacts from the port will be incurred by the ships docking at the port. The “design standards and codes that are applicable to the Port” are available for public review (and make use of many standards developed over 20 years ago), but the standards “applicable to the LNGRVs are” confidential.<sup>74</sup> Similarly, the “[e]ngineering practices applicable to the LNGRVs” and specifics about the LNGRV “navigation and components” are confidential.<sup>75</sup> Liberty LNG admits in the proposed clean water permit that there might be once-through cooling, Liberty LNG admits there will be thousands of gallons of stormwater, wastewater, and ballast water onboard the ship, Liberty LNG claims the ship design can withstand storms, terror attacks, and sabotage, and Liberty LNG claims that ships cannot be built to export from STL-type buoys. Without access to the standards and codes that will control LNGRVs, analysis into the impacts of the ships on the environment cannot occur, and it is not clear why or how the applicant can conclude that operation of these LNGRVs will have no significant impact on the environment. **Any Draft EIS must contain a fully-disclosed list of standards and codes which Liberty LNG will be bound to, and why, so that the actual impacts associated with operating LNGRVs are included in the public environmental review process.**

**(6)** For safety and security, Liberty LNG has claimed that this port, and the vessels calling on the port, are safe and secure, yet all “information regarding shipboard firefighting and pollution prevention equipment and procedures,” “detailed description[s] of lifesaving equipment,” and “detailed description[s] of the above equipment and the other mechanical components of the pertinent shipboard systems are confidential.”<sup>76</sup> Liberty LNG also decided to keep the “Vessel traffic data [used] to support the independent risk assessment” confidential.<sup>77</sup> In comments made to this docket, both the Bureau of Ocean Energy Management (BOEM) and the Port Authority of New York and New Jersey (PANYNJ) expressed significant concern over shipping risks which were based on their review of vessel traffic data. This information is especially imperative for local first responders and the response agencies, to meaningfully comment on the impacts Port Ambrose poses. **Any Draft EIS must contain a fully-disclosed dataset of vessel traffic in the region as well as a fully-disclosed risk assessment for all vessel types that do, or could, make use of the area – from cargo ships to fishing boats or recreational**

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<sup>73</sup> Liberty LNG Application, Volume I, at 38.

<sup>74</sup> Liberty LNG Application, Volume I, at 55.

<sup>75</sup> Liberty LNG Application, Volume I, at 56, 85.

<sup>76</sup> Liberty LNG Application, Volume I, at 57, 60, 65.

<sup>77</sup> Liberty LNG Application, Volume I, at 83.

**charters – and discuss the specific firefighting, pollution prevention, lifesaving, navigation, and mechanical technologies proposed for use.**

**ii. Specific analyses withheld from resource reports must be included in Draft EIS**

In addition to these general six areas where undisclosed data and analyses were used to support Liberty LNG claims, conclusions made in the supporting materials to the application also specifically relied on several parts of the confidential application volumes. Clearly, the information contained in these sections is pertinent to the environmental, economic, safety and security review of the port proposal and are vital to an open, public, review of the port's potential impact.

***Metocean Study***

According to Liberty LNG, “[a] metocean criteria study [was conducted,] evaluating potential extreme wind, wave, current, and tidal conditions anticipated to occur in the vicinity of Port Ambrose.”<sup>78</sup> This study, again in the words of Liberty LNG, went beyond simply “discussions of climatological design data” by specifically including “extremes of wind speed, wave height, currents, temperatures (sea and air), and tides with consideration given to tropical and extra-tropical storms.”<sup>79</sup>

Based on these data, “[w]eather limitations have been established for LNGRVs for mooring to, operating at, and unmooring from the STL Buoys,” and LNGRV operators will be given specific instructions for monitoring and reacting to changes to “weather conditions and forecasts to ensure that unloading and transfer operations occur within the safe operating parameters of the system.”<sup>80</sup>

In other words, the environmental conditions of the area that Liberty LNG wants to build a port for LNG trade have been kept confidential – as have Liberty LNG's plans for operating under environmentally stressful conditions. In a post-Superstorm Sandy and Hurricane Irene era, a full, public discussion of the extreme weather baselines and operations procedures is required. This application was submitted before Superstorm Sandy struck, but the timing of the application should not be an end-run around the use of the most up-to-date data available. Few issues are more vital to an environmental, safety, security, and economic review of Port Ambrose (especially compared to the status quo/no action alternative) than a thorough, public, and updated review of the weather and climate threats facing the NY/NJ Bight. **Not only must this metocean data be made available for public review, any Draft EIS must be based on updated weather and climate data, given the paradigm shift in what experts think is possible in this region.**

***Vessel traffic data***

Working with Det Norske Veritas (DNV), Liberty LNG “collected and analyzed 2008 data supplied by the Maritime Association of the Port of New York and New Jersey to better understand deep draft vessel (Category A) movements within the [traffic separation scheme] adjacent to and near the proposed

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<sup>78</sup> Liberty LNG Application, Volume II, Report 3, at 3-2.

<sup>79</sup> Liberty LNG Application, Volume II, Report 9, at 9-2.

<sup>80</sup> Liberty LNG Application, Volume II, Report 10, at 10-10.

Port.”<sup>81</sup> This data has also been labeled as confidential and is unreviewable by the public as part of this application.

Based specifically, solely, and exclusively on a single year of undisclosed, unreviewable data, Liberty LNG and DNV concluded that “The majority of tug and barge traffic occurs between 3 nmi (5.6 km) and 20 nmi (37 km) from the coasts of New York and New Jersey,” and that the proximity to traffic lanes poses no problem.<sup>82</sup> Accordingly, Liberty LNG’s application contains proposed “inbound/outbound travel routes that will be used by LNGRVs for the proposed Port Ambrose Project”, while also noting that “[s]election of actual routes will be done by the LNGRV Master per the [confidential] guidelines.”<sup>83</sup> BOEM, the PANYNJ, and other experts have submitted scoping comments for this application which call into question the feasibility (and legality) of the current vessel traffic schemes Liberty LNG is proposing, specifically in light of Superstorm Sandy and proposed offshore wind areas. **Any Draft EIS must contain publicly reviewable vessel traffic data, and show how it was used to analyze the impacts of placing a deepwater port in the middle of the busiest port on the Atlantic coast, in the middle of a proposed offshore wind area.**

### ***Shallow Hazards, Utilities, and Geophysical Reports***

Liberty LNG, along with their single year of vessel traffic data and pre-Superstorm Sandy weather and climate condition reports, contracted several other surveys. These reports are all confidential and are all used, in some form or another, to justify conclusions in the best interests of the applicant.

According to resource reports, the shallow hazard surveys identified several existing cables in the project area<sup>84</sup> and geophysical surveys were performed to evaluate “multiple potential routes.”<sup>85</sup> The confidential nature of these datasets precludes meaningful review by the public. This forces interested commenters to rely on Liberty LNG’s conclusions about the impacts that Port Ambrose could generate. Namely, that “[f]or active cables, safe crossings will be engineered, or suitable separation will be maintained between the Mainline and the existing utilities during construction,”<sup>86</sup> that “no surface expressions of faults were observed in the data,”<sup>87</sup> that “[b]ased on the geophysical surveys conducted for the Project ... [because] the sea floor is a sandy material and no clay, boulders or bedrock were identified ... the pipeline can be trenched using plow technology,”<sup>88</sup> or that diapirism and gas hydrates are “not an issue.”<sup>89</sup>

To further complicate the review of the potential impacts from the Port, Liberty LNG acknowledges that “[f]uture geotechnical studies proposed for the mooring system in the Port area” will be “performed in

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<sup>81</sup> Liberty LNG Application, Volume I0, at 10-15.

<sup>82</sup> Liberty LNG Application, Volume I0, at 10-16.

<sup>83</sup> Liberty LNG Application, Volume I0, at 10-9.

<sup>84</sup> Liberty LNG Application, Volume I0, at 10-10.

<sup>85</sup> Liberty LNG Application, Volume I0, at 10-10, and Volume 7, at 7-9.

<sup>86</sup> Liberty LNG Application, Volume I0, at 10-10.

<sup>87</sup> Liberty LNG Application, Volume 7, at 7-8.

<sup>88</sup> Liberty LNG Application, Volume II, Report 7, at 7-12.

<sup>89</sup> Liberty LNG Application, Volume II, Report 7, at 7-9 and 7-10.

2014,” and that a decision on “appropriate construction methodologies [will be] based on the results of these studies” to “ensure that any potential slope failure is avoided.”<sup>90</sup>

In sum, there is no way for the public to know, based on the material provided, whether a 20-mile pipeline through this region, and a port on a fault line, is in the best interests of the people, the environment, and the economy. It also appears that Liberty LNG itself is admitting that a fundamental component of the port – a decision on how the port will be moored to the seafloor to prevent any adverse geologic changes that could affect the port’s stability – has yet to be studied. **Any Draft EIS must contain publicly reviewable datasets thoroughly analyzing all hazards on the seafloor – manmade or natural – and describe in detail the comparative risk of a port being built in an as-yet-to-be-determined manner on a fault line over several exiting utilities and amidst many shallow hazards versus the status quo/no action alternative.**

#### ***Archeological Resource Survey and Cultural Resources Assessment (Federal and State Reports)***

Data on cultural resources and archeological sites, used to ensure “that there were no fatal flaws and then investigated both potential pipeline routes to establish the better route for the pipeline and to ensure there were no seabed obstructions that would impact construction,” are also confidential.<sup>91</sup> According to Liberty LNG, consultants surveyed the seafloor in the port area “to identify hazards that could impact permitting and construction.”<sup>92</sup> The results of these surveys, to the extent they have been disclosed, note that “[o]f the charted wrecks, 9 lie within the 1.0-mi (1.6-km) buffer zone of the proposed Port Ambrose corridor within New York state waters,”<sup>93</sup> and “18 lie within the 1.0-mi (1.6-km) buffer zone within the federal waters section of the Project.”<sup>94</sup>

In reviewing the cultural resource and archeological impacts of this port, using the limited publicly available information from the application, the public cannot meaningfully participate. Liberty LNG stated that “[t]he specific details, including the location for each wreck, are provided in the” State and Federal reports, which are confidential.<sup>95</sup> These reports form the basis of proposed “avoidance buffers” for state and federal waters.<sup>96</sup> Unfortunately, without knowing the specific details of the wrecks and obstructions or the details of the proposed avoidance buffers (especially given the public also has not been given access to specifically proposed construction methods, vessels, or schedules), it is impossible to adequately comment on the potential environmental and economic impacts of the proposed port. **Any Draft EIS must contain publicly reviewable descriptions of the types, locations, and vulnerabilities of the cultural resources around the port, and must thoroughly, specifically, and publicly show how the port construction and operation will affect those resources and the economies that rely thereon (especially in relation to the existing economies reliant on cultural resources which should be clearly described in the status quo/no action alternative description).**

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<sup>90</sup> Liberty LNG Application, Volume II, Report 7, at 7-9 (emphasis added).

<sup>91</sup> Liberty LNG Application, Volume II, Report 2, at 2-32.

<sup>92</sup> Liberty LNG Application, Volume II, Report 5, at 5-1.

<sup>93</sup> Liberty LNG Application, Volume II, Report 5, at 5-6.

<sup>94</sup> Liberty LNG Application, Volume II, Report 5, at 5-7.

<sup>95</sup> Liberty LNG Application, Volume II, Report 5, at 5-6, and 5-7.

<sup>96</sup> Liberty LNG Application, Volume II, Report 5, at 5-9.

***Construction and Operation***

In reviewing impacts from construction and operation, several confidential datasets from the application prevent meaningful review by the public. Those datasets inform three major areas of concern: jobs, onshore staging areas, and marine mammal and sea turtle avoidance plans.

First, Liberty LNG claims that “an estimated 685 workers will be required for construction of the Mainline, including geotechnical evaluations and field office support,” yet refuses to disclose specific data as to how it arrived at this estimate.<sup>97</sup> In order to develop such a precise number, balancing the need for a “mix of labor, including supervisors, skilled labor, and unskilled labor,” specific examples of what those jobs are, and for what duration those jobs will be needed, must be available. Furthermore, some specifics must be available for who Liberty LNG hopes to hire, given that the company estimates “that approximately 65 percent of the workers (approximately 445 personnel) needed to construct the Mainline will be from the local area.”<sup>98</sup>

Given that job creation claims are the fundamental element in socioeconomic reviews, and key to the balancing that must be done to compare jobs with Liberty LNG to jobs under the no action alternative, specific data on what specific jobs are expected (and for what duration) must be included in the Draft EIS. Without such specificity, conclusions reached in the Draft EIS on the overall socioeconomic benefit (or harm) generated by Liberty LNG cannot be verified by the public or meaningfully commented on. More specific information on jobs hypothetically created by Liberty LNG must include details about: length of contract, timing of employment, total number of workers, and information on whether skilled expertise is needed and where those experts are usually hired from. Given that subsea pipelines are regularly installed all across the Gulf region, and that two deepwater ports of this exact design were completed recently in New England, this information should be readily available and accessible by MARAD and the USCG.

Second, too many elements of the onshore staging areas proposed by Liberty LNG are kept confidential for meaningful public review. In the application, Liberty LNG discloses that it “is conducting reviews and site inspections of multiple sites in [Staten Island, NY, Port Coeymans, NY, and Quonset Point, Rhode Island].”<sup>99</sup> This is the extent of the information made available to the public about onshore facilities. Much like many other elements of this port application, Liberty LNG claims that specific decisions, like the selection of “a suitable location” are “expected ... during the development stages.”<sup>100</sup> To keep the criteria to be used for site selection, details on the sites, and details about proposed uses at these sites confidential violates the requirements of NEPA and the DPA’s environmental review criteria. Without this data, the public cannot meaningfully examine the potential onshore impacts of this port’s construction and operation and cannot review the USCG and MARAD balancing of these impacts against the status quo/no action alternative.

Third, Liberty LNG’s plans for avoiding impacts to marine mammals and sea turtles, essential elements in any public review of any project, are kept confidential. As discussed below in a review of other endangered species, marine mammals, and sea bird impacts from Port Ambrose, these species of

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<sup>97</sup> Liberty LNG Application, Volume II, Report 6, at 6-19.

<sup>98</sup> Liberty LNG Application, Volume II, Report 6, at 6-19.

<sup>99</sup> Liberty LNG Application, Volume II, Report 6, at 6-18.

<sup>100</sup> Liberty LNG Application, Volume II, Report 6, at 6-18.

concern need a heightened level of protection, especially from projects like this proposed port. Liberty LNG, in its application, clearly describes the potential for adverse interactions:

*“Installation of the Port and pipelines will require increased vessel traffic in the Project vicinity, thereby increasing the potential risk of a collision with marine fauna. The types of construction vessels likely to be used include tugs, dive boats, crew vessels, anchor handling vessels, and a variety of barges and support vessels.”<sup>101</sup>*

Unfortunately for the public, Liberty LNG’s internal analysis of how it plans on addressing these potential threats is kept confidential. The public can only see, in the Liberty LNG application, that the applicant has decided that the “risk associated with vessel strikes or disturbance to protected species during construction, operation, and/or decommissioning of the proposed Project” will be minimized.<sup>102</sup> Specific “measures that will be implemented to minimize the risk,” including requiring that Liberty LNG and contractors “adhere to construction vessel strike minimization measures,”<sup>103</sup> and that “construction vessels travel at slow speeds and are either positioned in one area or move slowly along the pipeline route” are part of this confidential plan.<sup>104</sup>

Even the data used to back up assertions by Liberty LNG that “[t]he increase in construction vessel traffic will be minor and short term compared to existing vessel traffic in the Project area”<sup>105</sup> and that “[a]ssuming 45 LNGRVs per year visiting Port Ambrose after the two buoys have been installed, the Project will represent a minor increase in deep draft vessel traffic in the Project area, compared to existing conditions” are kept confidential.<sup>106</sup>

This data, from vessel traffic to operations procedures limiting construction vessel speeds, must be made publicly available in the Draft EIS. Conclusions made by Liberty LNG that are not based on actual science (e.g., statements of impact significance based not on any metrics beyond net increase in vessel traffic) should also be made available to the public, as these conclusions form the basis for Liberty LNG’s assertions on the safety of this port for species like marine mammals and sea turtles. In balancing the state of marine mammal and sea turtle populations under the status quo/no action alternative against the impacts that would result from an at-capacity LNG port, MARAD and the USCG must present clear data for public review.

### iii. Conclusions and Official Request for Disclosure

Under the implementing regulations for the Deepwater Port Act, “[a]ny person can object to” claims of confidentiality.<sup>107</sup> Those objections must be submitted to the USCG, in writing, with “sufficient specificity to identify the information at issue, and to show why it should or should not be considered privileged.”<sup>108</sup> If the USCG “determine[s] that the information at issue is so material that processing of

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<sup>101</sup> Liberty LNG Application, Volume II, Report 4, at 4-63.

<sup>102</sup> Liberty LNG Application, Volume II, Report 4, at 4-63.

<sup>103</sup> Liberty LNG Application, Volume II, Report 4, at 4-89.

<sup>104</sup> Liberty LNG Application, Volume II, Report 4, at 4-63.

<sup>105</sup> Liberty LNG Application, Volume II, Report 4, at 4-63.

<sup>106</sup> Liberty LNG Application, Volume II, Report 4, at 4-68.

<sup>107</sup> 33 CFR § 148.221(a).

<sup>108</sup> 33 CFR § 148.221(b).

the application must be suspended pending the determination of the claim,” DPA review (including NEPA review) may be suspended.<sup>109</sup>

Under the USCG’s deepwater port regulations, Clean Ocean Action hereby asks that these comments serve as the written objections to confidential sections of the deepwater port license application submitted by Liberty LNG and request for disclosure. Furthermore, Clean Ocean Action asks that the USCG stay review (including NEPA review) of this license application until the materials referenced above are released.

In sum, highly significant information regarding the siting, construction, operation, and ultimate decommissioning of Port Ambrose has been kept confidential (even for Adjacent Coastal State Governors – for state review of the port application).

This information is very relevant to the preparation and review of a Draft EIS, and therefore should be made public. In over a hundred instances, Liberty LNG’s claims on how minimal the port’s impacts will be rest on data that the public has no access to. In order for the Draft EIS to be complete, these data must be included and these conclusions must be made based on open and accessible analyses.

**c. Major deficiencies in the application demand that the NEPA process be postponed**

In addition to failures in adequate assessment of alternatives and project need (see below) there are several other major deficiencies in the Liberty LNG application. These deficiencies represent significant gaps in the record and should be filled or addressed before any review is initiated.

**i. New Jersey Coastal Zone Consistency Review not included**

According to the Deepwater Port Act 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.”<sup>110</sup> In the Notice of Application for Port Ambrose, the Maritime Administration stated that the port “application contains all information required by the Act to initiate the licensing review and approval process.”<sup>111</sup> That posting also gave notice that the states of New York and New Jersey are both ‘adjacent coastal states’ for the purposes of Deepwater Port Act review.<sup>112</sup>

However, it is apparent that Liberty LNG has failed to submit such a request with respect to New Jersey. The federal docket includes a “Draft Statement of Compliance with the New York State Coastal Zone Management Program” but does not contain any such document regarding New Jersey’s CZM Program.<sup>113</sup>

Because the Port Ambrose application lacks the coastal zone request for consistency certification for New Jersey, it is clearly deficient and cannot move forward. The DPA clearly states that, with respect to

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<sup>109</sup> 33 CFR § 148.221(d).

<sup>110</sup> 33 CFR 148.105(j).

<sup>111</sup> Notice of Application, *supra*. 78 F.R. at 36014.

<sup>112</sup> *Id.*

<sup>113</sup> See Draft Statement of Compliance with the New York State Coastal Zone Management Program, Liberty LNG Docket # USCG-2013-0363-0002.

deficient applications, the Maritime Administration must “take no further action with respect to the application until such deficiencies have been remedied.”<sup>114</sup>

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.”<sup>115</sup>*

In other words, the USCG and MARAD admit that the application does not comply with the standards set for “complete” applications, yet are allowing the processing of the application to continue. This clearly contradicts the statutory mandate to “take no further action with respect to the application until such deficiencies have been remedied.”<sup>116</sup> The agencies decided that “delaying commencement of scoping” was not warranted, because it would restrict “the early involvement of the public in consideration of Liberty’s application”<sup>117</sup> This rationale is inherently contradictory: how can waiting for complete information “restrict” public review? Nonetheless, there is no rationale given to demonstrate what standard the USCG and MARAD applied in deciding to preclude the public’s review of the impacts this port would have on the New Jersey coastal zone.

Clean Ocean Action continues to maintain that the processing of this application without a DPA-required New Jersey coastal zone consistency review is illegal. If the agencies decide to continue illegally reviewing this application and proceeding with DPA processes (such as NEPA review), the Draft EIS should, at the very least, not be released until this deficiency is remedied.

## **ii. Identified data gaps must be closed, with publicly reviewable analyses**

In the preliminary DPA “completeness” review of the Liberty LNG application, over 150 unique data gaps were identified by a handful of federal agencies and the port application consultant, Tetra Tech.<sup>118</sup> These data gaps represent significant impediments to public and agency review of the port and its impacts, and affect every aspect of the application.

Regarding, specifically, conflicts between Port Ambrose and proposed offshore wind energy development, BOEM identified enough data gaps to trigger this statement:

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<sup>114</sup> 33 U.S.C. 1504(c)(1).

<sup>115</sup> Response Letter to Clean Ocean Action from U.S. DHS/CG and U.S. DOT/MARAD, Liberty LNG Docket # USCG-2013-0363-0015.

<sup>116</sup> 33 U.S.C. 1504(c)(1).

<sup>117</sup> Response Letter to Clean Ocean Action from U.S. DHS/CG and U.S. DOT/MARAD, Liberty LNG Docket # USCG-2013-0363-0015.

<sup>118</sup> Expanded Port Ambrose Combined Comment Data Request Matrix (hereinafter “Data Gaps”), Docket # USCG-2013-0363-0013.



*“Based on the [data gaps] and the limited outreach efforts of the applicant to include NYPA and BOEM in the port’s site selection process prior to delivering their application to USCG and MARAD, we recommend this application be deemed incomplete until there is a plan in place to address BOEM and BSEE’s identified concerns.”<sup>119</sup>*

The USCG and MARAD’s ultimate decision to overrule this recommendation and find the Liberty LNG application was “complete” did nothing to address these concerns. Despite the fact that the agencies themselves admit that the DPA “clock” provides little flexibility once an application is deemed complete, and that the entire NEPA process must be finalized within a relatively short 240 days, both agreed that the data gaps could be addressed in the Draft EIS stage.

Given that the 240-day clock for the entire NEPA process (under the DPA) has already been running for, at the time of these comments, 60 days, we are concerned that these data gaps will not be fully addressed in the Draft EIS for meaningful comment and review. In the last 180 days of the official DPA “clock” left after scoping, the Draft EIS must be written and public hearings held; then, those comments must be reviewed and incorporated into a Final EIS, which must then be written; finally, the last public hearings must be held.

This leaves a narrow, weeks-long window for addressing these concerns:

#### ***Renewable Energy and Conservation Alternatives***

- BOEM’s concern that “The Conservation Alternative is dismissed in cursory fashion with no apparent attempt at quantification of the amount (e.g. 1 percent or 5 percent) that might be saved.”<sup>120</sup>
- BOEM’s concerns that “At a minimum, we find this section does not address potential conflicts that could exist between a LNG facility and a large wind power project operating in the same area.”<sup>121</sup> and that “a more thorough discussion needs to be included in the Liberty application to this point.”<sup>122</sup>
- BOEM’s concerns that “Liberty’s statement that its LNG Port would have only a ‘minimal effect’ on the proposed wind facility needs further consideration given that LNG vessels are up to 300 m in length and that such vessels themselves require special safety considerations, such as safety zones that are extended out to 1500+ meters (2.73 square miles per buoy) during offload procedures (which Liberty has indicated could take up to 17 days to complete, with 40+ deliveries occurring each year).”<sup>123</sup>
- NMFS’s concern that “the Port Ambrose project applicant should consider cumulative effects of [having both the offshore wind and LNG] projects on fish habitat, fishery resources and commercial and recreational fishing activities.”<sup>124</sup>

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<sup>119</sup> Email from Jarvis Abbott, Petroleum Engineer, DOI/BSEE regarding DPA “completeness” to Roddy Bachman, USCG Project Lead, on October 23, 2012, obtained in a Freedom of Information Act (FOIA) request. Available from Clean Ocean Action.

<sup>120</sup> Data Gaps, item #15, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>121</sup> Data Gaps, item #84, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>122</sup> Data Gaps, item #85, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>123</sup> Data Gaps, item #85, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>124</sup> Data Gaps, item #88, Liberty LNG Docket #USCG-2013-0363-0013.

### ***Shoreside Facilities & Cultural Impacts***

- BOEM’s concern that the “onshore facilities that will support construction activities and those that will support the O&M component are addressed minimally;” and, that, “given the controversial nature of LNG projects, additional information on the onshore impacts and/or benefits seem appropriate.”<sup>125</sup>
- NMFS’s concern about application thoroughness: “In order to evaluate the direct, indirect, individual, and cumulative effects of the proposed DWP, we recommend that a full and complete discussion of the landside impacts be included in the deepwater port application.”<sup>126</sup>
- USCG’s own concerns about “the impacts of having onshore staging area for urea and mercaptan tanks to resupply LNGRVs,” especially as the application apparently doesn’t even note the “storage volume for these agents.”<sup>127</sup>
- Tetra Tech’s concern that there is “no information about [onshore] staging area[s] within the cultural resources survey reports” upon which to base a decision.<sup>128</sup>
- BOEM’s concern that “the STL buoys will be moored by 8 pile driven anchors buried to a depth of 50-100 feet [but] the archaeology report ... only considers a maximum potential disturbance depth from the project to be 15 feet,” leading to an entire section of the seabed impacted without any review.<sup>129</sup>

### ***Cumulative, Socioeconomic Impacts, and Project Need***

- BOEM’s concern that cumulative construction impacts of offshore wind and LNG ports are not considered yet, even though “timelines change all the time.”<sup>130</sup>
- BOEM’s concerns that the discussion of specifics on actual socioeconomic impacts from the “small” number of permanent jobs - and the therefore small potential “long term economic/jobs benefit” – isn’t thorough.<sup>131</sup>
- Tetra Tech’s concern that information on “nonlocal workers required for the project...including why nonlocal workers are required...and where these workers would be from” is not included.<sup>132</sup>
- BOEM’s concerns on about the outdated need assessment, given that “[natural gas] prices in the USA are very low at present and are expected to stay low for the foreseeable future.”<sup>133</sup>
- BOEM’s concern that recent changes in the natural gas marketplace seem “to be ignored in this ICF report or the ICF report is mischaracterized ... ,” given that 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.”<sup>134</sup>
- Tetra Tech’s concern that “There are several places where [Liberty LNG concludes that] ‘expected noise levels are anticipated to be negligible compared to existing background noise in

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<sup>125</sup> Data Gaps, item #112, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>126</sup> Data Gaps, item #103, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>127</sup> Data Gaps, item #126, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>128</sup> Data Gaps, item #79, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>129</sup> Data Gaps, item #75, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>130</sup> Data Gaps, item #83, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>131</sup> Data Gaps, item #121, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>132</sup> Data Gaps, item #125, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>133</sup> Data Gaps, item #120, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>134</sup> Data Gaps, item #120, Liberty LNG Docket #USCG-2013-0363-0013.

the New York Bight and is expected to have insignificant impacts” but there is “no supporting data to verify this statement.”<sup>135</sup>

- Tetra Tech’s concern that this baseless claim of no expected significant impact is also invoked by Liberty LNG in vessel traffic and noise sections.<sup>136</sup>

### ***Endangered Species***

- BOEM’s concern that “the American eel is a species which might be affected, a species whose status under ESA is being reviewed,” and that this species isn’t included in EIS review.<sup>137</sup>
- NMFS’s concerns that “species of whales, Atlantic sturgeon, and sea turtles were identified and briefly described in the document, [but] potential effects to these species from the proposed construction, operation, including maintenance and repair, and decommissioning of the LNG terminal were not fully identified or assessed,” which led to their recommendation that “a detailed and complete analysis of potential impacts on each of the endangered and threatened species and marine mammals” be included.<sup>138</sup>

### ***Fish and Fisheries***

- NMFS’s concern that the application does not include (and therefore the Draft EIS must study and assess) “fisheries information, including information on the economic impacts of a potential fisheries exclusion zone, as the applicant seeks authorization for an exclusion zone of 500 meters around each buoy, as well as 1000 meter no anchor zone.”<sup>139</sup>
- NMFS’s concerns that the port will impact Cholera Bank and “adjacent Middle Ground, Angler Bank, East of Cholera and Mussel Grounds [which] are all important recreational and commercial fishing grounds.”<sup>140</sup>
- NMFS’s concern that the application does not, overall, “discuss the economic impacts caused by the creation of an exclusion zone that would preclude commercial and recreational fishing activity in the area.”<sup>141</sup> This exclusion, notes NMFS, could lead to “displacement of existing commercial fisheries into other areas resulting in increased fishing pressure to other locations.”<sup>142</sup>
- BOEM’s concerns that the application fails to analyze impacts of the port on lower trophic level organisms, noting that the application states “what will not be affected (larger, mobile organisms) [but s]hould also state what will be affected (fish eggs, larvae, small invertebrates, small fish).”<sup>143</sup>

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<sup>135</sup> Data Gaps, item #106, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>136</sup> Data Gaps, item #107, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>137</sup> Data Gaps, item #46, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>138</sup> Data Gaps, item #134, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>139</sup> Data Gaps, item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>140</sup> Data Gaps, item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>141</sup> Data Gaps, item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>142</sup> Data Gaps, item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>143</sup> Data Gaps, item #32, Liberty LNG Docket #USCG-2013-0363-0013 (emphasis added).

- BOEM's concerns that climate change impacts to fisheries are not included in this application, even though "Atlantic fish have been changing their ranges, adding uncertainty. Some species have been moving north and some have been moving further offshore."<sup>144</sup>
- NMFS's determination that the studies on entrainment of ichthyoplankton "cannot be considered a valid assessment of the potential entrainment effects of the proposed project" because the "data are taken from an environment that is not representative of the conditions, habitat, and larval densities that may be found at the DWP site or along the pipeline alignment."<sup>145</sup>
- NMFS's concern that there hasn't been enough analysis of the "up to 1.93 million gallons of seawater per day, per LNGRV for ballast water as the natural gas is off-loaded from the vessel into the pipeline[, ...] approximately 3.5 million gallons of seawater will be needed to flood and test the trunk line and offshore lateral transmission line and approximately 8.2 million gallons of water will be utilized for DWP commissioning."<sup>146</sup>

### ***Environmental Impacts***

- NMFS's concern that the "alteration of the physical marine environment will include not only the destruction and alteration of the benthic community and habitat but will also include 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," and that "additional analyses of the effects of these alterations, both short term (i.e., construction phase) and long term (i.e., operation of the port), are necessary."<sup>147</sup>
- NMFS's concern that "The report does not sufficiently address the alteration of the benthic community (e.g., amount removed, recovery time) or turbidity plumes produced by each construction activity."<sup>148</sup>
- Tetra Tech's concern that "More detail will be needed to understand suspended solids and dispersion from the disturbed area from jet plowing," especially if dioxins are present.<sup>149</sup>
- BOEM's concerns that Liberty LNG makes "Multiple negligible effects decisions ... without any citation[s];" providing no evidence why accidental releases of petroleum products, LNG, or other chemicals are not significant environmental issues.<sup>150</sup>
- BOEM's concern that the application claims that LNG is non-toxic and "would dissipate quickly" without actually providing evidence, data, or studies to prove so.<sup>151</sup>
- Tetra Tech's concern that fugitive emissions of methane are claimed to be minimal, yet are not actually quantified.<sup>152</sup>
- BOEM's concern that Liberty LNG makes baseless assumptions about the relative impact on local noise and vessel traffic from vessels; impacts which should be quantified.<sup>153</sup>

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<sup>144</sup> Data Gaps, item #46, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>145</sup> Data Gaps, item #66, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>146</sup> Data Gaps, item #176, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>147</sup> Data Gaps, item #71, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>148</sup> Data Gaps, item #71, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>149</sup> Data Gaps, items #168, 156, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>150</sup> Data Gaps, item #142, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>151</sup> Data Gaps, item #35, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>152</sup> Data Gaps, item #10, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>153</sup> Data Gaps, item #33, Liberty LNG Docket #USCG-2013-0363-0013.

- Tetra Tech’s concern that there is no review of the “acoustic footprint” of maintenance and repair vessels and operations (minor and major).<sup>154</sup>
- Tetra Tech’s concern that the application review, thus far, does not quantify risks to the port or pipeline from the “not well understood fault line [which] exists beneath a section of the proposed pipeline;” simply declaring such risks minimal.<sup>155</sup>

### ***Alternative Port & Pipeline Sites***

- Tetra Tech’s concerns that the Port application does not adequately address what “regulatory concerns” stand in the way of having “Study Area B” included as an alternative port site, noting that review should incorporate “further details regarding the specific regulatory issues that were determined to be fatal flaws for this alternative port area.”<sup>156</sup>
- NMFS’s concerns that “a robust discussion of alternate locations for the proposed project and alternative alignments for the subsea pipeline is lacking” even though, as NMFS notes, an “evaluation of reasonable alternatives is required for the NEPA analysis. See 40 C.F.R. §§ 1502.14.”<sup>157</sup>
- NMFS’s specific concern that a Draft EIS would too narrowly consider alternatives, leaving out “a discussion of practicable alternatives that are less damaging to the environment.”<sup>158</sup> Indeed, the USCG and MARAD have noted that the alternatives to be considered are only No Action, Port as proposed, or Port as proposed with conditions – and will not even potentially consider in the Draft EIS other locations and routes.
- NMFS’s concerns that the alternatives analysis “does not clearly identify and discuss the criteria used to select the DWP location or pipeline routes or why other locations within the New York Bight are unsuitable.”<sup>159</sup>

These data gaps, in addition to the others not highlighted here, must be “filled” in the Draft EIS with new, up-to-date data and analyses. Moreover, specifically, the Draft EIS cannot, and should not, make unsubstantiated conclusions on impacts like noise, toxicity, or water quality without clearly identifying the baseline data used (from the NY Bight and other similar ports) used to make those claims.

### **iii. Superstorm Sandy must be taken into account**

Given the scope of impacts from Superstorm Sandy to all aspects of the coastal community (from the very people of the region to our ecosystems and economies), this Draft EIS cannot be completed without a thorough reexamination of the Liberty LNG Port Ambrose application.

### ***Changed status quo***

After Superstorm Sandy, disaster preparedness, mitigation, vulnerability, and adaptation became fundamental elements of environmental reviews for any proposal – that Liberty LNG’s application is

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<sup>154</sup> Data Gaps, item #56, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>155</sup> Data Gaps, item #100, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>156</sup> Data Gaps, item #17, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>157</sup> Data Gaps, item #21, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>158</sup> Data Gaps, item #21, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>159</sup> Data Gaps, item #22, Liberty LNG Docket #USCG-2013-0363-0013.

entirely silent on the issue is unacceptable. According to a resolution from the New Jersey Legislature calling for Congress to appropriate funding for fisheries disaster aid,

*“Hurricane Sandy left in its wake innumerable damaged and destroyed homes and businesses, thousands of displaced and homeless citizens, tens of billions of dollars in economic losses, and hundreds of miles of wrecked coastline, with the most severe impacts occurring in the states of New Jersey and New York, where the hurricane made landfall.”<sup>160</sup>*

The storm’s effect on the region was not lost on Tetra Tech, the consulting firm hired by the USCG and Liberty LNG to review these comments and develop this Draft EIS. Project lead Craig Wolfgang noted, in an email to USCG Project Lead Roddy Bachman, that:

*“I think we may want to [discuss] ‘Implications of Hurricane Sandy.’ We already discussed the effect on the scoping meeting and schedule, but I think we can also assume either public or agency comments regarding what effect the storm would have had on the port ... . We may want Liberty to reevaluate their metocean data and criteria in light of the recent storm data.”<sup>161</sup>*

Indeed, the USCG referred to Superstorm Sandy’s potential effect on the project in general as the “600-lb. gorilla in the room.”<sup>162</sup>

### **Fisheries**

Most of the long term-impacts from Sandy are still being sorted out – in all aspects of coastal life along the Jersey Shore and Long Island South Shore. For one sector, fisheries, the federal government has taken stock of some of the impacts reported thus far, and the results are significant.

In responding to and recovering from Superstorms like Sandy, NOAA, affected fishery communities and the fishermen themselves can petition the Secretary for a fishery disaster determination. If a fishery disaster is declared, NOAA can use specially-allocated funds to address the problems that are unique to major disasters and not related to management of a resource. Superstorm Sandy struck New Jersey and New York on October 29, 2012. Two weeks later, on November 16, the Secretary of Commerce “declared a federal fisheries disaster in New York and New Jersey, citing Magnuson–Stevens Fishery Conservation and Management Act (MSA) Section 315 and Interjurisdictional Fisheries Act (IFA) Section 308(d).”<sup>163</sup>

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<sup>160</sup> NJ Legislature; Resolution AR178/SR110. Available at [http://www.njleg.state.nj.us/2012/Bills/AR/178\\_I1.HTM](http://www.njleg.state.nj.us/2012/Bills/AR/178_I1.HTM) (last visited August 1, 2013).

<sup>161</sup> Email between Tetra Tech and USCG, November 13, 2012, obtained in a Freedom of Information Act (FOIA) request. Available from Clean Ocean Action.

<sup>162</sup> USCG Meeting Agenda, *Port Ambrose Project Kick-Off Meeting, US Coast Guard Headquarters, November 14, 2012*, obtained in a Freedom of Information Act (FOIA) request. Available from Clean Ocean Action.

<sup>163</sup> Regional Impact Evaluation; An Initial Assessment of the Economic Impacts of Sandy on New Jersey and New York Commercial and Recreational Fishing Sectors, at 1-2 (hereinafter “Sandy Report”). NOAA Fisheries, Office of Science & Technology and Northeast Fisheries Science Center, March 15, 2013 (available at [http://www.st.nmfs.noaa.gov/Assets/economics/documents/sandy/Final\\_Report\\_Sandy\\_Regional\\_Impact\\_Evaluation\\_MSA.pdf](http://www.st.nmfs.noaa.gov/Assets/economics/documents/sandy/Final_Report_Sandy_Regional_Impact_Evaluation_MSA.pdf)), at 1.

Fishery disasters are defined under the IFA as a “fishery failure or serious disruption affecting future production due to a fishery resource disaster arising from natural or undetermined causes.”<sup>164</sup> Since the first statutory fishery disaster provisions, there have been 51 declared disasters.<sup>165</sup> For disasters like Superstorm Sandy, Congress must appropriate funds for disasters. Congress, in January 2013, did appropriate “a total of \$60.2 billion in federal resources to assist the states affected by Hurricane Sandy in their Sandy-related recovery and rebuilding efforts, only \$5 million of this total amount was earmarked for the rehabilitation of devastated fishing industries.”<sup>166</sup>

In a resolution calling for more federal funding for fishery disaster relief, the New Jersey Assembly cites March, 2013, NOAA released data from an initial survey conducted as part of its disaster procedures which stated that:

*“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.”<sup>167</sup>*

Specifically, in New York, 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).”<sup>168</sup>

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.”<sup>169</sup>

Overall, the Draft EIS must contain a thorough reexamination of all of the baseline assumptions, no action alternative data and trends, socioeconomics, economics, energy needs, state and local policies, ecological and environmental impacts and baselines, and safety standards – all looked at using what we now know regarding the potential for severe weather and the new status quo of the economies, ecologies, and policies of New York and New Jersey. Superstorm Sandy forever changed the way we plan, build, use, and see the coastal zone and ocean, and this project, sitting in the middle of the Bight, must be considered in light of this new understanding.

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<sup>164</sup> *Id.*

<sup>165</sup> NOAA: Fisheries, Commercial Fishery Disaster Determinations (available at [http://www.nmfs.noaa.gov/sfa/sf3/disaster\\_determinations.htm](http://www.nmfs.noaa.gov/sfa/sf3/disaster_determinations.htm)).

<sup>166</sup> NJ Legislature; Resolution AR178/SR110. Available at [http://www.njleg.state.nj.us/2012/Bills/AR/178\\_I1.HTM](http://www.njleg.state.nj.us/2012/Bills/AR/178_I1.HTM) (last visited August 1, 2013).

<sup>167</sup> NJ Legislature; Resolution AR178/SR110. Available at [http://www.njleg.state.nj.us/2012/Bills/AR/178\\_I1.HTM](http://www.njleg.state.nj.us/2012/Bills/AR/178_I1.HTM) (last visited August 1, 2013).

<sup>168</sup> Sandy Report, *supra*.

<sup>169</sup> *Id.*

**d. Conclusions on data gaps and deficiencies**

Without this expanded knowledge base, the public cannot adequately review the port proposal for environmental, economic, and social impacts, nor adequately balance the somewhat limited alternatives against each other. For example, without knowing specifically how many jobs will be created (for how long, where, and when), there can be no comparison to the existing fishing, tourism, coastal recreation, and shipping jobs that will be affected by the exclusion zones and operational, construction, and maintenance impacts.

Despite the fact that Liberty LNG’s application was fatally flawed in over 150 uniquely identified ways, that Liberty LNG kept confidential over 60% of the application materials, and that impacts from Superstorm Sandy and the New Jersey coastal zone review are entirely missing, this application was deemed complete. The Draft EIS must address these failures by filling these data gaps, remedying the deficiencies in the application, and incorporating comments provided in the original Liberty LNG application from 2010.

Once the data gaps are filled, the New Jersey Coastal Zone consistency documents filed, Superstorm Sandy effects on the license application presumptions assessed, confidential data and conclusions based thereon made public, the Governor’s veto from 2011 (as affirmed in 2012) incorporated into the record, and other deficiencies remedied, COA will submit additional scoping comments.

**III. LACK OF NEED, NARROW ALTERNATIVES ASSESSMENT**

**a. Need assessment from Liberty LNG misleads the public and mischaracterizes the state of existing LNG energy markets**

“Need” is a vital element of NEPA review; for this proposed port, the supplied assessment, developed by ICF, 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.”<sup>170</sup> The first enumerated “relevant environmental consideration” that informs this analysis provides that “[c]onstruction and operation of the deepwater port [must] be in the national interest.”<sup>171</sup>

Here, while Liberty LNG attempts to define a need for “new and diverse natural gas supplies in New York,” evidence and data on actual national natural gas trends prove otherwise.<sup>172</sup>

***Marketplace Shift to Exports***

Liberty LNG submitted with their application a report titled “Needs Assessment for Port Ambrose” written on July 12, 2012.<sup>173</sup> In the report, ICF 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

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<sup>170</sup> 33 C.F.R. § 148.710(a).

<sup>171</sup> 33 C.F.R. § 148.710(a)(1).

<sup>172</sup> Liberty LNG Application, Volume II, Report 2, at 2-1.

<sup>173</sup> See Liberty LNG Application, Volume IVb.



prices will decline \$0.25 to \$6.00 per MMBtu compared to prices without Port Ambrose.”<sup>174</sup> In other words, imports from Port Ambrose will hypothetically save New Yorkers money.

Leaving aside (1) that impacts to the price of natural gas in New Jersey from either imports or exports are not assessed, (2) that the federal agencies reviewing this assertion called foul at the use of nation-wide models for local extrapolation, and (3) that 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.”<sup>175</sup> In truth, gas prices and costs of production are low, and have been for 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*.”<sup>176</sup> Despite the fact that ICF delivered this report to Liberty LNG in 2012, they used data from several years ago. According to a report by the Energy Information Administration (EIA), published six days after the ICF report was delivered, “[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**.”<sup>177</sup>

The 2011 EIA Annual Energy Outlook projections show that LNG imports are actually expected to bottom out at 0.14 Tcf per year – a little **less than a third** of the 0.45 Tcf imported in 2010.<sup>178</sup> This is backed up in the June 2013 “Short Term” energy update which concluded that over the next few years, “LNG imports are expected to remain at minimal levels of around 0.4 Bcf/d in both 2013 and 2014.”<sup>179</sup>

In their 2012 application, Liberty LNG claims that “Not including Port Ambrose, ICF forecasts U.S. LNG imports to grow from approximately 0.5 Tcf in 2010 to 0.7 Tcf by 2035.”<sup>180</sup> 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 their claim that there is a need for imported LNG was **off the mark by approximately 500%**.

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<sup>174</sup> Liberty LNG Application, Volume IVb, at 2.

<sup>175</sup> Liberty LNG Application, Volume IVb, at 7.

<sup>176</sup> Liberty LNG Application, Volume IVb, at 10 (emphasis added).

<sup>177</sup> U.S. Natural Gas Imports & Exports 2012, Available at <http://www.eia.gov/naturalgas/importsexports/annual/> (last visited August 1, 2013).

<sup>178</sup> EIA, Annual Energy Outlook 2011, Natural Gas Imports and Exports Table. Available at <http://www.eia.gov/oiaf/aeo/tablebrowser/#release=AE02011&subject=0-AEO2011&table=76-AEO2011&region=0-0&cases=ref2011-d020911a> (last visited August 1, 2013).

<sup>179</sup> EIA, Short Term Energy Update, at 6. Available at [http://www.eia.gov/forecasts/steo/pdf/steo\\_full.pdf](http://www.eia.gov/forecasts/steo/pdf/steo_full.pdf) (last visited August 1, 2013).

<sup>180</sup> Liberty LNG Application, Volume IVb, at 2.

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 ICF 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.”<sup>181</sup> 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.”<sup>182</sup>*

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:

*“[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.”<sup>183</sup>*

In sum, the data Liberty LNG uses to support its contention that there is a need for LNG imports are outdated, significantly so. Projections of natural gas costs for supply and production are off, as are the trends (where Liberty says something goes up, it has gone down). Estimates of long-term LNG import need are off by 500%. 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 USCG or MARAD. Any Draft EIS developed for this Port must reexamine the “need” of LNG imports by entirely reanalyzing the LNG marketplace.

#### **Updated data analyzed by Liberty’s own consultant yields different conclusions**

On May 15, 2013, Liberty LNG’s consultant for its needs assessment, ICF, released a report prepared for the American Petroleum Institute wherein it concludes entirely different conclusions about the future of LNG imports/exports are made.<sup>184</sup> According to ICF, there are some key differences in the trajectory of

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<sup>181</sup> Liberty LNG Application, Volume IVb, at 11.

<sup>182</sup> EIA, U.S. Natural Gas Imports & Exports 2012 - Prices, Available at <http://www.eia.gov/naturalgas/importsexports/annual/> (last visited August 1, 2013).

<sup>183</sup> Data Gaps, item 120, Docket # USCG-2013-0363-0013.

<sup>184</sup> 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”).

this market which should be incorporated into the new Draft EIS “need” 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.<sup>185</sup> The Draft EIS must not rely on a “need” assessment (which in turn leads to decisions about alternatives reviewed and forms baselines for many of the economic reviews) that is so fatally flawed.

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 slightly through 2007 before declining as a result of the shale gas revolution.*”<sup>186</sup> 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. The Draft EIS must take the fact that Liberty LNG’s own consultants were aware that their conclusions on national LNG trends and projections into consideration when reviewing any claims and assertions made by the energy company.

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).”<sup>187</sup>*

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 because it’s getting more expensive. These impacts from exports must be taken into consideration in the environmental, socioeconomic, and economic reviews included in the Draft EIS.

### ***Import facilities already shutting down, exports have displaced import need***

Two of the three existing deepwater LNG import facilities have shut down, and the third has not had a shipment in over three 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

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<sup>185</sup> API Report, at 2.

<sup>186</sup> API Report, at 60.

<sup>187</sup> API Report, at 71.

operational challenges, and changes in the global natural gas market.”<sup>188</sup> 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.”*<sup>189</sup>

Another 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 exports.<sup>190</sup> The fact that deepwater ports for importing LNG are shutting down and decommissioning, or switching to exports clearly shows that the “needs” assessment by Liberty LNG is dangerously outdated.

***Application review should not proceed without a new “needs” assessment***

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 will drive up prices – not save consumers money. Any Draft EIS developed for Port Ambrose must take a hard look at the national trend to exports and publicly, openly, and thoroughly appraise the actual economics of LNG imports and exports in this new marketplace.

**b. Alternatives too narrowly defined**

In USCG NEPA guidance, preparers of reviews like this Draft EIS are advised to “think carefully about what it is [they] are trying to accomplish” so as to “not to confuse the question of how to accomplish an alternative with the problem.” This issue is directly addressed in the USCG NEPA Handbook:

*“FOR EXAMPLE: Your staff is working under very cramped conditions, affecting their morale and ability to work efficiently. You would like to build a new building to move your staff.*

*✗ The problem is NOT: “I need a new building” (too narrow)—that is your proposed action.*

*✗ The problem is NOT: “How do I improve my staff’s morale and increase their efficiency?” (too broad)—that is a symptom of the problem, not the cause.*

*✓ The problem IS: “How do I adequately house my staff?” This allows for alternatives such as building additions, staff reductions, renovations/new office design, renting a different building, as well as the proposed action of building a new building.”*<sup>191</sup>

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<sup>188</sup> 78 F.R. 49603 (Wednesday, August 14, 2013).

<sup>189</sup> 78 F.R. 42587 (Tuesday, July 16, 2013).

<sup>190</sup> Main Pass Energy Hub – Project Description. Available at <http://www.mpeh.com/descrip.htm> (last visited August 1, 2013).

<sup>191</sup> USCG NEPA Guide.

According to NEPA implementation regulations, a Draft EIS serves “as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.”<sup>192</sup> Here, the alternatives being reviewed seem to be arbitrarily limited by Liberty LNG’s narrative that defines the problem as finding “new and diverse natural gas supplies in New York.”<sup>193</sup> As a result, the alternatives identified in the Notice of Intent included only the two required (no action and proposed action) and a twist on the latter (proposed action with conditions). Just as with the USCG NEPA Handbook example above, the narrow needs statement results in narrow identification of alternatives, and could violate the regulatory prescription against building alternatives in an EIS that simply justify decisions already made.

Alternatives should showcase differences between them and the proposed action, not just between proposed action and the proposed action with conditions. In other words, MARAD and the USCG must review alternatives that examine a need and purpose not limited to bringing new natural gas supplied, but examining the economics of imports and exports, renewables, conservation, or of a no action /status quo alternative which represents an accurate reflection of the current energy, superstorm, and climate realities of this region, and what those differences are.

Specifically, the no action alternative represents “the current state or the status quo.”<sup>194</sup> In analyzing this alternative, “status quo” does not simply mean an examination, here, of what the ocean would look like without a 20-mile trench or a pair of buoys. Analysis of this alternative requires development of a baseline “from which to compare the other reasonable alternatives.”<sup>195</sup> Establishing this baseline “is vital to the environmental planning process [and] must always be rigorously analyzed, even if it seems to be unreasonable and not likely to occur.”<sup>196</sup> The baseline for this project should include analyses of the proposed offshore wind facilities, of rebounding and robust fisheries, of the Port of New York and New Jersey’s expansion and deepening to accept more cargo, of global terrorism affecting LNG safety, and of increased climate risks from superstorms.

The No Action Alternative, as defined by Liberty LNG, is not a baseline description of the status quo – it is instead an attempt to discredit any other use of the ocean but Port Ambrose. The company’s description of the alternative actually goes so far as to claim that “[t]he no action alternative likely would involve some environmental impacts, in some cases, of a nature similar to or potentially greater than those of the proposed Project.”<sup>197</sup> A statement intended to convey the position that this region would be better off – no matter what – with Port Ambrose in the water is not a “No Action Alternative” – it is a press statement. Liberty LNG continues by claiming that, assuming there is “no significant decrease in growth of energy demand, the no action alternative would have to involve the construction or development of some type of other energy-related infrastructure.”<sup>198</sup> Clearly the applicant’s view of the no action alternative is too narrow, and therefore is too limited for agency NEPA review.

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<sup>192</sup> 40 CFR 1502.2 (g).

<sup>193</sup> Liberty LNG Application, Volume II, Report 2, at 2-1.

<sup>194</sup> USCG “Environmental Consideration for Decision Making” NEPA Guide, at 10.

<sup>195</sup> USCG “Environmental Consideration for Decision Making” NEPA Guide, at 10.

<sup>196</sup> USCG “Environmental Consideration for Decision Making” NEPA Guide, at 10.

<sup>197</sup> Liberty LNG Application, Volume II, Report 2, at 2-4.

<sup>198</sup> Liberty LNG Application, Volume II, Report 2, at 2-4.

Any Draft EIS developed must take a hard look at the purpose and need under discussion and develop a baseline assessment of the ocean's ecology and economy, not just a baseline assessment of the natural gas infrastructure available to New Yorkers.

### c. Cumulative impacts insufficiently included

As noted in these comments, cumulative impacts are impacts “on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions” regardless of what agency is taking that action.<sup>199</sup> Here, there are numerous present and reasonably foreseeable actions which are not taken into account in the Liberty LNG application that must be fully reviewed in a Draft EIS. These actions, individually and in concert with Port Ambrose, will have cumulative impacts on the environment that cannot be ignored.

First, the Draft EIS must more fully account for increased vessel traffic, shipping lane congestion, and potential disruptions of commerce that could occur because of presently proposed actions (offshore wind areas, Port Ambrose, increasing commerce at the Port of New York and New Jersey), as well as reasonably foreseeable actions (LNG exports, National Ocean Policy). Within the crowded NY/NJ Bight, pilots, captains, and port managers will slow down traffic if there are use conflicts, shipping lane obstructions, or other impediments that threaten safe passage. Add to this already delicate traffic scheme 300m LNG tankers, offshore wind facilities, and increased small boat traffic (from fishermen and boaters being excluded from entire swaths of the ocean) and significant cumulative impacts will likely result.

The Port Authority of New York and New Jersey and BOEM both spoke to this point in scoping comments submitted for the Liberty LNG proposal:

- Port Authority: “any vessel wishing to maintain a minimum distance of 2 nautical miles, with an LNGRV engaged in the delivery of natural gas, could be **forced to alter course to port**,” and “**The 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 [LNG] buoys increases.**”
- BOEM “is **particularly concerned about navigational safety issues resulting from large LNG vessels operating in close proximity to offshore wind turbines...**” Furthermore, “BOEM 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.** ... In general, we find that the **application glosses over potential conflicts** that could exist between a LNG Port and a large wind power project operating in the same area, and includes minimal discussion on strategies for minimizing such potential conflicts.”

The Draft EIS should review these data gaps, should examine what economic and environmental consequences would result from contemporaneous construction of the offshore wind and LNG port projects, and should provide more finely-tuned vessel tracking data for the public to review.

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<sup>199</sup> 40 CFR § 1508.7.

Second, the Draft EIS must examine the environmental, social, and economic costs of the Williams-Transco “Rockaway Lateral” pipeline currently being reviewed. This pipeline is a clearly cumulative action that is presently before another agency which is directly relevant to Liberty LNG’s application. The Rockaway Lateral would, according to project proponents, provide 625 million cubic feet per day to the Brooklyn/Queens service area via National Grid’s Brooklyn-Queens Interconnect (BQI) Project.<sup>200</sup> If Liberty LNG is proposed as an import facility, the cumulative impacts of increased natural gas deliveries through this lateral, as well as through the existing Transco line – from potential need for new metering capacity, or expanded pipeline maintenance, repair, and monitoring – must be included in review. Under a potential export scenario (discussed more fully below), the cumulative impacts of the diversion of supply must also be analyzed. Given that the Transco pipeline is operating at full capacity already, and that Liberty LNG plans on tying into the pipeline for purported LNG imports, the projects should be discussed as, at the very least, cumulatively dependent on each other.

Not only must the operational cumulative impacts of the Rockaway Lateral and Port Ambrose be analyzed, potential construction, decommissioning, and maintenance impacts must be reviewed. Like offshore wind, if both the Rockaway Lateral and Port Ambrose are being built, tested, or repaired at the same time, the environmental effects (from biocides, for example) could be much worse than if each project was built, tested, or repaired individually. This quintessential cumulative analysis of co-located impacts, as presently proposed or reasonably foreseeable, should focus on water quality, coastal habitats, fish and fisheries, endangered and threatened species, and noise.

In sum, Liberty LNG was not proposed in a vacuum – offshore wind, Post-Panamax shipping and lateral pipelines diverting natural gas supplies are all active, present actions facing federal and state agencies. Individually and cumulatively, these actions should be reviewed in the Draft EIS.

#### **IV. REVIEW MUST INCLUDE LNG EXPORTS**

The legally allowed, technically feasible, and entirely foreseeable potential amendment of this port’s license from imports to exports (or both), means that the possibility of exports from Port Ambrose, and the effect those exports will have on the environment, should be included in this Draft EIS. LNG exports from Port Ambrose, under the DPA, NEPA, and regulations implementing both, must be included in many elements of this Draft EIS review – from assessments of alternatives to socioeconomic, environmental, and safety reviews.

First, LNG exports should be included as part of the No Action Alternative. For this “no action alternative, the environmental conditions [the USCG should examine] include the current state and the expected future state under the status quo.”<sup>201</sup> Whether looked at through the lens of project need or state, federal or global energy policy, the status quo for the U.S. natural gas market has entirely shifted toward exports. The status quo of the region cannot be said to be import-based, given the glut of production from shale gas plays, the closure and mothballing of LNG import facilities in New England, the amendment of the DPA to allow exports from deepwater ports, and the export activities of Dominion’s Cove Point (Maryland) LNG terminal. As such, if Liberty LNG is not built (the No Action Alternative), exports of LNG from regional ports and increases in local shale gas production will rise. A Draft EIS that fails to admit that “status quo” includes increased exports cannot be said to be accurate.

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<sup>200</sup> Rockaway Lateral, FERC Docket CP13-36, 2013 USACE Supplemental Information Update, at 11.

<sup>201</sup> USCG NEPA Guide, at 11.

Second, beyond the No Action Alternative, exports are foreseeable, potentially secondarily-induced effects of the Port's construction. The USCG should "evaluate the potential for changes to the environmental conditions with each of the reasonable alternatives and determine whether any changes are likely to be significant."<sup>202</sup> This evaluation of reasonable alternatives should include "[s]econdary and other foreseeable effects ... such as impacts on existing community facilities and activities inducing new facilities and activities."<sup>203</sup> According to the USCG NEPA Handbook, these foreseeable, induced, secondary activities "may often be even more substantial than the primary effects of the original action itself."<sup>204</sup> NEPA litigation, specifically, *Scientists' Institute for Public Information Inc. v. Atomic Energy Commission* "has made it clear that "reasonable forecasting" is implicit in NEPA"<sup>205</sup>

Here, with an LNG port that is tapped into the pipeline network close to one of the largest shale gas formations in the nation, that is owned by a company whose parent company's only other energy project is an LNG import facility of the exact same design proposed for offshore of the United Kingdom (a nation with significant LNG import demand) run by the exact same leadership and LNGRV operations team as Port Ambrose, that can legally amend its application to allow exports by simply petitioning MARAD in writing, and which is teamed up with an LNGRV company leading the world in at-sea liquefaction technology development, LNG exports are clearly foreseeable. Such exports may be procedurally "secondary" to the stated purpose of the port's license, but they are entirely foreseeable and the effects are most certainly "more substantial than the primary effects of the original action itself."<sup>206</sup>

If the USCG and MARAD decide that a review of the effect of exports from this facility are irrelevant, a statement should be made, in the Draft EIS and the ultimate port Record of Decision, to that effect. According to agency policy, if the USCG receives "input that [they] feel is irrelevant or insignificant, [they should] *not just ignore it!* These concerns must be acknowledged by a brief explanation of why [the USCG] found them without merit for further consideration."<sup>207</sup>

Third, the effect of LNG exports should be reviewed cumulatively. Cumulative impacts, which "can result from individually minor but collectively significant actions taking place over a period of time," are defined as

*"...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."*<sup>208</sup>

LNG exports from Dominion's Cove Point LNG facility, exports from other LNG ports and terminals, and the subsequent rise in natural gas prices, production, and worldwide demand for U.S. natural gas, when added to the impacts from Port Ambrose, could dramatically affect the environment and economy of

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<sup>202</sup> USCG NEPA Guide, at 11.

<sup>203</sup> USCG NEPA Handbook, at Attachment 2, Page 4.

<sup>204</sup> USCG NEPA Handbook, at Attachment 2, Page 4.

<sup>205</sup> 481 F.2d 1079 (D.C. Cir. 1973), Considering Cumulative Effects Under the NEPA, CEQ, Ch. 2, 19.

<sup>206</sup> USCG NEPA Handbook, at Attachment 2, Page 4.

<sup>207</sup> USCG NEPA Guide, at 29 (emphasis in original).

<sup>208</sup> 40 CFR § 1508.7.



the New York and New Jersey region. Cumulatively, even if the Port Ambrose facility is reviewed solely on the basis of imports, the needs assessment and the baselines used to estimate socioeconomic, environmental, safety, and security impacts must consider LNG exports.

In sum, whether as part of the No Action Alternative, as part of an updated baseline or cumulative impact assessment, as a secondarily foreseeable outcome of licensing, or as a possibly induced change to the region's energy economy, LNG exports and their effects must be included in the Draft EIS.

**a. Switching to exports is legally and technically achievable**

Deepwater ports were initially defined in 1974 as “non-vessel, fixed or floating manmade structures that are used as ports or terminals for the loading, unloading, or handling of oil for transportation to a state.” The 2002 amendment to the DPA expanded this definition to include licensing, construction, operation, and decommissioning of LNG port facilities.<sup>209</sup> MARAD and USCG manage ports beyond state waters, while FERC manages terminals within state waters and onshore, and the DOE manages the trade of LNG through those ports and terminals.<sup>210</sup>

The Coast Guard and Maritime Transportation Act of 2012, signed into law on December 20, 2012, amends the Deepwater Port Act as follows:

*Section 3(9)(A) of the Deepwater Port Act of 1974 (33 U.S.C. 1502(9)(A)) is amended by inserting “or from” before “any State”.*<sup>211</sup>

MARAD highlighted this change in circumstance in the Liberty LNG Notice of Application by including a footnote about the newly authorized use of a deepwater port license:

*On December 20, 2012, the Coast Guard and Maritime Transportation Act of 2012 (Title III, Sec. 312) amended Section 3(9)(A) of the Deepwater Port Act of 1974 (33 U.S.C. 1502(9)(A)) to insert the words “or from” before the words “any State” in the definition of Deepwater Port. This amendment grants MARAD the authority to license the construction of Deepwater Ports for the export of oil and natural gas from domestic sources within the United States to foreign markets abroad.*<sup>212</sup>

Congressional intent is clearly to allow for exports through deepwater ports licensed by MARAD through the DPA.

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<sup>209</sup> See 33 U.S.C. § 1503(a)-(i) (2006).

<sup>210</sup> Approval of onshore and state-water LNG terminals, as well as the onshore pipeline interconnections for deepwater ports, is within the purview of the Federal Energy Regulatory Commission (FERC). Commodity import/export approval rests with the Department of Energy (DOE). See Memorandum of Understanding Related to the Licensing of Deepwater Ports, art. III (2003-2004), <http://www.ferc.gov/legal/maj-ord-reg/mou/mou-23.pdf> (granting FERC jurisdiction over any deepwater port-associated facilities to the landward side of the high water mark) (hereinafter *Licensing MOU*); see also 15 U.S.C. § 717(b) (2006) (granting the Department of Energy authority over the importation or exportation of natural gas in foreign commerce).

<sup>211</sup> P.L. 112-213 § 312.

<sup>212</sup> Notice of Application, *supra* (emphasis added).

***DPA license amendments: easy to obtain, no public input or review required***

For the purposes of this Liberty LNG application, the applicant, West Face Capital, has stated that the facility will only be used for imports. Likewise, MARAD made statements at the scoping public hearings disclaiming that conditions would be put on the license to limit the use to imports only. Taken together, MARAD stated that the applicant's promises and the MARAD conditions put on the license mean that exports are not going to occur from Liberty LNG. In a letter posted on the project docket, MARAD and USCG leadership made the following clarification:

*"The authority to export natural gas through the Port Ambrose facility would constitute such a significant change from the proposal now under review that it would require a new license application in its entirety. To be clear, the export of natural gas is not considered in the application, nor would it be included in the license, if the application were to be approved."*<sup>213</sup>

In sum, the non-binding position of the federal government agencies with jurisdiction over this application is that Liberty LNG would get a license for imports only, with conditions stating such, and that changing from imports to exports (i.e., changing the license or license conditions) would require an entirely new license process; as such, LNG exports are "not considered in the application."<sup>214</sup>

While we certainly support the notion that public review should be required if (or, more accurately, when) Liberty determines to send our nation's resources to the highest bidder abroad, a recent conversion of an LNG facility from imports to exports leaves us unconvinced that the public would be afforded such an opportunity.

***Case Study in License Amendments: Neptune LNG***

A clear – and recent – example of a deepwater LNG import facility converting to export is Neptune LNG, offshore of Boston, Massachusetts. According to a Federal Register Notice,

*"In the request, Neptune indicated 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."*<sup>215</sup>

This lack of use, and inability to foresee any future need for LNG imports through this deepwater port, Neptune LNG petitioned MARAD for an amendment to its license which would grant "authorization to suspend port operations for a period of five years."<sup>216</sup> MARAD then reviewed the request (which, as noted above, did not trigger any environmental review, public input, notice to ACS governors, or any other procedural action), and "accepted Neptune's request and authorized amendment of the Neptune Deepwater Port License including a five year temporary suspension of port operations."<sup>217</sup>

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<sup>213</sup> U.S. DOT/MARAD - Acknowledgement Letter, Docket #USCG-2013-0363-0180 (emphasis added).

<sup>214</sup> *Id.*

<sup>215</sup> 78 F.R. 42587 (Tuesday, July 16, 2013).

<sup>216</sup> 78 F.R. 42587 (Tuesday, July 16, 2013).

<sup>217</sup> 78 F.R. 42587 (Tuesday, July 16, 2013).

From the Neptune LNG amendment notice, MARAD described the petition process:

*“Pursuant to Section 1503(b)(2) of the [DPA], [MARAD] may, on petition of the licensee, amend a Deepwater port license issued under the Act. For purposes of this notice, the Maritime Administration (MarAd) provides public notice of its decision to approve the request of Neptune LNG LLC (Neptune) for a temporary five-year suspension of port operations at the Neptune Deepwater Port by amending the Neptune Deepwater Port License.”<sup>218</sup>*

There, the license amendment only required **two steps**: a petition from a licensee, and a public notification of MARAD’s final decision. No public review was afforded. This unfortunate example underscores the need for the Draft EIS to include an evaluation of the proposed project as an export facility.

### ***Technical feasibility of exports from a deepwater port***

Exports from a buoy-based port like Liberty LNG are technically feasible, and therefore are entirely foreseeable. Presently, energy companies have investigated offshore floating liquefaction vessels, and are beginning construction.<sup>219</sup> Two companies with LNG operations in the U.S. have already begun. First, Excelerate Energy was quoted in Gastech News on June 24, 2013 (the same day that these scoping comments were noticed to the public), that “the company is aiming to defy the sceptics [sic] ... with the development of floating liquefaction technology that could, if the company can live up to it claims, be [a] game-changer.”<sup>220</sup> Excelerate’s CEO noted that floating liquefaction (“FLNG”) vessels “can do gas processing on board” if nearshore, or, “if it’s a far offshore location [you can liquefy at] a subsea buoy system, like we use to moor the regas[ification] vessels offshore the Gulf of Mexico and Boston.”<sup>221</sup> Second, “Freeport-McMoRan Energy LLC and United LNG are engaged in efforts to utilize McMoRan’s Main Pass Energy Hub™ (MPEH™) as a potential Deepwater Port facility to receive, store, condition, and liquefy domestic natural gas for export as liquefied natural gas.”<sup>222</sup>

Clearly, then, floating liquefaction is not only feasible, it is in the works for adaption to STL buoy ports like the Northeast Gateway LNG and Neptune LNG ports offshore Boston, and for another deepwater port hub in the Gulf of Mexico.

For Port Ambrose, FLNG is also entirely technically possible. According to the Liberty LNG application, Port Ambrose will be run by Höegh LNG, a Norwegian LNG company that has also partnered with GDF

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<sup>218</sup> 78 F.R. 42587 (Tuesday, July 16, 2013).

<sup>219</sup> Will Floating LNG Revolutionise The Natural Gas Industry? The Energy Collective, February 21, 2013. Available at <http://theenergycollective.com/celinerottier/189491/will-floating-lng-revolutionise-natural-gas-industry> (last visited August 1, 2013); see also, Golar LNG Floating Liquefaction, available at [http://www.golar.com/index.php?name=Our\\_Business%2FFloating\\_Liquefaction.html](http://www.golar.com/index.php?name=Our_Business%2FFloating_Liquefaction.html) (last visited August 1, 2013).

<sup>220</sup> Excelerate Energy – Floating Ideas and Defying the Sceptics, Gastech News, June 24, 2013. Available at <http://excelerateenergy.com/news/excelerate-energy-floating-ideas-and-defying-skeptics> (last visited August 1, 2013).

<sup>221</sup> Excelerate Energy – Floating Ideas and Defying the Sceptics, Gastech News, June 24, 2013. Available at <http://excelerateenergy.com/news/excelerate-energy-floating-ideas-and-defying-skeptics> (last visited August 1, 2013).

<sup>222</sup> Main Pass Energy Hub – Project Description. Available at <http://www.mpeh.com/descrip.htm> (last visited August 1, 2013).

Suez for running the LNG vessels in and out of the now-closed Neptune LNG port, and with West Face Capital (and Liberty LNG CEO Roger Whelan) for the British LNG import facility Port Meridian. According to Höegh LNG's website, the company has "invested about 400,000 engineering man-hours in the development of its FLNG solution covering a significant range of operating conditions rich to lean gas compositions, water depths and metocean conditions."<sup>223</sup> Höegh LNG's determination for FLNG capacity led them to boldly state that "no FLNG service provider has the same competences and capacity."<sup>224</sup> This capacity and competency gave rise to the achieved, existing technological advancement which allows liquefaction at "disconnectable turret and mooring systems" exactly like the Port Ambrose STL Buoys.<sup>225</sup>

Given that "Liberty anticipates utilizing Höegh as its LNGRV operator for the Port, and will thus be able to draw upon Höegh's extensive experience,"<sup>226</sup> and that Höegh LNG has the proven, established capacity to liquefy natural gas at buoys like those Port Ambrose is proposing, exports are certainly technically feasible, and any Draft EIS must therefore discuss the impacts that could result from an amended license that allows for these exports.

**b. Myriad impacts will result from exports**

The Energy Information Administration (EIA) released a report in January, 2012, entitled "Effect of Increased Natural Gas Exports on Domestic Energy Markets" (the "Export Report").<sup>227</sup> That report responds to an August 2011 request from DOE for an analysis of the potential impact of increased domestic natural gas demand, as exports, to help inform DOE's decision-making in circumstances exactly like the application here: determination of whether applications to export LNG comport with public, and national interest. As discussed extensively below, the best available economic and environmental data concerning LNG exports weigh strongly against finding exports to be in the public interest.

The Export Report considers four scenarios of export-related increases in natural gas demand with EIA beginning its assessment by specifically acknowledging the inherent difficulties of accurately projecting any certain estimates of energy markets over a 25-year period, calling the process "highly uncertain."<sup>228</sup> In representing natural gas markets the report explains that due to the non-integrated nature of natural gas globally, and due to variable U.S. market conditions, gas markets as a whole are dynamic and predictions are likely specious at this time. For instance, future exports of U.S. LNG depend on a number of variable factors potentially including but not limited to the greater diversity of supply that North American liquefaction projects potentially represent and a current low-level of regulatory control.<sup>229</sup> The four scenarios essentially entailed a discussion of impacts arising from low export and slow

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<sup>223</sup> Höegh LNG - Floating LNG Production. Available at <http://www.hoeghlng.com/flng/Pages/Floating-Production-Storage-and-Offloading.aspx> (last visited August 1, 2013).

<sup>224</sup> Höegh LNG – Floating LNG – Our Solution. Available at <http://www.hoeghlng.com/flng/Pages/Our-Solution.aspx> (last visited, August 1, 2013).

<sup>225</sup> Höegh LNG – Floating LNG – Our Solution. Available at <http://www.hoeghlng.com/flng/Pages/Our-Solution.aspx> (last visited, August 1, 2013).

<sup>226</sup> Liberty LNG Application, Volume I, at 11.

<sup>227</sup> EIA, "Effect of Increased Natural Gas Exports on Domestic Energy Markets," January 2012. Available at [http://www.eia.gov/analysis/requests/fe/pdf/fe\\_lng.pdf](http://www.eia.gov/analysis/requests/fe/pdf/fe_lng.pdf) (last visited August 1, 2013) (hereafter "Export Report").

<sup>228</sup> Export Report, at 3.

<sup>229</sup> Export Report, at 4.

introduction to gas markets, low export and rapid introduction to gas markets, high exports and slow introduction to gas markets, and high exports and rapid introduction to gas markets.

#### i. Price Increases

The Export Report summarized EIA's findings as showing that increased natural gas exports lead to higher domestic natural gas prices, increased domestic natural gas production, reduced domestic natural gas consumption, and increased natural gas imports from Canada via pipeline.<sup>230</sup> In other words, four certainties can be drawn. First, larger export levels lead to larger domestic price increases, while rapid increases in export levels lead to large initial price increases that moderate somewhat in time. Even slower increases in export levels lead to price increases, just at a slower scale of price hikes. Second, natural gas markets in the U.S. will increase production to satisfy an estimated 60-70% of the increase in natural gas exports, with three-quarters of this increased production expected from shale resources. Third, the remaining deficit in energy supply correlated to price increases will likely be met by the electric sector, which the EIA anticipates coal-fired generation to primarily produce. Fourth and last, consumers will consume less but still see an increase in their natural gas and electricity costs if export is allowed under any scenario.<sup>231</sup> Increases in domestic natural gas prices, in shale gas production, and in coal-fired electricity production will lead to serious economic and environmental consequences for the greater public and as well as mid-Atlantic economies.

These findings were somewhat echoed by the API report discussed above, written by Liberty LNG's own consultant for the American Petroleum Institute in early 2013. That report estimated that more exported LNG will come from increased production than the EIA study, noting that:

*"...the majority of the incremental LNG exports (79%-88%) [are] 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)."*<sup>232</sup>

Under the EIA's projections, if exports proceed under Scenario 1 (phasing in 6 Bcf/d of exports over six years), price impacts peak at about 14% in 2022.<sup>233</sup> In contrast, rapid increases in export levels in Scenario 4, phasing in 12 Bcf/d of exports over 4 years, equates to a 36% price hike at the wellhead. Particularly troubling is the Low Shale EUR case, where the rapid introduction of 12 Bcf/d of exports results in a 54% increase in wellhead price by 2018.

Although notably termed "pessimistic" by the EIA, this estimate is closely corroborated by current data showing how many LNG export authorizations are currently before DOE and FERC (currently 29 approvals for exports, another 20 waiting for approval), and by the volumes already approved (over 40%

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<sup>230</sup> Export Report, at 6. "Summary of Results."

<sup>231</sup> *Id.*

<sup>232</sup> API Report, at 71.

<sup>233</sup> See, Export Report.

of daily domestic natural gas production).<sup>234</sup> If all domestic LNG export applications are approved as written, Scenario 4 and the Low-Shale EUR case study may very closely reflect reality where the public experiences a drastic hike in natural gas prices.

## **ii. LNG exports mean widespread drilling and fracking**

The amount of shale gas that can be produced from a well varies significantly within a shale gas play.<sup>235</sup> As a consequence, as “sweet spots” in the play are identified, operators drill and frack the most productive portions of the play first, leaving the less productive and thus less profitable portions of the play for later. Since the cost of drilling and fracking a well is essentially the same within a given play, the less productive portions of plays may only become profitable once natural gas prices rise. While these portions of the play hold shale gas that is technically recoverable, the gas is not economically recoverable.

Because production declines rapidly for each new well, and because the first wells are typically the most productive ones, more and more wells need to be drilled and fracked each year just to maintain production.<sup>236</sup> Therefore, extracting all of the estimated U.S. shale gas resource presumes that operators can accelerate the pace of drilling and fracking indefinitely. It means that they will always need to be able to access and profitably tap new but likely less-productive source rocks as natural gas prices rise. As the hundreds of thousands of new fracked wells age over years and decades, a significant fraction will fail to contain methane and other hydrocarbon gases, in many cases putting at risk vital sources of drinking water.<sup>237</sup> This is just one of the many major impacts that widespread drilling and fracking will bring to communities across the United States.

### ***Economic, public health and environmental impacts from drilling and fracking***

Although natural gas does burn cleanly relative than oil and coal, these especially dirty fossil fuels are a low bar. Carbon dioxide emissions from burning natural gas are still significant; advocates of natural gas typically either ignore or dismiss the many other negative impacts of drilling and fracking, from local air pollution to short- and long-term risks to drinking water resources.

The oil and gas industry is partly able to dismiss the negative impacts by burying them. The industry blocks access to data and other information that would be needed to evaluate fully the environmental and public health impacts of its operations.<sup>238</sup> For example, in cases in which drilling and fracking have

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<sup>234</sup> DOE, Applications Received by DOE/FE to Export Domestically Produced LNG. Available at [http://fossil.energy.gov/programs/gasregulation/reports/summary\\_lng\\_applications.pdf](http://fossil.energy.gov/programs/gasregulation/reports/summary_lng_applications.pdf) (last visited August 15, 2013).

<sup>235</sup> U.S. Department of Energy (DOE), Energy Information Administration (EIA). “Annual energy outlook 2012” (AEO). June 25, 2012 at 57.

<sup>236</sup> Food & Water Watch. “Energy Insecurity: Why Fracking for Oil and Natural Gas is a False Solution.” November 2012 at 11; Hughes, David. Post-Carbon Institute. “Drill, Baby, Drill: Can Unconventional Fuels Usher in a New Era of Energy Abundance?” February 2013 at 54, 59, 82 and 91; Nelder, Chris. “Trouble in fracking paradise.” *SmartPlanet*. August 7, 2013.

<sup>237</sup> Myers (2012); Bruffato, Claudio et al. “From mud to cement – building gas wells.” *Oilfield Review*. Autumn 2003 at 65.

<sup>238</sup> Lustgarten, Abrahm. “Gas drilling companies hold data needed by researchers to assess risk to water quality.” *ProPublica*. May 17, 2011.

contaminated water or otherwise endangered the public, court records with technical information on the cases are typically sealed from the public record as part of any settlement agreement.<sup>239</sup> Also, owing to an exemption in the Safe Drinking Water Act, fracking companies do not have to disclose the chemicals that they are pumping underground.<sup>240</sup> Even when states do require disclosure, there's typically an exemption for any chemicals considered trade secrets.<sup>241</sup>

In one recent case, industry's control of the data may explain why an EPA investigation into reports of contaminated water was not pursued.<sup>242</sup> Specifically, the EPA is relying heavily on industry's voluntary cooperation to obtain data to conduct its ongoing study of the potential impacts of fracking on drinking water resources, rather than requiring that well data be shared. According to an Associated Press investigation, this reliance on industry may have kept the EPA from getting to the bottom of a dispute between Range Resources and a landowner with a water well that was contaminated with methane.<sup>243</sup>

### ***Fragmented forests, marred landscapes and the legacy of pollution***

Allowing the oil and gas industry to ride out this fracking treadmill in the Northeast will turn the region into a pincushion of fracked gas wells. Over years and decades, these wells would age, degrade and be abandoned, creating pathways through which injected chemicals and natural contaminants can seep into underground sources of drinking water.<sup>244</sup> The result would be legacy of risk shouldered by future generations.

Constructing new access roads, drilling pads, pipelines and compressor stations for widespread drilling and fracking fragments forests, disturbs natural landscapes and take agricultural lands out of production.<sup>245</sup> Such industrialization of rural landscapes would likely haunt the region.

Rivers and forests provide habitat for the fish and wildlife sought by recreational fishermen and hunters, and spending by these outdoorsmen adds significantly to the region's rural economies. The industrial

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<sup>239</sup> Urbina, Ian. "A Tainted Water Well, and Concern There May Be More." *The New York Times*. August 3, 2011.

<sup>240</sup> U.S. House of Representatives. Committee on Energy and Commerce. [Minority Staff report]. "Chemicals used in hydraulic fracturing." April 2011 at 3 to 4.

<sup>241</sup> U.S. House of Representatives. Committee on Energy and Commerce. [Minority Staff report]. "Chemicals used in hydraulic fracturing." April 2011 at 3 to 4.

<sup>242</sup> Plushnick-Masti, Ramit. "EPA backed off drilling probe into foul water." *The Associated Press*. January 17, 2013.

<sup>243</sup> Plushnick-Masti, Ramit. "EPA backed off drilling probe into foul water." *The Associated Press*. January 17, 2013.

<sup>244</sup> Myers, Tom. "Potential contaminant pathways from hydraulically fractured shale to aquifers." *Ground Water*. April 17, 2012 at 3 to 4; Brufatto, Claudio et al. "From mud to cement – building gas wells." *Oilfield Review*.

Autumn 2003 at 63; Dusseault, Maurice B. et al. "Why oilwells leak: cement behavior and long-term consequences." Paper presented at the Society of Petroleum Engineers International Oil and Gas Conference and Exhibition, Beijing, China. November 7-10 2000 at 1; Kusnetz, Nicholas. "Deteriorating oil and gas wells threaten drinking water, homes across the country." *ProPublica*. April 3, 2011.

<sup>245</sup> Entekin, Sally et al. "Rapid expansion of natural gas development poses a threat to surface waters." *Frontiers in Ecology*, vol. 9, iss. 9. October 2011 at 503; Sloneker, E.T. et al. "Landscape consequences of natural gas extraction in Bradford and Washington Counties, Pennsylvania, 2004-2010." U.S. Geological Survey. [Open-file report 2012-1154]. 2012 at 5; Drohan, P. J. et al. "Early Trends in Landcover Change and Forest Fragmentation Due to Shale-Gas Development in Pennsylvania: A Potential Outcome for the Northcentral Appalachians." *Environmental Management*, vol. 49. Iss. 5. May 2012 at 1070 to 1073.

impacts from drilling and fracking thus present a drag on this sector. Also, the forests and pastures of rural Northeastern states are relied on by almost everyone in the region to slowly and naturally filter rainwater on a large scale. This filtering helps to ensure that high-quality water flows in the major river basins of the region and recharges the underlying aquifers. Spills of toxic drilling and fracking wastes are proving inevitable, and they pose a threat to these watersheds.<sup>246</sup>

### ***Drilling waste***

About three to five acres of land needs to be cleared to prepare a “drill pad,” after which heavy machinery is put in place and the drilling stage begins.<sup>247</sup> The State of New York has estimated that drilling a typical shale gas well generates about 5,859 cubic feet of rock cuttings — enough to cover an acre of land more than 1.5 inches deep.<sup>248</sup> These cuttings, about the size of coarse grains of sand, must be disposed of, and they are coated with used drilling fluids that can contain contaminants such as benzene, cadmium, arsenic, mercury and radium-226.<sup>249</sup>

Dumping this toxic waste in landfills could expose workers to harmful levels of some of these environmental toxins.<sup>250</sup> Radium-226 contamination would persist for more than a thousand years after the landfill closed, ruining the soil of the surrounding land for generations.<sup>251</sup>

Dumping truckloads of drilling cuttings could also lead to operational problems at landfills. The landfill linings could be degraded, resulting in leaks of radioactive material and other harmful contaminants,<sup>252</sup> and layers of drilling cutting wastes could plug up the flow of landfill fluids, causing spills out the sides of the landfill.<sup>253</sup>

### ***Water resource impacts***

Once a well is drilled, millions of gallons of water and tens of thousands of gallons of chemicals are injected into the well.<sup>254</sup> A recent study of water use in Texas reported that as much as 13 million

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<sup>246</sup> Finley, Bruce. “Drilling spills reaching Colorado groundwater; state mulls test results.” *The Denver Post*. December 9, 2012; Soraghan, Mike. “Many mishaps among drillers, but few fines.” *Energy & Environment News*. July 15, 2013.

<sup>247</sup> Maryland Department of the Environment. [Fact sheet]. “Facts about...hydraulic fracturing.” [Fact sheet]. April 2012.

<sup>248</sup> New York State Department of Environmental Conservation. “Revised Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program: Well Permit Issuance for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs.” September 7, 2011 at 5-34.

<sup>249</sup> Resnikoff, Marvin et al. Radioactive Waste Management Associates. [Report prepared for Residents for the Preservation of Lowman and Chemung]. “Radioactivity in Marcellus Shale.” May 19, 2010 at 7; Mall and Donnelly. September 8, 2010 at 10.

<sup>250</sup> Resnikoff et al. May 19, 2010 at 7 to 8.

<sup>251</sup> *Id.* at 7 to 8.

<sup>252</sup> *Ib.* at 8; North Carolina Departments of Environment and Natural Resources, Commerce, and Justice and RAFI-USA. [Draft]. “North Carolina Oil and Gas Study under Session Law 2011-276.” March 2012 at 190.

<sup>253</sup> North Carolina Departments of Environment and Natural Resources, Commerce, and Justice and RAFI-USA. [March 2012 at 189 to 190.

<sup>254</sup> United States Environmental Protection Agency. “Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources.” (EPA/600/R-11/122). November 2011 at 15, 22 and 28.



gallons of water was being used to frack some new wells.<sup>255</sup> Assuming just 5 million gallons of water as a typical amount used to frack a new shale gas well, this is enough water to sustain nearly 140 people for an entire year.

Residents and businesses of the Atlantic Coastal Plain rely heavily on freshwater from underground aquifers, and in fact even without oil and gas development, these aquifers are in decline. Allowing drilling and fracking in this part of our state would only increase demand on these aquifers, not to mention put them at risk of contamination.

Further west, the Appalachian Basin presents unique challenges to understanding subsurface hydrology, and thus the risks drilling and fracking pose to underground sources of drinking water. The U.S. Geological Survey, in partnership with the state of Maryland, is engaged in a study of how groundwater resources in the Appalachian Basin change with drought or with periods of heavy rains, and in turn how local changes in groundwater levels impact stream flows in that state.<sup>256</sup> The aim of the study is build a better understanding of the local balances of supply and future demand for water resources.<sup>257</sup> In the Appalachian Basin, this understanding is complicated by the many natural fractures in the bedrock where groundwater resides and by how these fractures connect to rivers and streams.<sup>258</sup>

Despite the lack of such understanding, fracked shale gas wells are already intersecting these fractures. As discussed in further detail below, these shale wells put at risk both the pockets of shallow groundwater and streams to which this groundwater flows – risks that must be included in the Draft EIS.

### **Wastewater**

Fracking wastewater is a varying mix of fracking fluid and any naturally occurring “formation” water that would have otherwise remained trapped deep underground, well below fresh water aquifers.<sup>259</sup> In the Marcellus shale, only about 25 percent of the fracking fluid actually returns to the surface after fracking.<sup>260</sup> This wastewater can contain extreme levels of naturally occurring but harmful contaminants, including arsenic, lead, hexavalent chromium, barium, strontium, benzene, polycyclic

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<sup>255</sup> Nicot, Jean-Philippe et al. The University of Texas at Austin, Jackson School of Geosciences. [Prepared for Texas Water Development Board]. “Current and projected water use in the Texas mining and oil and gas industry.” June 2011 at 60.

<sup>256</sup> U.S. Geological Survey. [Prepared in cooperation with Maryland Departments of Natural Resources and the Environment]. “A science plan for a comprehensive assessment of water supply in the region underlain by fractured rock in Maryland.” [Scientific investigations report 2012-5106]. 2012.

<sup>257</sup> U.S. Geological Survey. [Prepared in cooperation with Maryland Departments of Natural Resources and the Environment]. “A science plan for a comprehensive assessment of water supply in the region underlain by fractured rock in Maryland.” [Scientific investigations report 2012-5106]. 2012 at 16.

<sup>258</sup> U.S. Geological Survey. [Prepared in cooperation with Maryland Departments of Natural Resources and the Environment]. “A science plan for a comprehensive assessment of water supply in the region underlain by fractured rock in Maryland.” [Scientific investigations report 2012-5106]. 2012 at 16.

<sup>259</sup> Nagy, Claudia Zagrean. Department of Toxic Substances Control, Maryland Environmental Protection Agency. “Oil exploration and production wastes initiative.” May 2002 at 6 and 10; United States Environmental Protection Agency. “Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources.” (EPA/600/R-11/122). November 2011 at 43.

<sup>260</sup> Brezinski, David K. Maryland Geological Survey. “Geology of the Marcellus shale in Maryland.” At 5.

aromatic hydrocarbons, toluene, xylene, corrosive salts and radioactive material, such as radium-226.<sup>261</sup> And in fact, the acids sometimes used in fracking fluids can actually increase the amount of toxic metals released from the rock and brought to the surface in wastewater.<sup>262</sup>

Again, these are just the natural occurring contaminants. It is well known that many of the chemicals that are used to make fracking fluid, and that return to the surface in fracking wastewater, are far from safe. Naphthalene, benzene and acrylamide are just a few of the known or suspected carcinogens identified as components of many fracking fluids.<sup>263</sup> Other environmental toxins used in some fracking fluids, such as toluene, ethylbenzene and xylenes, can result in nervous system, kidney and/or liver problems.<sup>264</sup> Finally, because the oil and gas industry succeeded in getting fracking exempted from the Safe Drinking Water Act (except when diesel is used in the fracking fluid), operators do not always have to report the chemicals they are injecting underground.<sup>265</sup> As a consequence, the full extent of the public health threat from fracking waste remains unknown.<sup>266</sup>

Simply put, accelerated drilling and fracking in the region means ever larger volumes of toxic waste, with no good disposal options. There will also be accidents, leaks and spills.

An investigation by *ProPublica* in 2008 identified more than 1,000 cases of water contamination near drilling sites, according to local and state government documents from just Colorado, New Mexico, Alabama, Ohio and Pennsylvania.<sup>267</sup> Most of the cases involved surface leaks and spills. *The Denver Post* reported there were over 1,000 spills in Colorado alone from August 2009 to September 2011.<sup>268</sup> And in North Dakota in 2011, the oil and gas industry reported another 1,000 spills.<sup>269</sup>

Since conventional treatment facilities are not equipped to treat radioactive material and other contaminants known to be in some fracking wastewater, such contaminants can simply flow through conventional treatment facilities and get discharged into public rivers and streams.<sup>270</sup> Rounds of

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<sup>261</sup> Urbina, Ian. "Regulation lax as gas wells' tainted water hits rivers." *The New York Times*. February 26, 2011; 76 U.S. Fed. Reg. 66286, 66296 (October 26, 2011); Mall, Amy and Dianne Donnelly. Natural Resources Defense Council. "Petition for Rulemaking Pursuant to Section 6974(a) of the Resource Conservation and Recovery Act." September 8, 2010 at 8 to 9.

<sup>262</sup> Sumi, Lisa. Oil & Gas Accountability Project. "Our drinking water resources at risk: what EPA and the oil and gas industry don't want us to know about hydraulic fracturing." April 2005 at 19 to 20.

<sup>263</sup> United States House of Representatives. Committee on Energy and Commerce. [Minority Staff Report]. "Chemicals used in hydraulic fracturing." April 2011 at 9.

<sup>264</sup> United States House of Representatives. Committee on Energy and Commerce. [Minority Staff Report]. "Chemicals used in hydraulic fracturing." April 2011 at 10.

<sup>265</sup> Lustgarten, Abraham. "Buried Secrets: Is natural gas drilling endangering U.S. water supplies?" *ProPublica*. November 13, 2008. See also, U.S. House of Representatives. Committee on Energy and Commerce. [Minority Staff report]. "Chemicals used in hydraulic fracturing." April 2011 at 3 to 4.

<sup>266</sup> U.S. House of Representatives. Committee on Energy and Commerce. [Minority Staff report]. "Chemicals used in hydraulic fracturing." April 2011 at 4.

<sup>267</sup> Lustgarten, Abraham. "Buried Secrets: Is natural gas drilling endangering U.S. water supplies?" *ProPublica*. November 13, 2008.

<sup>268</sup> Finley, Bruce. "Drilling spills rise in Colorado, but fines rare." *The Denver Post*. September 9, 2011.

<sup>269</sup> Kusnetz, Nicholas. "North Dakota's oil boom brings damage along with prosperity." *ProPublica*. June 7, 2012.

<sup>270</sup> Urbina (February 26, 2011); 76 U.S. Fed. Reg. 66286, 66296 (October 26, 2011).

wastewater recycling reduce the volumes of wastewater to be disposed of, but each round simply concentrates the toxins into solid waste that requires safe disposal.<sup>271</sup>

Under the Safe Drinking Water Act, the U.S. EPA established an Underground Injection Control (UIC) program for permitting the disposal of toxic wastes by injecting them underground into designated wells.<sup>272</sup> As the alternative to actual treatment, these injection wells are important for the industry as a means of disposing of drilling and fracking waste.<sup>273</sup> However, disposing of fracking wastewater by injecting it deep underground has caused a spate of small earthquakes.<sup>274</sup> More troubling, a recent investigation by *ProPublica* has exposed the shortsightedness of waste disposal through deep well injection, highlighted how the federal rules under which the UIC program operates are outdated, and noted that the EPA has granted “exemptions” so as to allow these injections in some aquifers.<sup>275</sup>

The disposal of toxic drilling and fracking waste is a problem that the Northeast simply does not need, and a problem that must be quantified and qualified in any Draft EIS.

### **Groundwater contamination**

Drilling and fracking can not only indirectly contaminate groundwater through leaks and spills of wastes at a well site, or during transportation, but they also put groundwater at risk directly.

After being injected into a well, much of the fracking fluid stays underground indefinitely, where it mixes with and displaces any naturally contaminated water already present in the targeted rock formation. There is a network of different pathways through which the resulting mix of contaminants — including fracking fluid chemicals; any salts, metals and radioactive material dissolved in the formation water; and methane or other hydrocarbon gases — can flow into and contaminate groundwater. These different pathways include the well being developed if problems occur during the cementing of the well, any nearby older and abandoned wells that may likewise have failed cement, the new fractures created during fracking, and existing natural fractures and faults.<sup>276</sup> Indeed, such natural fractures and faults actually characterize the geology of Appalachian Basin.<sup>277</sup>

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<sup>271</sup> U.S. EPA. [Progress report]. “Study of the potential impacts of hydraulic fracturing on drinking water resources.” December 2012 at 102 and 104.

<sup>272</sup> 40 CFR §146.

<sup>273</sup> U.S. EPA. [Progress report]. “Study of the potential impacts of hydraulic fracturing on drinking water resources.” December 2012 at 19.

<sup>274</sup> Soraghan, Mike. “Wastewater injection well sparked earthquake – Ohio officials.” *E&E Publishing, LLC*. March 9, 2012.

<sup>275</sup> Lustgarten, Abraham. “Injection wells: the poison beneath us.” *ProPublica*. June 21, 2012; Lustgarten, Abraham. “The trillion-gallon loophole: Lax rules for drillers that inject pollutants into the earth.” *ProPublica*. September 20, 2012; Lustgarten, Abraham. “Poisoning the well: how the feds let industry pollute the nation’s underground water supply.” *ProPublica*. December 11, 2012.

<sup>276</sup> Myers, Tom. “Potential contaminant pathways from hydraulically fractured shale to aquifers.” *Ground Water*. April 17, 2012 at 3 to 4; Brufatto, Claudio et al. “From mud to cement – building gas wells.” *Oilfield Review*. Autumn 2003 at 63; Dusseault, Maurice B. et al. “Why oilwells leak: cement behavior and long-term consequences.” Paper presented at the Society of Petroleum Engineers International Oil and Gas Conference and Exhibition, Beijing, China. November 7-10 2000 at 1; U.S. EPA. [Draft]. “Permitting guidance for oil and gas hydraulic fracturing activities using diesel fuels.” May 2012 at A-1 to A-4.

<sup>277</sup> U.S. Geological Survey. [Fact sheet with Maryland Departments of Natural Resources and the Environment]. “Sustainability of water resources in the fractured-rock area of Maryland.” [FS 2009-3009] 2009 at 1.

In the face of concerns about water contamination, the oil and gas industry tries to narrowly define risk and focuses only on the specific process of fracking itself, ignoring or dismissing contamination during the drilling stage and the risks of contamination that persist long after drilling and fracking are complete.<sup>278</sup> Despite industry claims to the contrary, groundwater contamination associated directly with drilling and fracking operations has occurred:

- A 1987 EPA report found that gel used in fracking fluid had contaminated a water well in West Virginia, and that scientific assessment of other cases of potential contamination was hindered by court settlements that sealed the information.<sup>279</sup>
- A study published in the *Proceedings of the National Academy of Sciences* found that average methane concentrations in shallow drinking water wells in active gas areas were 17 times higher than those in non-active areas, possibly due to leaky well casings.<sup>280</sup>
- In Dimock, Pennsylvania, hazardous substances, some of which are not naturally occurring in the environment, were used during drilling and were subsequently detected in private drinking water wells.<sup>281</sup>
- In December 2011, the EPA released a draft report on contaminated groundwater near drilling and fracking operations in Pavillion, Wyoming, concluding that “the data indicates likely impact to ground water that can be explained by hydraulic fracturing.”<sup>282</sup>
- In Alberta, Canada, in September 2011, operators fracking a well injected over 30,000 gallons of a propane-gel-based fracking fluid mistakenly into the groundwater protection zone.<sup>283</sup>

Recent mathematical modeling demonstrates that groundwater could be contaminated many years after the actual injection of fracking fluids.<sup>284</sup> As part of its ongoing study of the impacts of fracking on drinking water resources, the EPA is building much more elaborate models for simulating how contaminants could possibly migrate into aquifers after drilling and fracking.<sup>285</sup> However, the EPA’s study will not address the question of how likely it is that shale gas development in a certain region will lead, over a given time frame, to the contamination of underground water resources.<sup>286</sup> This is likely because not enough is known about the specific network of contamination pathways in each specific

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<sup>278</sup> Urbina, Ian. “A Tainted Water Well, and Concern There May Be More.” *The New York Times*. August 3, 2011; Lustgarten, Abraham. “Officials in three states pin water woes on gas drilling?” *ProPublica*. April 26, 2009.

<sup>279</sup> Urbina, Ian. “A Tainted Water Well, and Concern There May Be More.” *The New York Times*. August 3, 2011.

<sup>280</sup> Osborn, Stephen G. et al. “Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing.” *Proceedings of the National Academy of Sciences*, vol. 108, iss. 20. May 17, 2011 at 8173 and 8175.

<sup>281</sup> U.S. EPA, Region 3. “Action memorandum – request for funding for a removal action at the Dimock residential groundwater site.” January 19, 2012 at XX.

<sup>282</sup> United States Environmental Protection Agency. “Investigation of Ground Water Contamination near Pavillion, Wyoming.” Draft. (EPA 600/R-00/000). December 2011 at xiii.

<sup>283</sup> Energy Resources Conservation Board. “Caltex Energy Inc. hydraulic fracturing incident 16-27-068-10W6M September 22, 2011: ERCB investigation report.” December 20, 2012 at 1.

<sup>284</sup> Myers, Tom. “Potential contaminant pathways from hydraulically fractured shale to aquifers.” *Ground Water*. April 17, 2012.

<sup>285</sup> U.S. EPA. [Progress report]. “Study of the potential impacts of hydraulic fracturing on drinking water resources.” December 2012 at 62 to 75.

<sup>286</sup> U.S. EPA. [Progress report]. “Study of the potential impacts of hydraulic fracturing on drinking water resources.” December 2012 at 70.

region where drilling and fracking occur, so it is difficult if not impossible to validate reasonably realistic mathematical models of the many scenarios in which contamination is conceivable.

In essence, those living in regions with widespread shale gas development — and more broadly in regions with widespread disposal of toxic wastes via deep well injections — are the subjects of a large, uncontrolled scientific experiment on the fate and transport of the chemicals injected. As Stefan Finsterle, a federal scientist told *ProPublica*, “There is no certainty at all in any of this... You have changed the system with pressure and temperature and fracturing, so you don’t know how it will behave.”<sup>287</sup>

### ***Air Pollution***

Drilling and fracking are also contributing to serious local and regional air pollution problems across the country. The public health costs of local air pollution are never considered in industry estimates of the economic benefits of allowing oil and gas development. Some air pollutants implicated in cancer and other serious health problems are labeled hazardous air pollutants and are regulated under the Clean Air Act, and at least 24 of these hazardous air pollutants, including hydrogen fluoride, lead and methanol, are known to have been in hundreds of products used in fracking.<sup>288</sup>

The extreme pressure used to inject fracking fluid results in a “multiphase” flow of sand, liquids and gases.<sup>289</sup> After fracking, when some of this multiphase fluid flows back to the surface, the gases in it are vented directly into the air or inefficiently burned, while the liquids of the fracking fluid pour into holding pits or tanks.<sup>290</sup> Natural gas also leaks out into the atmosphere as it is processed and brought to market, through leaky pipelines or through leaky valves or seals in other infrastructure and equipment.<sup>291</sup>

Now, natural gas is predominantly made up of methane, a greenhouse gas that is at least 25 times more efficient than carbon dioxide at trapping heat, when measured over a 100-year time frame, and 70 to 100 times more potent than carbon dioxide when measured over a 20-year time frame.<sup>292</sup> So, one of the cumulative impacts of widespread drilling and fracking for natural gas is climate pollution in the form of methane, not just in the form of carbon dioxide when natural gas is burned.

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<sup>287</sup> Lustgarten, Abrahm. “Injection wells: the poison beneath us.” *ProPublica*. June 21, 2012.

<sup>288</sup> United States House of Representatives. Committee on Energy and Commerce. [Minority Staff Report]. “Chemicals used in hydraulic fracturing.” April 2011 at 11.

<sup>289</sup> 76 U.S. Fed. Reg. 52758, (October 23, 2011); United States Environmental Protection Agency (U.S. EPA). “Plan to Study the Potential Impacts of Hydraulic Fracturing on 95 Drinking Water Resources.” EPA/600/R-11/122. November 2011 at 70.

<sup>290</sup> 76 U.S. Fed. Reg. 52758, (October 23, 2011); McKenzie, Lisa M. et al. “Human health risk assessment of air emissions from development of unconventional natural gas resources.” *Science of the Total Environment*, vol. 424. May 2012 at 79 to 87.

<sup>291</sup> International Energy Agency. “Golden rules for a golden age of gas.” 2012 at 39.

<sup>292</sup> Shindell, Drew T. et al. “Improved Attribution of Climate Forcing to Emissions.” *Science*, vol. 326. October 30, 2009 at 717; U.S. Environmental Protection Agency (EPA). “Inventory of U.S. greenhouse gas emissions and sinks: 1990-2010.” April 15, 2012 at 1-4 and 1-8. See also, International Energy Agency. “Golden rules for a golden age of gas.” 2012 at 39.

Volatile organic compounds, including benzene and toluene, which are extremely harmful to human health, also pollute the air during fracking.<sup>293</sup> These compounds can mix with emissions from heavy-duty truck traffic, large generators and compressor stations to form ground-level ozone, which can further combine with particulate matter to form smog.<sup>294</sup> Exposure to smog has been linked to various cancers, cardiovascular disease, diabetes, and premature deaths in adults and to asthma, premature birth, and cognitive deficits in children.<sup>295</sup>

While it is difficult to draw direct causal links between air pollution from drilling and fracking operations, on one hand, and individual cases of illness on the other, evidence is mounting.<sup>296</sup> The difficulty in drawing causal links, and knowing the full impact on air quality, stems in part from the lack of disclosure about the fracking fluid chemicals the industry is using.<sup>297</sup> One recent study found that people living within a half-mile of fracking operations face significantly higher risk of cancer and other health problems because of air pollution, compared to people who live farther away from well sites, primarily due to the risk of exposure to benzene.<sup>298</sup>

Drilling and fracking for natural gas is also creating regional air pollution problems. For example, in Wyoming, ozone from gas drilling operations, combined with weather effects, led to ground-level ozone levels on several days in 2011 that were higher than the highest recorded level in Los Angeles in all of 2010.<sup>299</sup>

### **Climate pollution**

As for global climate change, promoters of natural gas have tried to sell increased dependence on natural gas as a “bridge” for transitioning to a low-carbon future powered by renewable energy.<sup>300</sup> This

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<sup>293</sup> Colborn, Theo et al. “Natural Gas Operations from a Public Health Perspective.” *International Journal of Human and Ecological Risk Assessment*, vol. 17, iss. 5, September 2011 at 1041 and 1042; Gilman, Jessica B. et al. “Source signature of volatile organic compounds (VOCs) from oil and natural gas operations in northeastern Colorado.” *Environmental Science & Technology*. Accepted for publication January 14, 2013.

<sup>294</sup> Colborn, Theo et al. “Natural Gas Operations from a Public Health Perspective.” *International Journal of Human and Ecological Risk Assessment*. September 2011 at 1042. See also, Olaguer, Eduardo P. “The potential near-source ozone impacts of upstream oil and gas industry emissions.” *Journal of the Air & Waste Management Association*. July 18, 2012 at 966.

<sup>295</sup> Steingraber, Sandra. Ithaca College. Testimony on Health Impacts of Hydraulic Fracturing Techniques. Assembly Standing Committee on Environmental Conservation and Health. New York State Assembly. May 26, 2011 at 11 and 12.

<sup>296</sup> Bamberger, Michelle and Robert E. Oswald. “Impacts of gas drilling on human and animal health.” *New Solutions, Scientific Solutions*, vol. 22, iss. 1, January 2012 at 51 to 77; Lustgarten, Abrahm and Nicholas Kusnetz. “Science lags as health problems emerge near gas fields.” *ProPublica*. September 16, 2011.

<sup>297</sup> Bamberger, Michelle and Robert E. Oswald. “Impacts of gas drilling on human and animal health.” *New Solutions, Scientific Solutions*, vol. 22, iss. 1, January 2012 at 51 to 77; Lustgarten, Abrahm and Nicholas Kusnetz. “Science lags as health problems emerge near gas fields.” *ProPublica*. September 16, 2011.

<sup>298</sup> McKenzie, Lisa M. et al. “Human health risk assessment of air emissions from development of unconventional natural gas resources.” *Science of the Total Environment*, Vol. 424. May 2012 at 79 to 87.

<sup>299</sup> Gruver, Mead. “Wyoming is beset by a big-city problem: Smog.” *The Associated Press*. March 8, 2011.

<sup>300</sup> Flavin, Christopher and Nicholas Lenssen. “Power Surge: Guide to the Coming Energy Revolution.” W.W. Norton: New York. 1994 at 91 and 92; Energy Modeling Forum. Stanford University. “Natural Gas, Fuel Diversity and North American Energy Markets.” Report 20. September 2003 at 1; Podesta, John D. and Timothy E. Wirth. Center for American Progress. “Natural Gas: A Bridge Fuel for the 21st Century.” August 10, 2009 at 1; Jaffe, Amy M. “Shale gas will rock the world.” *The Wall Street Journal*. May 10, 2010.

is based in part on the fact that burning natural gas produces considerably less carbon dioxide than burning coal or oil. But carbon dioxide emissions from burning natural gas are still significant.

Several recent studies now show that relying on natural gas as a bridge will not avoid potentially dire increases in global mean temperature, even assuming relatively low estimates for the fraction of produced natural gas that leaks into the atmosphere.<sup>301</sup> Myhrvold, *et al*, for example, use the dated estimate of less than 2 percent leakage while recent studies have estimated methane emissions locally to be as high as 9 percent.<sup>302</sup>

Notably, the International Energy Agency has estimated that a scenario of increased global dependence on natural gas would increase the global average temperature by 3.5° Celsius, or by about 6.3° Fahrenheit, by 2035.<sup>303</sup> The expected sea level rise, alone, from such an increase in global mean temperature would be devastating to coastal economies across the Northeast. But again, IEA's projection of the climate impact of a "Golden Age of Gas" scenario presumes that much less methane is leaking into the atmosphere than may actually be the case.

Methane, the primary component of natural gas, is a far more potent greenhouse gas than carbon dioxide at trapping heat.<sup>304</sup> Data on just how much methane is leaking from the oil and gas industry varies widely, but methane emissions are clearly significant enough to cancel much of if not entirely negate the benefit of lower carbon dioxide emissions that come from burning natural gas instead of coal or oil.<sup>305</sup>

### iii. Additional hidden economic costs

Communities all across the Northeast can expect to feel the negative environmental impacts outlined above if industry succeeds in riding out the drilling and fracking treadmill. The potential public costs would be far-reaching and incalculable. As could have been expected, the oil and gas industry and its advocates have created the illusion that drilling and fracking have net economic benefits by ignoring or dismissing these costs.

The hidden costs to communities in the region would include damaged roads from heavy truck traffic, increased demand on emergency and other social services, public health problems from local air and

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<sup>301</sup> Myhrvold, Nathan and Ken Caldeira. "Greenhouse gases, climate change and the transition from coal to low-carbon electricity." *Environmental Research Letters*, vol. 7, iss. 1. February 2012 at 4 to 5; Levi, Michael. "Climate implications of natural gas as a bridge." *Climatic Change*. January 2013.

<sup>302</sup> Myhrvold, Nathan and Ken Caldeira. "Greenhouse gases, climate change and the transition from coal to low-carbon electricity." *Environmental Research Letters*, vol. 7, iss. 1. February 2012 at 4 to 5; Bradbury, James et al. World Resources Institute. [Working paper]. "Clearing the air: reducing upstream greenhouse gas emissions from U.S. natural gas systems." April 2013 at Appendix 1.

<sup>303</sup> International Energy Agency. "Golden rules for a golden age of gas." 2012 at 91.

<sup>304</sup> Matthews, Kevin. "Why claims about reductions of U.S. carbon dioxide emissions are misleading." *Climate Progress*. December 5, 2012.

<sup>305</sup> EPA. "Inventory of U.S. greenhouse gas emissions and sinks: 1990-2010." April 15, 2012 at 2-3 to 2-4 and 3-1 to 3-4; Myhrvold, Nathan and Ken Caldeira. "Greenhouse gases, climate change and the transition from coal to low-carbon electricity." *Environmental Research Letters*, vol. 7, iss. 1. February 2012 at 4 to 5; Pétron, Gabrielle et al. "Hydrocarbon emissions characterization in the Colorado Front Range: A pilot study." *Journal of Geophysical Research, Atmospheres*, vol. 117. February 21, 2012; Tollefson, Jeff. "Methane leaks erode green credentials of natural gas." *Nature*. January 2, 2013.

water pollution, losses in property value and job losses in other sectors of the economy, such as tourism and agriculture. New York State has estimated that each typical shale gas well requires about 3,950 trips of heavy trucks.<sup>306</sup> Along with damaging public roads and being a general public nuisance, such traffic increases the risk of traffic accidents that place demand on emergency services.<sup>307</sup> Other industrial accidents and the large number of transient, uninsured workers moving to the area likewise increase demand on emergency services and community healthcare centers, leaving the public to foot the bill of providing these services.<sup>308</sup>

Towering, well-lit and noisy drilling rigs operate 24 hours a day, marring the tranquil and scenic landscapes that attract tourists and generate local tourism income.<sup>309</sup> The threat of air and water pollution from widespread drilling and fracking can further ruin a local community's tourism brand, in part because this threat does not go away once the drilling and fracking end.<sup>310</sup>

Drilling and fracking are simply not compatible with farming. Spills of toxic drilling and fracking wastes can ruin agricultural land, and with each new well pad, access road, or toxic waste pit, productive agricultural lands can be lost. Air and water pollution from drilling and fracking activities have harmed livestock and pets and posed serious health problems for people living near drilling and fracking operations.<sup>311</sup> In Colorado, the oil and gas industry has even outbid farmers for water during drought conditions.<sup>312</sup>

Taken together, the impacts of drilling and fracking operations have led to declines in the value of nearby properties, and thus property tax revenues.<sup>313</sup> Some banks are even declaring defaults on mortgages or not offering them for properties with gas leases, making them difficult to sell since any

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<sup>306</sup> New York State. Department of Environmental Conservation. "Revised Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program: Well Permit [con't] Issuance for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs." September 7, 2011 at 6-303.

<sup>307</sup> Christopherson, Susan and Ned Rightor. "How shale gas extraction affects drilling localities: Lessons for regional and city policy makers." *International Journal of Town and City Management*, vol. 2, iss. 4. Spring 2012 at 14; Rumbach, Andrew. [Prepared for the Southern Tier Central Regional Planning and Development Board (New York)]. "Natural gas drilling in the Marcellus Shale: potential impacts on the tourism economy of the Southern Tier." July 2011 at 16.

<sup>308</sup> Eligon, John. "An oil boom takes a toll on health care." *The New York Times*. January 27, 2013.

<sup>309</sup> Rumbach, Andrew. [Prepared for the Southern Tier Central Regional Planning and Development Board (New York)]. "Natural gas drilling in the Marcellus Shale: potential impacts on the tourism economy of the Southern Tier." July 2011 at 13.

<sup>310</sup> Rumbach, Andrew. [Prepared for the Southern Tier Central Regional Planning and Development Board (New York)]. "Natural gas drilling in the Marcellus Shale: potential impacts on the tourism economy of the Southern Tier." July 2011 at 19.

<sup>311</sup> Bamberger, Michelle and Robert E. Oswald. "Impacts of gas drilling on human and animal health." *New Solutions*, Vol. 22, Iss. 1. January 2012 at 51 to 77; Colborn, Theo et al. "Natural Gas Operations from a Public Health Perspective." *International Journal of Human and Ecological Risk Assessment*. September 2011 at 2 and 5.

<sup>312</sup> Finley, Bruce. "Colorado farms planning for dry spell losing auction bids for water to fracking projects." *The Denver Post*. April 1, 2012; Whaley, Monte. "98 percent of Colorado in a drought, say CSU climatologists." April 3, 2012.

<sup>313</sup> Heinkel-Wolfe, Peggy. "Drilling can dig into land value." *Denton (Texas) Record Chronicle*. September 18, 2010; Radow, Elisabeth. "Homeowners and gas drilling leases: boon or bust?" *New York State Bar Association Journal*. November/December 2011 at 20 and 21.



buyer would have to pay entirely in cash.<sup>314</sup> Nationwide Mutual has clarified that its insurance plans do not cover damages due to fracking related activities because it lacks “a comfort level with the unique risks associated with the fracking process.”<sup>315</sup>

In the end, when rural communities become known for their industrial pollution — their water pollution, air pollution, and noise pollution — this can destroy the agricultural and tourism economies on which these communities depend.<sup>316</sup> In this sense, the economic benefits of a boom can be more than offset by the inevitable bust.

**c. LNG Exports are on tap, and must be included in this Draft EIS**

The oil and gas industry has an opportunity to make significant profits from LNG exports, and it is responding with a flurry of applications to the U.S. Department of Energy for authorization to export. There is no reason to believe that operators of the proposed Port Ambrose facility, if it is approved, won't likewise seek to capitalize on the international market for LNG.

Over the past decade, relatively high natural gas prices spurred the industry to develop new drilling and fracking technologies, building on decades of publicly funded research.<sup>317</sup> In particular, drilling and fracking for “shale gas” — natural gas trapped in underground shale rock formations — has boomed since about 2005, resulting in significant growth in natural gas production.<sup>318</sup> While advances in technology have brought down costs, modern drilling and fracking for oil and natural gas is significantly more cost-intensive than conventional oil and gas development.<sup>319</sup> As a consequence, shale gas development requires higher natural gas prices in order to actually be profitable.<sup>320</sup> Yet, for a variety of reasons, the shale gas industry became somewhat detached from this reality.

By April 2012, increased natural gas production, combined with lower demand due to a sputtering economy and an abnormally warm 2012 winter, had driven the “wellhead price” for natural gas down

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<sup>314</sup> Radow (2011) at 20 and 21; Urbina, Ian. “Rush to drill for natural gas creates conflicts with mortgages.” *The New York Times*. October 19, 2011.

<sup>315</sup> Nationwide. [Press release]. “Nationwide statement regarding concerns about hydraulic fracturing.” July 13, 2012.

<sup>316</sup> Christopherson, Susan and Ned Rightor. “How shale gas extraction affects drilling localities: Lessons for regional and city policy makers.” *International Journal of Town and City Management*, vol. 2, iss. 4. Spring 2012 at 351, 361 and 364; Rumbach, Andrew. [Prepared for the Southern Tier Central Regional Planning and Development Board (New York)]. “Natural gas drilling in the Marcellus Shale: potential impacts on the tourism economy of the Southern Tier.” July 2011 at 10 and 18.

<sup>317</sup> Jaffe, Amy Myers et al. Rice University, James A. Baker Institute for Public Policy. “The status of world oil reserves: conventional and unconventional resources in the future supply mix.” October 2011 at 9 and 11; Trembath, Alex et al. Breakthrough Institute. “Where the shale gas revolution came from: government’s role in the development of hydraulic fracturing in shale.” May 2012 at 1 to 2.

<sup>318</sup> EIA, “Annual energy outlook 2012” (AEO). June 25, 2012 at 57 and 93.

<sup>319</sup> Nelder, Chris. “The cost of new oil supply.” *SmartPlanet*. April 18, 2012; Skrebowski, Chris. “A brief economic explanation of Peak Oil.” *ODAC Newsletter*. September 16, 2011 at 3; International Energy Agency (IEA), Energy Technology Systems Analysis Program (ETSAP). “Unconventional oil and gas production.” May 2010 at 1.

<sup>320</sup> Nelder, Chris. “The cost of new oil supply.” *SmartPlanet*. April 18, 2012; Skrebowski, Chris. “A brief economic explanation of Peak Oil.” *ODAC Newsletter*. September 16, 2011 at 3 to 7; International Energy Agency (IEA), Energy Technology Systems Analysis Program (ETSAP). “Unconventional oil and gas production.” May 2010 at 1.

from a recent high of over \$10 per thousand cubic feet (mcf) in July 2008 to under \$2 per mcf.<sup>321</sup> In 2010, ExxonMobil bought into the shale gas boom, becoming the largest producer of natural gas in the country with its purchase of XTO Energy, but by June 2012 CEO Rex Tillerson stated that because of low natural gas prices, “We are all losing our shirts today.... We’re making no money [on natural gas]. It’s all in the red.”<sup>322</sup> That is because natural gas price levels were far below those needed for the industry to break even, given the cost of drilling and fracking new shale gas wells.

The natural gas price that a specific company needs to break even depends on how productive its specific portfolio of wells will be. Well productivity varies significantly both within a shale gas play and between plays,<sup>323</sup> and drilling costs can also vary from play to play due to differences in the respective depths of the targeted formations or other local factors, such as land values.<sup>324</sup> As a consequence, break-even prices likewise vary within and between plays.

Analysis of production from shale wells in the Barnett, Fayetteville and Haynesville plays has suggested that the average break-even price in each play is above \$8 per mcf.<sup>325</sup> This is more than four times what the wellhead price of natural gas was in April, 2012. Excluding the cost of securing leases and general and administrative expenses, the estimated break-even price for these plays was about \$6 per mcf.<sup>326</sup> Similarly, the International Energy Agency estimated the cost of producing shale gas in 2010 at between \$4 and \$9 per mcf.<sup>327</sup> It is misleading to suggest, as some analysts do, that because of these sweet spots, the break-even price for producing shale gas is lower than \$4 per mcf.<sup>328</sup>

A number of factors contributed to the industry continuing to drill and frack for natural gas despite low natural gas prices.<sup>329</sup> A primary reason is that the terms of many leases required operators to actively drill or else these leases would expire.<sup>330</sup> To generate enough money to actually pay for the drilling and fracking, some companies flipped leases they held or entered into joint ventures with foreign companies, who were either interested to learn modern drilling and fracking methods or interested to gain access to U.S. natural gas resources. In a revealing call with investors in October 2008, Chesapeake Energy CEO Aubrey McClendon said “I can assure you that buying leases for X and selling them for 5X or

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<sup>321</sup> EIA. “Natural gas data: natural gas prices.” Available at

[http://www.eia.gov/dnav/ng/ng\\_pri\\_sum\\_dcu\\_nus\\_m.htm](http://www.eia.gov/dnav/ng/ng_pri_sum_dcu_nus_m.htm), accessed September 12, 2012; EIA. “Today in energy: U.S. dry natural gas production growth levels off following decline in natural gas prices.” June 11, 2012.

<sup>322</sup> Dicolo, Jerry A. and Tom Fowler. “Exxon: ‘losing our shirts’ on natural gas.” *The Wall Street Journal*. June 27, 2012.

<sup>323</sup> U.S. Energy Information Administration (EIA). “Annual energy outlook 2012” (AEO). June 25, 2012 at 57.

<sup>324</sup> Magyar, Robert. “Shale gas drilling depths argue against Pennsylvania’s Marcellus.” *The Examiner*. July 26, 2012

<sup>325</sup> Berman, Arthur E. and Lynn F. Pittinger. “U.S. shale gas: less abundance, higher cost.” *The Oil Drum*. August 5, 2011.

<sup>326</sup> Berman, Arthur E. and Lynn F. Pittinger. “U.S. shale gas: less abundance, higher cost.” *The Oil Drum*. August 5, 2011.

<sup>327</sup> International Energy Agency (IEA), Energy Technology Systems Analysis Program (ETSAP). “Unconventional oil and gas production.” May 2010 at 1; Canada National Energy Board. “Energy conversion tables.” Available at <http://www.neb.gc.ca/clf-nsi/rnrgynfmtn/sttstc/sttstc-eng.html>, accessed September 14, 2012.

<sup>328</sup> Philips, Matthew. “Is natural gas too cheap to drill?” *Bloomberg Businessweek*. April 17, 2012; U.S. Energy Information Administration (EIA). “Annual energy outlook 2012” (AEO). June 25, 2012 at 58.

<sup>329</sup> Nelder, Chris. “The questionable economics of shale gas.” *SmartPlanet*. December 14, 2011.

<sup>330</sup> Nelder, Chris. “The questionable economics of shale gas.” *SmartPlanet*. December 14, 2011.

10X is a lot more profitable than trying to produce gas at \$5 or \$6 mcf.”<sup>331</sup> The oil and gas industry’s thirst for hydrocarbon reserves — a proxy for future earning potential — in the face of declines in conventional oil and gas may explain the eagerness to buy such leases.<sup>332</sup>

As opposed to oil, the supply chain for natural gas is not yet globalized.<sup>333</sup> Large regional price differences — due in part to natural gas prices being linked to oil prices in some markets — explain the oil and gas industry’s recent interest in exporting natural gas from the United States.<sup>334</sup>

In mid-July 2012, for example, *The Economist* reported, “Whereas American gas currently costs about \$2.50 [per million British thermal units (MMBtu)], European oil-indexed pipeline gas goes for around \$12 [per] MMBtu, and in Asia LNG can fetch \$16 [per] MMBtu or more.”<sup>335</sup> Note that 1 million Btu of natural gas is approximately equivalent to 1,000 cubic feet of natural gas.<sup>336</sup> According to *The Economist*, “[l]iquefying the gas, carrying it to its destination and regasifying it can cost between \$4 and \$7 [per] MMBtu.”<sup>337</sup>

Increased and entrenched demand for natural gas would ensure high-enough natural gas prices to make shale gas development profitable over the long term, and make widespread drilling and fracking to meet this demand more likely. Chevron is actively resisting global natural gas pricing reforms that would decouple natural gas prices from high oil prices and thus cut into the potential profitability of LNG exports from the United States.<sup>338</sup>

Again, given such price disparity, there is no reason to believe that operators of the proposed Port Ambrose facility, if it is approved, won’t likewise seek to capitalize on the international market for LNG. Indeed, locking-in future increases in demand for U.S. natural gas — through increased consumption in the transportation and electricity sectors and through increased exports to foreign markets — appears to be the industry’s long-term strategy.

Overall, given that the needs assessment of Liberty LNG is significantly flawed, that the entire nation is switching from importing LNG to exporting it, and that there is now only one operational LNG import facility in the nation (which hasn’t seen import shipments in several years), LNG exports from any and all outlets are not only foreseeable, they are, in some respects, inevitable. Not only are exports also technically feasible from buoy-based LNG ports, changes to the Liberty LNG license or license conditions

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<sup>331</sup> “Documents: Leaked industry emails and reports.” *The New York Times*. Drilling Down Document Viewer at 58.

<sup>332</sup> Nelder, Chris. “The questionable economics of shale gas.” *SmartPlanet*. December 14, 2011; McKibben, Bill. “Why the energy industry is so invested in climate change denial.” *The Guardian*. February 7, 2012.

<sup>333</sup> U.S. EIA. “Effect of increased natural gas exports on domestic energy markets.” January 2012 at 3 to 4; International Energy Agency (IEA). [Press release]. “IEA report sees bright future for natural gas over next 5 years.” June 5, 2012.

<sup>334</sup> Ratner, Michael et al. “U.S. natural gas exports: New opportunities, uncertain outcomes.” CRS. November 4, 2011 at 4; Meyer, Gregory. “LNG: US weighs the cost of gas exports to economy.” *Financial Times*. July 17, 2012; “A liquid market.” *The Economist*. July 14, 2012.

<sup>335</sup> “A liquid market.” *The Economist*. July 14, 2012.

<sup>336</sup> U.S. Department of Energy (DOE), Energy Information Administration (EIA). “Annual energy outlook 2012” (AEO). June 25, 2012 at Table 76. Available at <http://www.eia.gov/forecasts/aeo/data.cfm> (last visited September 12, 2012).

<sup>337</sup> “A liquid market.” *The Economist*. July 14, 2012.

<sup>338</sup> Kirkland, Joel. “In Chevron’s quest for LNG dominance, it’s oil prices or bust.” *Energy & Environment*. August 9, 2013.

to allow exports are legally allowable under the Deepwater Port Act. If the Liberty LNG license is amended or conditions rescinded, there could potentially be no environmental review, no public input, no consultation with adjacent coastal state governors, and no opportunity for comments.

Exports are foreseeable. At-sea exports are technologically proven. Exports are a fundamental element of the present national energy policy. As such, the impacts that would arise from Liberty LNG exports must be included in the environmental impact review of the port. A failure to include such impacts would violate the DPA and NEPA, as well as the regulations promulgated to implement these laws.

## **V. CONFLICTING STATE, LOCAL, AND FEDERAL POLICIES**

According to the Deepwater Port Act implementing regulations, for environmental reviews, the relevant “considerations include, but are not limited to” whether “Construction and operation of the deepwater port that will be in the national interest and consistent with national security and other national policy goals and objectives.”<sup>339</sup> Additionally, “the deepwater port proposal and reasonable alternatives will be evaluated on the basis of how well they [a]ccord with existing and planned land use, including management of the coastal region, [and a]dhere to proposed local and State master plans.”<sup>340</sup> As such, the Draft EIS cannot be complete without addressing several key public interest, federal planning, and state and local policies.

### ***DOE review***

Pursuant to the Natural Gas Act exports of natural gas, including LNG, must be authorized by the Department of Energy.<sup>341</sup> Applicants looking to export LNG “to countries with which the United States has a free trade agreement providing for national treatment for trade in natural gas (FTA nations) are statutorily presumed to be in the public interest unless and such applications must be granted without modification or delay.”<sup>342</sup>

On May 20, 2011, in Sabine Pass Liquefaction, LLC, Opinion and Order No. 2961, DOE noted that “it has a continuing duty to monitor supply and demand conditions in the United States in order to ensure that authorizations to export LNG do not subsequently lead to a reduction in the supply of natural gas needed to meet essential domestic needs.”<sup>343</sup> This duty to investigate, however, is only required for applications to export LNG to nations with which the U.S. has not entered into a free trade agreement (“non-FTA nations”). In either case, anyone looking to export LNG must file an application to the DOE for authorization.

Here, Liberty LNG has not filed any such application. Until such an application is filed, Liberty LNG cannot claim that it is capable of operating Port Ambrose, or contracting for its operation, because it lacks the necessary authorization to do so. The USCG and MARAD should postpone consideration of this port until such authorizations are granted by the DOE.

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<sup>339</sup> 33 C.F.R. § 148.710(a)(1).

<sup>340</sup> 33 C.F.R. § 148.730(a).

<sup>341</sup> 15 U.S.C. 717b.

<sup>342</sup> *Id.*

<sup>343</sup> Order No. 2961 at 32.

### ***New Jersey Coastal Zone Inconsistency***

As noted above, one of the most clearly deficient parts of this application is the missing New Jersey Coastal Zone Management statement of consistency. For the purposes of NEPA review, this is also a significant deficiency. According to the USCG NEPA Handbook,

*“All USCG activities within or outside the coastal zone that affect any land or water us or natural resource within the coastal zone shall be carried out in a manner that is consistent to the maximum extent practicable with the enforceable policies of approved state management programs, per Section 307 amending the Coastal Zone Management Act of 1972 as implemented by 15 CFR Part 930.”<sup>344</sup>*

Given Governor Christie’s clear, unwavering opposition to LNG facilities off the coast of New Jersey, Liberty LNG may have deliberately avoided including reference to New Jersey’s coastal zone programs. Under the New Jersey coastal zone Energy Facility Use Rule, the “[s]tandards relevant to tanker terminals are as follows ... [o]ffshore tanker terminals **and deepwater ports** are discouraged.”<sup>345</sup> For LNG facilities specifically, the New Jersey rules discourage any siting “unless a clear and precise justification for such facilities exists in the national interest; the proposed facility is located and constructed so as to neither unduly endanger human life and property, nor otherwise impair the public health, safety and welfare.”<sup>346</sup> With these standards of review, and given the Liberty LNG application’s lack of any analysis of how the Port would affect the people, economies, and ecosystems of the State of New Jersey, the Port cannot be said to be consistent with the coastal zone program of New Jersey. The Draft EIS must recognize this inconsistency while also examining whether this port is clearly and precisely in the national interest, does not unduly endanger human life and property, and does not impair public health, safety, and welfare.

### ***Inconsistent with regional and national ocean policy***

Liberty LNG’s port proposal conflicts with the National Ocean Policy (NOP) in substance, process, and timing. From the outset, the idea of Port Ambrose fails to promote oceans which are “healthy and resilient, safe and productive, and understood and treasured so as to promote the well-being, prosperity, and security of present and future generations.”<sup>347</sup> The idea of locating an LNG port in the middle of the NY/NJ Bight fails to comply with nearly every element of the National Ocean Policy.<sup>348</sup>

- “protect, maintain, and restore the health and biological diversity of ocean, coastal, and Great Lakes ecosystems and resources;”
- “improve the resiliency of ocean, coastal, and Great Lakes ecosystems, communities, and economies;”

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<sup>344</sup> USCG NEPA Handbook, 2-15.

<sup>345</sup> N.J.A.C. 7:7E-7.4(q) (emphasis added).

<sup>346</sup> N.J.A.C. 7:7E-7.4(s)1.

<sup>347</sup> The White House, Office of the Press Secretary, Executive Order: Stewardship of the Ocean, Our Coasts, and the Great Lakes, July 19, 2010, at 2. <http://www.whitehouse.gov/files/documents/2010stewardship-eo.pdf> (last visited August 14, 2013) (hereafter “NOP Order”).

<sup>348</sup> NOP Order, at 2.

- “foster a public understanding of the value of the ocean, our coasts, and the Great Lakes to build a foundation for improved Stewardship;”
- “support sustainable, safe, secure, and productive access to, and uses of the ocean, our coasts, and the Great Lakes;”
- “respect and preserve our Nation's maritime heritage, including our social, cultural, recreational, and historical values;” or
- “exercise rights and jurisdiction and perform duties in accordance with applicable international law, including respect for and preservation of navigational rights and freedoms, which are essential for the global economy and international peace and security.”

Specifically, Port Ambrose undermines national security with LNGRVs posing serious terrorist targets and risks near the most densely populated coastline in the nation; is not, as non-renewable fossil fuel infrastructure project, not healthy and sustainable; is a major emitter of greenhouse gases, exacerbating climate change, warming oceans, rising sea levels, and ocean acidification; increases the risk of invasive species; uses extensive amounts of seawater; decreases water quality; and will devastate hundreds of acres of seafloor life.

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.<sup>349</sup>

In addition, the evaluation of the Port should be conducted through “a comprehensive and collaborative framework for the stewardship of the ocean.”<sup>350</sup> MARAD and the Coast Guard must “use the best available science and knowledge to inform decisions affecting the ocean, our coasts, and the Great Lakes” to evaluate the Port.<sup>351</sup> This application fails to apply the best available science, and in some cases fails to include any science at all. In developing a Draft EIS, the agencies are bound by the Executive Order on the Stewardship of the Ocean, Our Coasts, and the Great Lakes to address these deficiencies.

Port Ambrose is also inconsistent with regional marine planning efforts. The proposal is being pushed through in advance of ongoing national marine planning efforts, as well as regional planning priorities identified by the Mid-Atlantic Regional Council on the Ocean (MARCO). MARCO, established by the Governors of New York, New Jersey, Delaware, Maryland and Virginia, is “a regional ocean partnership working on issues that benefit from a broad-scale perspective, interstate collaboration, and coordinated problem solving.”<sup>352</sup> MARCO’s priorities for this Mid-Atlantic Ocean are to:

- “Coordinate the protection of important marine habitats, including sensitive and unique offshore areas;
- Collaborate on a regional approach to support the sustainable development of renewable energy in offshore areas;

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<sup>349</sup> NOP Order, at 3.

<sup>350</sup> NOP Order, at 3.

<sup>351</sup> NOP Order, at 2.

<sup>352</sup> [http://www.midatlanticocean.org/MARCO\\_FactSheet\\_042013.pdf](http://www.midatlanticocean.org/MARCO_FactSheet_042013.pdf) (last visited August 1, 2013).

- Prepare Mid-Atlantic communities for the impacts of climate change on coastal and ocean resources; and
- Promote improvements in ocean water quality.”<sup>353</sup>

The Mid-Atlantic Fishery Management Council’s policies should also be examined in the Draft EIS, considering the Council passed a resolution in 2012 supporting the Clean Ocean Zone, a proposed plan for the NY/NJ Bight which would prohibit the siting of LNG deepwater ports across the Zone.<sup>354</sup>

In short, the Port isn’t in the interests of the people, the nation, or the ocean’s future, is in direct conflict with the development of renewable energy, and is a threat to the quality of the marine environment. The port, therefore, is not consistent with state and federal ocean policies.

### ***State and local conflicts abound***

On November 15, 2012, New York State Governor Andrew Cuomo “convened the NYS2100 Commission in response to the recent, and unprecedented, severe weather events experienced by New York State and the surrounding region.”<sup>355</sup> That report, called the ‘NYS 2100 Commission Recommendations to Improve the Strength and Resilience of the Empire State’s Infrastructure,’ was tasked with examining and evaluating “key vulnerabilities in the State’s critical infrastructure systems, and to recommend actions that should be taken to strengthen and improve the resilience of those systems.”<sup>356</sup> For energy issues, the NYS2100 Report identified five sector-specific recommendations to achieve this goal:

- (1) “Strengthen critical energy infrastructure” – this goal focuses on protecting the most vulnerable existing energy facilities, starting with a “reexamination of critical component locations to identify those most prone to damage by shocks or stresses.”<sup>357</sup>
- (2) “Accelerate the modernization of the electrical system and improve flexibility” – this goal suggests NYS replace damaged, destroyed and vulnerable electrical distribution infrastructure with “the grid for the 21<sup>st</sup> century,” which will “seamlessly incorporate distributed generation, microgrids, and plug-in electric vehicles (PEVs).”<sup>358</sup>
- (3) “Design rate structures and create incentives to encourage distributed generation and smart grid investments” – this goal recommends that distributed generation (like the above-mentioned microgrids, PEVs, as well as solar) be incentivized while also promoting “solutions promote energy conservation, efficiency, and consumer demand response.”<sup>359</sup>
- (4) “Diversify fuel supply, reduce demand for energy, and create redundancies” – this recommendation aims to reduce the greenhouse gas impact of the state by incentivizing

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<sup>353</sup> [http://www.midatlanticocean.org/MARCO\\_FactSheet\\_042013.pdf](http://www.midatlanticocean.org/MARCO_FactSheet_042013.pdf) (last visited August 1, 2013).

<sup>354</sup> See, Clean Ocean Zone Initiative, [www.cleanoceanzone.org](http://www.cleanoceanzone.org) (last visited August 1, 2013). See also, MAFMC support for Clean Ocean Zone, Meeting Minutes, October 2012, available at <http://www.mafmc.org/briefing/october-2012> (last visited August 1, 2013).

<sup>355</sup> NYS 2100 Commission Recommendations to Improve the Strength and Resilience of the Empire State’s Infrastructure. Available at <http://www.governor.ny.gov/assets/documents/NYS2100.pdf> (last visited August 1, 2013) (hereafter “NYS2100 Report”).

<sup>356</sup> NYS2100 Report, at 10.

<sup>357</sup> *Id.*, at 15.

<sup>358</sup> *Id.*

<sup>359</sup> *Id.*

conversion to alternative fuels for transportation, demand-side conservation, and energy efficiency investments – all steps which “will contribute to reducing the impacts of climate change over the very long term.”<sup>360</sup>

- (5) “Develop long-term career training and a skilled energy workforce” – this goal focuses on driving human capital into the future by ensuring the energy sector workforce is effectively prepared for responding to emergencies, and maintaining advanced technologies.<sup>361</sup>

The NYS2100 Report’s other sector-specific recommendations also inform the Liberty LNG decision at hand. In the Transportation section, the Report calls for the protection of “waterway movement” of cargo and the protection of waterborne commerce (among other aspects of transportation) from “multiple hazards including flooding, seismic impact, and extreme weather.”<sup>362</sup> For Land Use resiliency, the Report immediately notes the “significant risk of coastal problems resulting from climate change” on the coastline, “one of [the State’s] most vulnerable assets ... home to a vast majority of the State’s population.”<sup>363</sup> To fully prepare for the effects of climate change, the Report recommends that the State encourage uses of land which “minimize vulnerabilities and preserve communities.”<sup>364</sup>

Liberty LNG, specifically, does not further any of these recommendations.

The plan for Port Ambrose runs counter to all of the elements of the NYS2100 energy conclusions; the Port would be a new vulnerability, would not modernize the electrical grid, would not incentivize or promote energy efficiency or conservation, will not reduce the climate pollution load of the State, and is not an investment in the energy workforce of the future. Port Ambrose is also inconsistent with the land use and transportation plans of the State; the Port introduces a new threat to waterway commerce, sits atop a seismic fault line, and does not minimize coastal vulnerability – it exacerbates it.

Not only does the plan for Port Ambrose run afoul of the NYS2100 Report recommendations, it doesn’t fit within the policy recommendations of the State’s Sea Level Rise Task Force or the City’s “PlaNYC” initiative.

The New York State Sea Level Rise Task Force was created by an act of the New York State Legislature (Chapter 613 of the Laws of New York) in August 2007. The State legislature directed the Task Force to “evaluate ways of protecting New York’s remaining coastal ecosystems and natural habitats, and increasing coastal community resilience in the face of sea level rise, applying the best available science as to sea level rise and its anticipated impacts.”<sup>365</sup> The Final Report issued by the Task Force on December 30, 2010, made several key findings that relate to Liberty LNG:

*“The likelihood that powerful storms will hit New York State’s coastline is very high, as is the associated threat to human life and coastal infrastructure. This vulnerability will increase in area and magnitude over time. ... Current investment and land-use planning practices by both New*

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<sup>360</sup> *Id.*

<sup>361</sup> *Id.*

<sup>362</sup> *Id.*, at 14.

<sup>363</sup> *Id.*, at 16.

<sup>364</sup> *Id.*

<sup>365</sup> New York State Sea Level Rise Task Force Final Report, at 5 (hereafter “SLR Report”). Available at [http://www.dec.ny.gov/docs/administration\\_pdf/slrffinalrep.pdf](http://www.dec.ny.gov/docs/administration_pdf/slrffinalrep.pdf) (last visited August 1, 2013).



*York State and local governments are encouraging development in areas at high risk of coastal flooding and erosion. ... and [e]xisting maps of New York State's coast that identify communities, habitats and infrastructure at greatest risk of flooding and erosion are inaccurate, out of date, not detailed enough for planning and regulatory purposes and fail to incorporate historic and projected sea level rise.”<sup>366</sup>*

In the Report's energy section, the Task Force warns that:

*“The risks to energy facilities parallel those facing communication infrastructures. Flooding of power plants can result in total loss of service for a given area. Frequent inundation of electric and gas transmission and distribution systems can accelerate their deterioration, causing more frequent and longer-lasting outages with extended repair times. ... Above- and below-ground storage tanks containing bulk liquids along the coast could be damaged in storms or corroded by saltwater inundation. Leakage could contaminate ecosystems and drinking water and be costly to clean up.”<sup>367</sup>*

Liberty LNG's proposal is for a new energy facility in the path of future storms, in a highly vulnerable, high-risk area, based on data and plans that are inaccurate or out of date, and will likely contaminate the ecosystem. Clearly, a new liquefied natural gas facility would make matters worse – in the exact ways the Sea Level Rise Task Force Report warned against.

Finally, in 2007, New York City released “PlaNYC” - an “unprecedented effort undertaken by Mayor Bloomberg to prepare the city for one million more residents, strengthen [the] economy, combat climate change, and enhance the quality of life for all New Yorkers.”<sup>368</sup> Developed by a host of city experts, the plan was meant to be a comprehensive review of the policies needed for a resilient economy. In 2011, PlaNYC released an update as to the success of program, and where the City envisioned moving in the future; the ‘Energy’ section of that report concluded that:

*“progress is encouraging, but we—the City, private and public utilities, state and federal regulators, financiers, and consumers—all need to do much more. Without continued energy efficiency improvements and investments in our supply and distribution infrastructure, we will not meet our energy, air quality, and GHG emission reduction goals.”<sup>369</sup>*

PlaNYC spends much more time directing the City's efforts toward renewables, efficiency, and conservation than continued use of fuels like natural gas. Even when the Plan does acknowledge the use of natural gas, it concludes with a warning:

*“Increasing concerns about the environmental and health impacts of natural gas production cannot be ignored. We will work with state officials to protect New York City's watershed from*

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<sup>366</sup> SLR Report, at 8.

<sup>367</sup> SLR Report at 34.

<sup>368</sup> About PlaNYC. Available at <http://www.nyc.gov/html/planyc2030/html/about/about.shtml> (last visited August 1, 2013) (hereafter “PlaNYC”).

<sup>369</sup> PlaNYC, 2011 Report - Energy, at 105.

*natural gas exploration. As a responsible consumer of natural gas supplies, we will also forcefully advocate for improved regulations and safety standards nationwide.”<sup>370</sup>*

LNG imports, brought to the City from foreign nations at prices that drive up local natural gas costs, are not consistent with the City’s goal of a clean, efficient, and climate-safe energy future. Exports, which will both drive up domestic natural gas prices and drive up methane leakage into the atmosphere (exacerbating climate change much more rapidly and severely than carbon dioxide), is similarly inconsistent with the City’s clean, efficient, and climate-safe future.

### **Conclusions**

In sum, after Superstorm Sandy, New York State and New York City took stock of what was needed to promote a cleaner, more resilient future, and Port Ambrose does not fit. Analysis of Port Ambrose’s consistency with the energy policies of the region must include an analysis of all aspects of those plans, not just the natural gas discussions. When the City and State call for reductions in energy vulnerabilities, evolution to smart grids and advanced technology, and investments in renewables, efficiency, and conservation, MARAD and the USCG must evaluate and assess, specifically and transparently in the Draft EIS, Liberty LNG’s inconsistencies with respect to these goals.

This proposal is being proposed in a manner inconsistent with the National Ocean Policy, this proposal is specifically discouraged by New Jersey Coastal Zone Management regulations, this proposal does not comport with the clean ocean use vision of the Mid Atlantic Fishery Management Council, and this proposal has been targeted by the New Jersey State Senate in SR120 – a resolution recently introduced which urges federal and State officials to prevent construction of Port Ambrose liquefied natural gas facility off the New Jersey coast. All told, it is clear that the local, state, and federal policies that govern the Mid Atlantic Ocean leave no room for LNG facilities, import or export, and the Draft EIS should clearly articulate as much. If MARAD and the USCG determine that Congress intended the Deepwater Port Act to supersede all of these other clear interests, the agencies should fully explain their rationale.

### **VI. RENEWABLE ENERGY AND CONSERVATION ALTERNATIVES**

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.

This conflict, between fossil fuels and energy for the future, arose in September, 2011, when the Long Island-New York City Offshore Wind Collaborative submitted a proposal to construct an offshore wind facility in the middle of the NY/NJ Bight. The facility would be built approximately 13nmi off the south shore of Long Island in a south-eastern direction from the Rockaway Peninsula.<sup>371</sup> The proposed site of Port Ambrose is in the middle of the proposed site of the wind facility, which poses a threat to the viability of the project because there is no guarantee that the two projects would be able to coexist. It is

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<sup>370</sup> PlaNYC, 2011 Report - Energy, at 116.

<sup>371</sup> Liberty LNG Application, Volume 2, Report 6, at 6-8.

therefore vital to review the importance of renewable energy, to fully understand what opportunities could be lost if Port Ambrose were built and operated.

In 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, which would undermine progress made by New Jersey and this nation to promote sustainable energy".<sup>372</sup>*

The NYS2100 Report (discussed above) also emphasized the importance of investing in renewable energy in recommendations to improve the strength and resiliency of the 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".<sup>373</sup>*

Both of the adjacent coastal states have emphasized the importance of renewable energy. Liberty's application does an inadequate job of addressing renewable energy options, however, for the New York and New Jersey area. It is imperative for the United States to invest in conservation, efficiency, and renewable energy over another fossil fuel project for environmental and economic reasons. The Draft EIS must analyze alternative renewable energy options with more depth and clarity, and address several questions that were unanswered by the application.

**a. The importance of moving away from fossil fuels**

***Natural gas is not a clean resource***

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.<sup>374</sup>

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

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<sup>372</sup> New Jersey Governor Chris Christie License Issuance Disapproval Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0038.

<sup>373</sup> 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 August 15, 2013).

<sup>374</sup> 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).

frame.”<sup>375</sup> Over a 10 to 30 year timeframe “natural gas is a greater warming agent relative to all [wind, water, and sunlight] technologies and a danger to the Arctic sea ice due to its leaked methane and black carbon flaring emissions.”<sup>376</sup>

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.

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.”<sup>377</sup> There is a clear environmental and public health benefit to utilizing renewable sources of energy as opposed to using the natural gas that Liberty would provide.

### ***Natural gas is not sustainable***

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.”<sup>378</sup> Investing in nonrenewable resources such as natural gas means investing in a resource that will not be available one day.

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.

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.”<sup>379</sup> Investing in renewable forms of energy such as wind means investing in energy sources (and the technologies) that will continue to return dividends.

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<sup>375</sup> 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.

<sup>376</sup> 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.

<sup>377</sup> 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).

<sup>378</sup> 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](http://www.un.org/esa/dsd/resources/res_pdfs/publications/sdt_cc/cc_global_green_new_deal.pdf) (last visited August 15, 2013).

<sup>379</sup> 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).

### ***New York State can feasibly rely solely on renewable energy***

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.<sup>380</sup> 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.<sup>381</sup> 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.<sup>382</sup> 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.<sup>383</sup>

Liberty Natural Gas would only provide dirty fossil fuel energy to New York City. Liberty only estimates that about 600 jobs would be created during the construction of Port Ambrose and only 10 permanent jobs would be created post-construction.<sup>384</sup> New York State has the potential to rely completely on renewable energy, creating far more jobs in the process. This study demonstrates that there is no need for Port Ambrose as renewable energy sources are more than capable of meeting New York’s energy demand.

### ***The renewable energy sector is expanding***

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.<sup>385</sup> Six years later that proportion more than tripled to 34%, and just a year later it rose to 44%.<sup>386</sup> In 2004, only 4.3% of the world’s total generating capacity came from renewable energy (excluding large hydro).<sup>387</sup> Seven years later, 9.2% of

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<sup>380</sup> 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.

<sup>381</sup> 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.

<sup>382</sup> 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.

<sup>383</sup> 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.

<sup>384</sup> Liberty LNG Application, Volume 2, Report 6, at 6-19.

<sup>385</sup> 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).

<sup>386</sup> 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).

<sup>387</sup> 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).

the total world generating capacity came from renewable sources- more than double the capacity just 7 years prior.<sup>388</sup>

Wind energy, in particular, has expanded a great deal. Wind was the primary recipient of clean energy investment in 2009, reflecting its mature status as a large-scale power generation source. Wind energy accounts for more than 50% of worldwide clean energy investment and almost half of installed clean energy capacity worldwide.<sup>389</sup> Without investment dollars, wind energy and other renewables will not be able to reach their full potential.

In its application, Liberty claims that renewable power will not be able to produce enough energy “to meet the projected needs of the region” (application). It does not, however, take the expansion of renewable energy into account. The Draft EIS must analyze, with specific metrics, what the energy demands of the region will be in the next 10 years, 50 years, etc., and what energy capacity renewable energy is expected to be able to supply in that timeframe.

***Renewable energy investment is efficient over the long term***

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.<sup>390</sup> The price of solar panels has fallen from \$5 per watt in 2005 to just over \$1 per watt in 2009.<sup>391</sup> Wind energy production has grown worldwide, with an annual growth rate of 25%.<sup>392</sup> From 2011 to 2012 there was a significant drop in the cost of generating a MWh of power from onshore wind (down 9%).<sup>393</sup> The cost of energy from fossil-fuel sources, however, was little changed over the same period of time. Coal-fired

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<sup>388</sup> 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).

<sup>389</sup> Who’s Winning the Clean Energy Race- Growth, Competition and Opportunity in the World’s Largest Economies, The Pew Charitable Trusts, [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Global\\_warming/G-20%20Report.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Global_warming/G-20%20Report.pdf) (last visited August 15, 2013).

<sup>390</sup> 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](http://www.un.org/esa/dsd/resources/res_pdfs/publications/sdt_cc/cc_global_green_new_deal.pdf) (last visited August 15, 2013).

<sup>391</sup> 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](http://www.un.org/esa/dsd/resources/res_pdfs/publications/sdt_cc/cc_global_green_new_deal.pdf) (last visited August 15, 2013).

<sup>392</sup> 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](http://www.un.org/esa/dsd/resources/res_pdfs/publications/sdt_cc/cc_global_green_new_deal.pdf) (last visited August 15, 2013).

<sup>393</sup> 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).

generation costs were down just 1%.<sup>394</sup> 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.<sup>395</sup>

Despite the growth in the renewable energy sector and the drop in prices, much more money is being invested into new sources of fossil-fuel generating capacity than renewables. In 2011, the gross investment in fossil-fuel generating capacity was \$302 billion and that same year, \$237 billion was invested in renewables (excluding large hydropower).<sup>396</sup>

While investing more money into renewable energy makes the price of that energy go down, natural gas prices will continue to rise no matter how much money is invested; this is the nature of finite resources. The Draft EIS, given that a DPA license remains in effect until revoked or surrendered, must examine these long-term economics in order to fully balance the development of yet another fossil fuel facility against the status quo renewable energy proposals, efficiency investments, and energy conservation.

**b. Investing in renewable energy is more economically sound**

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.<sup>397</sup> 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.<sup>398</sup>

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.<sup>399</sup> According to the Wisconsin Energy Bureau, “Investment in locally available renewable energy generates more jobs, greater earnings, and

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<sup>394</sup> 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).

<sup>395</sup> 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).

<sup>396</sup> 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).

<sup>397</sup> 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\\_cities-for\\_web.pdf](http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/100_renewable_energy_for_cities-for_web.pdf) (last visited August 15, 2013).

<sup>398</sup> 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 August 15, 2013).

<sup>399</sup> 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).



higher output ... than a continued reliance on imported fossil fuels.”<sup>400</sup> Overall, the Bureau estimates that renewable energy creates three times as many jobs as the same level of spending on fossil fuels.<sup>401</sup>

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.<sup>402</sup> 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.<sup>403</sup>

Port Ambrose would not create nearly as many jobs as energy projects from renewable resources would. The port would only produce between 6 and 10 permanent, fulltime jobs.<sup>404</sup>

Utilizing local renewable power allows money to remain in the community or region, thus boosting the local economy.<sup>405</sup> 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.<sup>406</sup>

Energy purchases represent a significant portion of the average American’s expenditures, so it is important to spend that money in a way that strengthens the economy as opposed to depleting it.

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.

Placing focus on bringing in more natural gas takes focus away from investing in renewable energy. While the United States is still a global leader in renewable energy production, there are several reasons to be concerned about America’s competitive position in the clean energy marketplace.

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<sup>400</sup> 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\\_cities-for\\_web.pdf](http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/100_renewable_energy_for_cities-for_web.pdf) (last visited August 15, 2013).

<sup>401</sup> 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\\_cities-for\\_web.pdf](http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/100_renewable_energy_for_cities-for_web.pdf) (last visited August 15, 2013).

<sup>402</sup> 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](http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/green_economics/economic_benefits/economic_benefits.PDF) (last visited August 15, 2013).

<sup>403</sup> 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 August 15, 2013).

<sup>404</sup> Liberty LNG Application, Volume 2, Report 6, at 6-19.

<sup>405</sup> 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 August 15, 2013).

<sup>406</sup> 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 August 15, 2013).



There are many examples of how the United States is seriously lagging behind other developed nations in terms of renewable energy:

*“Relative to the size of its economy, the United States’ clean energy finance and investments lag behind many of its G-20 partners. For example, in relative terms, Spain invested five times more than the United States last year, and China, Brazil and the United Kingdom invested three times more. In all, 10 G-20 members devoted a greater percentage of gross domestic product to clean energy than the United States in 2009”.<sup>407</sup>*

According to the same report, China is emerging as the world’s clean energy powerhouse. The nation took the top spot for overall clean energy finance and investment in 2009, pushing the US into second place.<sup>408</sup> Part of its success has been attributed to the ambitious renewable energy targets. The US only had 24% growth over 5 years in installed capacity, lagging far behind China’s 79%.<sup>409</sup> The United States is on the verge of losing its leadership position in installed renewable energy capacity as well, with China surging in the last several years to a virtual tie.

**c. Deficiencies in Liberty LNG’s energy analysis must be remedied in the Draft EIS**

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 Draft EIS must disclose the metrics used to compare the different environmental impacts Port Ambrose would have to the environmental impacts renewable energy sources would have on the region.**

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 Draft EIS 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

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<sup>407</sup> Who’s Winning the Clean Energy Race- Growth, Competition and Opportunity in the World’s Largest Economies, The Pew Charitable Trusts, [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Global\\_warming/G-20%20Report.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Global_warming/G-20%20Report.pdf) (last visited August 15, 2013).

<sup>408</sup> Who’s Winning the Clean Energy Race- Growth, Competition and Opportunity in the World’s Largest Economies, The Pew Charitable Trusts, [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Global\\_warming/G-20%20Report.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Global_warming/G-20%20Report.pdf) (last visited August 15, 2013).

<sup>409</sup> Who’s Winning the Clean Energy Race- Growth, Competition and Opportunity in the World’s Largest Economies, The Pew Charitable Trusts, [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Global\\_warming/G-20%20Report.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Global_warming/G-20%20Report.pdf) (last visited August 15, 2013).

on renewables given the proper investments. **The Draft EIS must analyze whether bringing more natural gas to the area is a better option than completely providing energy to the region through renewable resources, conservation, and efficiency. It must also more thoroughly analyze what the energy need in the region is and renewable energy sources' ability to meet it, or the ability for conservation and efficiency improvements to account for this need. The costs of these other measures must also be analyzed in the Draft EIS.**

In September 2011, the Long Island- New York City Offshore Wind Collaborative submitted a lease application with the Bureau of Ocean Energy Management (BOEM). According to Liberty's proposal, "the Port Ambrose Project site is located within some of the lease blocks in the area of interest, as currently configured." While an illustration of the two sites is available at the end of the application, the written application itself makes no mention of the number of overlapped blocks and their location. **The Draft EIS should specify how many blocks of the two projects would overlap and where those blocks are situated in relation to the rest of the wind farm proposal.**

Liberty justified this statement by saying "while significant interest exists in developing offshore wind farms along the Atlantic coast ... no projects have been constructed in the United States to date."<sup>410</sup> If no projects have come to fruition, of course they cannot contribute to the growing energy need. Not having enough projects built is not comparable to renewable energy being unable to fulfill energy needs. The application makes mention of projects that currently exist, and their energy capacity, however it never makes any mention of what the actual energy capacity of the Collaborative's project would be. **The Draft EIS needs to report on what the energy capacity of the wind area would be, and how that specifically compares to the energy capacity of the Port Ambrose project.**

Liberty's application almost completely overlooks the potential for conflict between the wind farm and the LNG port. "Because the Port Ambrose footprint is small and only occupies 0.3 mi<sup>2</sup> (0.8km<sup>2</sup>) for each buoy system (including safety zones), or less than one percent of the Collaborative's area of interest, Liberty believes its Project and the Collaborative's proposal are compatible uses."<sup>411</sup> Simple minimization of footprint within the wind area's proposed lease blocks does not make the two projects compatible.

In its application, Liberty states "The lease application provides a series of assumptions regarding the size and number of turbines that potentially would be used in the project, but it is not clear from the application how and to what extent the lease blocks requested would be utilized." If Liberty believes that the Collaborative's application is unclear, then the company cannot actually be sure that there will be no conflict between the two projects. BOEM is concerned that, "the proposal to construct an 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."<sup>412</sup> **The Draft EIS should address, in detail, the possible complications that could arise from building an LNG facility in the middle of an offshore wind facility. Such complications may include, but are not limited to, navigational safety issues, accessibility to the LNG port in emergency situations, and accessibility to the wind turbines nearest the LNG port should repairs or inspections be needed.**

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<sup>410</sup> Liberty LNG Application, Volume 2, Report 2, at 2-7.

<sup>411</sup> Liberty LNG Application, Volume 2, Report 2, at 2-26.

<sup>412</sup> Bureau of Ocean Energy Management, Liberty LNG Docket # USCG-2013-0363-0360

Should it be proven that the two projects are in fact incompatible, it is important to consider what would be lost if the LNG port is built, and the wind facility is not. New York State has a Renewable Portfolio Standard (RPS) which requires electricity providers generate or acquire at least 30% of their power supplies from renewable sources by the end of 2015. The RPS was set in 2004, but readjusted in 2012. In 2012, the New York State Energy Research and Development Authority (NYSERDA), the public benefit corporation charged with enforcing the RPS, only had 48% of the total energy targets under contract for 2015.<sup>413</sup> More than half of the energy target has not been reached, meaning a great deal more of renewable forms of energy need to be added in New York State in the next few years in order to reach the 30% goal. A new source of fossil fuel does not fit with the present trajectory of New York State energy policy. **The Draft EIS should explore what goals would be undercut – from NYS2100 coastal resiliency to NYSERDA’s goals for advanced energy solutions, renewables, and technological investments in conservation if Liberty LNG is built.**

Liberty’s application states that renewable energy is an important piece of the U.S.’s energy portfolio. However, the application glosses over any complications that may arise between general investments in renewable energy and the Port Ambrose project. The application should have examined how the project will discourage investments in renewable energy. This can be accomplished by balancing the 20-year renewable energy potential against a few shipments per year for environmental and public interest analyses. **The Draft EIS must consider how building Port Ambrose will discourage investment in renewables, and the potential economic and environmental impacts that will have.**

The Draft EIS must look into several issues regarding the proposed wind facility, including (1) what are the different environmental impacts Port Ambrose would have in comparison to the environmental impacts renewable energy sources would have on the region, (2) what are the socioeconomic factors involved in the alternative renewable energy and conservation sources, (3) why would bringing more natural gas to the area be a better option than renewable resources, conservation, or efficiency, (4) what are the energy needs in the region and are renewable energy sources able to meet them, (5) what is the energy capacity of the proposed wind facility, and how does that specifically compare to the energy capacity of the Port Ambrose project, (6) what are the possible complications that could arise from building an LNG facility in the middle of an offshore wind facility, (7) what other opportunities does New York State have to reach its 30% renewable energy goal if the wind facility is not built, (8) how will building Port Ambrose dis-incentivize investment in renewable energy, and (9) how exports will undermine, affect, and impact all of the above analyses.

Finally, Port Ambrose would only create 6 to 10 permanent jobs – a fact which must be specifically compared to the number of permanent jobs that would be generated by investing instead in renewables, in efficiency, or in conservation. Without this balancing, the Draft EIS will be incomplete.

The Draft EIS must take a hard look at this conflict – of uses, of goals, and of futures, in the review of this port’s environmental and economic impacts.

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<sup>413</sup> The New York State Renewable Portfolio Standard Performance Report 2012, New York State Energy Research and Development Authority (NYSERDA). <http://www.nyserda.ny.gov/Publications/NYSERDA-Annual-Reports-and-Financial-Statements.aspx> (last visited August 15, 2013).

## VII. SHORESIDE IMPACTS

The Liberty LNG application is deficient in information required to determine the full impact of onshore construction for the installation and operation of Port Ambrose. For example, it lacks the specific location of warehouse facilities that will be responsible for the construction of the STL Buoys and other pipeline necessities. The Liberty LNG application also claims that construction, operation and maintenance of Port Ambrose will generate a significant amount of jobs, but does not thoroughly review the types of jobs, how many people will be needed, and the types of people that will be needed (i.e. local and non-local workers).

The Bureau of Ocean Energy Management (BOEM) recognizes these deficiencies and agrees that the total project details are needed in order to understand Port Ambrose's impacts both offshore and on shore. BOEM effectively states that "[f]rom a NEPA perspective, the total project should be discussed. The onshore facilities that will support construction activities and those that will support the O&M [operation and maintenance] component are addressed minimally."<sup>414</sup> All components are an integral part of the Liberty LNG application.

BOEM recognized that the application lacked the location of the support facilities, but other deficiencies are present as well. For example, the National Marine Fisheries Service suggested that the applicant

*"provide additional information on the project's landside impacts so that the appropriate analysis of impacts can be completed. The applicant has stated that no onshore facilities will be constructed for this project; however, the application notes that upland areas will be necessary for fabrication, laydown and staging of construction materials for the proposed pipeline assembly. In order to evaluate the direct, indirect, individual, and cumulative effects of the proposed DWP, we recommend that a full and complete discuss of the landside impacts be included in the deepwater port application."*<sup>415</sup>

A Draft EIS must include all of the above information including the location of support facilities in order for an adequate assessment of onshore environmental impacts to be made.

### a. Pre-Operation/Construction

Warehouse facilities are being considered in Quonset Point, Rhode Island and Port Coeymans, New York. The Liberty LNG application has not adequately addressed the environmental impacts associated with these locations, nor has it determined the methods and environmental impacts of transporting construction materials. According to the Liberty LNG application, Quonset Point, RI is roughly 135 miles from Port Ambrose whereas Port Coeymans, NY is 155 miles away. Such staging distances from the port would require transportation of completed pipeline and other materials potentially adding further emissions into the atmosphere and waterway and would increase the time needed to respond to any needs, problems, or disasters during construction.

While Liberty claims to make a, "firm commitment to utilize New York, and potentially other regional resources, wherever feasible during the construction of the Port and Mainline" the potential site for

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<sup>414</sup> Data Gaps, item #112, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>415</sup> Data Gaps, item #103, Liberty LNG Docket # USCG-2013-0363-0013.

construction with the most details and best meets the needs of the company (meets the selection criteria Liberty has developed, has been used as a pipeline construction facility before, and has obtained prior FERC approval) is in Rhode Island.<sup>416</sup> The applicant points out that of the three potential locations (Staten Island, Port Coeymans, and Quonset Point) the Rhode Island site is the only one with prior FERC approval.

The Liberty LNG application states that “[f]inding a site closer to the Port area likely would result in reduced travel time and lower costs. Liberty is confident that such a site can be found, but retains the option to go with one of the previously identified sites, if necessary.”<sup>417</sup> No closer site has been identified, and there is no mention of the environmental implications of having a site closer to the port. A Draft EIS must make mention of other possible locations that would be closer to Port Ambrose and specifically address the environmental impacts associated with a closer warehouse facility.

Along with the deficiencies in the data for the warehouse facility, the Liberty LNG application does not address the environmental impacts associated with the reinforcement of the facility’s foundation. More review needs to be done regarding the transport of raw materials to the plant (including transportation by barge) along with what air emissions will result from the facility that would require the procurement of the local air permit. A Draft EIS must provide these details as well as further details regarding the Concrete Weight Coating plant.

The Liberty LNG application states that the STL buoys will be manufactured at existing third party facilities, but does not specify the facilities. Since the STL buoys are a central element to Port Ambrose, a Draft EIS should include specific details of the construction plans for the buoys, security at the construction site, transportation, and economic impacts of construction.

Of the 97 jobs the application lists for Project Office Staff during construction, Liberty details that “up to” 52 of those jobs “could be local hires,” or roughly 54%.<sup>418</sup> The “local employment and wages will provide a short term, moderately beneficial impact on the community during construction/installation activities.”<sup>419</sup> By Liberty’s own admission, the benefits are moderate and only short-term. A Draft EIS must quantify the jobs associated with installation, operation and maintenance of Port Ambrose and differentiate between short and long term jobs.

#### **b. Post Construction/Operation**

Details concerning the onshore impacts of Port Ambrose during operation are inadequate. Because of undetermined locations for warehouses, support docks, and construction sites, the impacts of operation are widely unknown. The Draft EIS must include the specific details associated with the construction of Port Ambrose in order to fully understand the impacts associated with operation of the port.

While sections of the application indicate the potential for explosion, the support vessel will only have Class 1 firefighting capabilities, however the specific support vessel is not identified within the application. With such potential for dangerous explosions or fires, the single support vessel will have

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<sup>416</sup> Liberty LNG Application, Volume II, Report 6, at 6-18.

<sup>417</sup> Liberty LNG Application, Volume II, Report 2, at 2-34.

<sup>418</sup> Liberty LNG Application, Volume II, Report 6, at 6-19.

<sup>419</sup> Liberty LNG Application, Volume II, Report 6, at 6-20.

the lowest category of firefighting capabilities meeting a minimum requirement of only one fire pump with a throw length of only 120 meters. A Draft EIS must include a more thorough review, once the support vessel is chosen, is needed to better understand the support vessel's ability to respond to an accident, spill, or explosion.

The Liberty LNG application states that “the support vessel will be staged at existing onshore facilities with existing infrastructure consistent with the vessel needs,” yet in the same section states that the facilities and vessel have not yet been determined.<sup>420</sup> The Liberty LNG application does not do an adequate job of analyzing the impact of mooring a dedicated Support Vessel at a shoreside facility, especially since the support vessel has not been identified.<sup>421</sup> The Draft EIS must indicate the type of support vessel that will be used in order to determine onshore environmental impacts related to staging areas. The Draft EIS must, further, analyze the response time, capacity for response, and training qualifications of this support vessel and crew – essential elements of the safety, security, environmental, cumulative impact, and a myriad other areas, review.

When evaluating the socioeconomic conditions of onshore locations, the Liberty LNG application only describes population, demographics, housing, recreation, tourism, employment and income for the counties of Richmond (Staten Island), Kings, Queens, Nassau and Suffolk in New York. The application fails to recognize that the proposal would affect all coastal counties from Cape May to Montauk and therefore should be included in the data. Additionally, impacts to the Quonset Point, Rhode Island and Port Coeymans, New York communities were overlooked, although both locations have been sufficiently researched as potential sites for pipeline construction.<sup>422</sup> A Draft EIS must qualitatively describe all coastal counties, not just the ones listed in the application, and include a more thorough analysis about Rhode Island and New York community staging areas within the cultural resources survey reports.

While the application describes the revenue New York acquires due to tourism, it does not quantify the potential loss of revenue the tourism industry and select local parks would lose because of the construction and operation of the port. Boating, diving, and fishing activities would be negatively impacted during the construction of the pipeline and operation of the port because of exclusion zones. Sea life/whale watching tours and fishing charters would also have less access to certain areas because of construction and operation. The Draft EIS must thoroughly research the loss of all recreation and tourism activities due to the exclusion zone and its economic effect on the region.

Impacts from construction and operation of the port to tourism and onshore attractions will also occur in onshore locations in New Jersey which has not been addressed in the application. The Liberty LNG application states that “[b]each-going and coastal fishing are popular coastal recreation/tourist attractions for the counties in the Port study area. These activities will not be affected by the Port's operation.”<sup>423</sup> The application inadequately describes the port's impacts on onshore recreation and tourism in New Jersey. A Draft EIS must be comprehensive in its detail of onshore impacts to the multiple tourism industries that depend on the coastal region not only in New York, but New Jersey as well.

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<sup>420</sup> Liberty LNG Application, Volume II, Report 4, at 4-66.

<sup>421</sup> Data Gaps, item #127, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>422</sup> Data Gaps, item #97, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>423</sup> Liberty LNG Application, Volume II, Report 6, at 6-21.

Finally, mercaptan is a toxic, highly flammable compound that, if spilled, could result in negative environmental impacts. Mercaptan is a dangerous compound that reacts with copper, aluminum, nickel-copper alloys, and combustible materials. The Draft EIS must thoroughly describe the risks, precautions, dangers, volatility, and need for transporting and storing urea and mercaptan - extremely hazardous chemicals to the environment and to the public.<sup>424</sup>

**c. Onshore Habitat**

It is unacceptably unclear as to which staging areas and service vessel docks Liberty LNG plans on using; without that information, no meaningful review of onshore impacts can take place. As noted by BOEM,

*“[f]rom a NEPA perspective, the total project should be discussed. The onshore facilities that will support construction activities and those that will support the O&M component are addressed minimally. For example, the location(s) of support facilities have not been determined and/or discussed.”<sup>425</sup>*

NMFS has also commented that “[i]n order to evaluate the direct, indirect, individual, and cumulative effects of the proposed DWP, we recommend that a full and complete [discussion] of the landside impacts be included in the deepwater port application.”<sup>426</sup> Clearly, full environmental, economic, safety, and cultural surveys of onshore and nearshore areas need to be conducted to both identify and evaluate the impacts Port Ambrose will have on the onshore environment.

***Construction and Operation***

During Pre-Operation and Construction phases of the port development, specificity in land use footprint, as well as types of uses to occur on that land, must be included in review. Vessels and equipment used for construction and their shore-side facilities need to be identified and impacts described. The upland areas are needed for fabricating and staging of construction materials for the proposed pipeline assembly and installation.

During Operation phases of the port development, specificity in land use footprint, as well as types of uses to occur on that land, must be included in review. Support vessels and equipment used for operation and their shore-side facilities need to be identified and impacts described. A USCG “data gap” request for more information needs to be addressed and provided for public review. This includes specifically addressing these significant public health and safety questions: *“What are the impacts of having onshore staging area for urea and mercaptan tanks to resupply LNGRVs? What is the storage volume for these agents?”<sup>427</sup>*

Mercaptan is listed as a toxic industrial chemical and is a severe fire hazard that in a vapor and air mixture can explode.<sup>428</sup> Potential risks to onshore and nearshore habitat areas and human health from

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<sup>424</sup> Data Gaps, item #126, Liberty LNG Docket #13.

<sup>425</sup> Data Gaps, Item #112, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>426</sup> Data Gaps, Item #103, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>427</sup> Data Gaps, Item #126, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>428</sup> Toxic and Industrial Chemicals (TICs), Occupational Safety & Health Administration,

<https://www.osha.gov/SLTC/emergencypreparedness/guides/chemical.html> (last visited (Aug. 12, 2013); Material

accidents at or chemical releases from onshore facilities and support vessels need to be evaluated. Reviews must include a determination as to whether shoreside chemical storage will endanger local environment or economy, including in the event of hurricanes and under long-term sea level rise. This analysis must also be conducted in light of state, local, and federal policies discussed above which specifically recommend minimizing risks in the coastal zone, reducing vulnerabilities, and taking hazardous materials out of harm's way.

Onshore facility needs and impacts for exports needs to be explained and evaluated to assess habitat impacts. The impacts of exports on shale extraction and the related environmental impacts of shale extractions need to be examined and assessed. The following provides more information.

### ***Shale Gas Impacts***

In particular, the effects of shale gas extraction in its analysis and decision-making must be evaluated. Shale gas development is an extraordinarily land and water-intensive process that converts agricultural, forest, and range lands to industrial uses, consumes millions of gallons of water per well, and generates huge quantities of hazardous wastes.<sup>429</sup>

Shale gas extraction uses and produces numerous toxic substances that are not governed by uniform national standards for treatment and disposal. Drilling muds and fracturing fluids contain a laundry list of toxic ingredients, while produced waters and drill cuttings bring to the surface naturally occurring hazards such as highly carcinogenic BTEX chemicals (benzene, toluene, ethylbenzene, and xylene) as well as brines, radioactive materials, arsenic, mercury, and hydrogen sulfide. Most of these wastes are exempt from regulation under Subtitle C of the Resource Conservation and Recovery Act governing the generation, transportation, treatment, storage, and disposal of hazardous wastes.<sup>430</sup> Similarly, under the Comprehensive Environmental Response, Compensation, and Liability Act, petroleum and natural

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Safety Data Sheet, Metheson Tri Gas, <http://www.mathesongas.com/pdfs/msds/MAT14620.pdf> (last visited Aug. 12, 2013).

<sup>429</sup> Shale gas extraction is also a significant source of hazardous air pollution, including methane, volatile organic chemicals (VOCs), and air toxics such as benzene and ethylbenzene. In July 2011, EPA proposed a suite of draft regulations under the Clean Air Act to set new source performance standards for VOCs and sulfur dioxide, an air toxics standard for oil and natural gas production, and an air toxics standard for natural gas transmission and storage. Regulations still need to be finalized. On Aug. 5, 2013, EPA updated the VOC performance standards for storage tanks. See <http://www.epa.gov/airquality/oilandgas/>. The Department of Energy's advisory panel on shale gas has urged EPA to extend these rules to existing shale gas production sources and to adopt regulations addressing methane explicitly. Bridget DiCosmo, "DOE Panel Urges EPA to Strengthen Proposed Air Rules for 'Fracking,'" Nov. 10, 2010, <http://insideepa.com/20111102381935/EPA-Daily-News/Daily-News/doe-panel-urges-epa-to-strengthen-proposed-air-rules-for-fracking/menu-id-95.html> Methane is twenty times more potent a greenhouse gas than carbon dioxide. See <http://www.climate-science.gov/infosheets/highlight1/default.htm> The oil and gas industry is the single largest source of methane emissions in the US, accounting for nearly 40% of national methane emissions. See <http://epa.gov/airquality/oilandgas/pdfs/20110728factsheet.pdf>

<sup>430</sup> U.S. Environmental Protection Agency, "Exemption of Oil and Gas Exploration and Production Wastes from Federal Hazardous Waste Regulations," pp. 10-11, <http://www.epa.gov/osw/nonhaz/industrial/special/oil/oil-gas.pdf> (listing exempt and non-exempt wastes). NRDC petitioned EPA in 2010 to regulate these wastes under RCRA. NRDC, "Petition for Rulemaking Pursuant to Section 6974(a) of the Resource Conservation and Recovery Act Concerning the Regulation of Wastes Associated with the Exploration, Development, or Production of Crude Oil or Natural Gas or Geothermal Energy," Sept. 8, 2010, [http://docs.nrdc.org/energy/files/ene\\_10091301a.pdf](http://docs.nrdc.org/energy/files/ene_10091301a.pdf)



gas (including liquefied natural gas) are excluded from regulation as hazardous substances.<sup>431</sup> These wastes pose water contamination and health hazard risks whether they are buried in pits, applied to land, injected into underground wells, sprayed into the air, spilled, leaked, or intentionally dumped.

Flowback fluids and produced water that result from HVHF and drilling contain all of the chemicals initially injected as part of the fracturing fluid, as well as other naturally occurring hazardous compounds released during the fracturing process. Wastewater pollutants include everything from lead, arsenic, benzene, diesel fuel, and high levels of total dissolved solids to naturally occurring radioactive materials such as uranium and radium.<sup>432</sup> Ground and water contamination may result from spills, leaks, or improper disposal.

Common disposal methods for the wastewater include underground injection and the transport of flowback to wastewater treatment facilities. Underground injection of fracking waste has recently been associated with induced seismicity.<sup>433</sup> Also, major earthquake large distances away have been shown to trigger earthquakes at injection-well sites.<sup>434</sup> With regards to the use of wastewater treatment facilities for treatment and disposal, most commercial and municipal wastewater treatment facilities are ill-equipped to handle fracking waste. Such facilities are unable to remove naturally occurring radioactive material from the waste stream and the high levels of total dissolved solids present may overwhelm a plant's treatment capacity.<sup>435</sup> Once released into surface waters following insufficient treatment, the wastewater may subsequently overwhelm the dilution-capacity of rivers in regions undergoing intensive shale gas development.<sup>436</sup>

The proliferation of shale gas development has the potential to degrade water systems due to the massive volumes of water consumed. To the extent that fracking fluids remain underground or are disposed of in underground injection wells, much of the freshwater used for fracking is permanently removed from the hydrological cycle. While some improvements have been made in developing wastewater reuse systems, eventually the pollutants in the fracking fluid reach such extreme concentrations that the fluid becomes unusable and must be disposed of.<sup>437</sup>

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<sup>431</sup> 42 U.S.C. § 9601(14).

<sup>432</sup> See N.Y.C. Dep't of Env'tl. Prot., Final Impact Assessment Report: Impact Assessment of Natural Gas Production in the New York City Water Supply Watershed 6 (2009); NRDC, Land Facts: Protecting New Yorkers' Health and the Environment by Regulating Drilling in the Marcellus Shale 3 (2009), <http://www.nrdc.org/land/files/marcellus.pdf>; Chemicals Used by Hydraulic Fracturing Companies in Pennsylvania for Surface and Hydraulic Fracturing Activities, Pa. Dep't of Env'tl. Prot., [http://www.dep.state.pa.us/dep/deputate/minres/oilgas/new\\_forms/marcellus/Reports/Frac%20list%206-30-2010.pdf](http://www.dep.state.pa.us/dep/deputate/minres/oilgas/new_forms/marcellus/Reports/Frac%20list%206-30-2010.pdf)

<sup>433</sup> Briana Mordick, "More Earthquakes, This Time from Oil and Gas Disposal," NRDC Switchboard, Jan. 3, 2012, [http://switchboard.nrdc.org/blogs/bmordick/more\\_earthquakes\\_this\\_time\\_fro.html](http://switchboard.nrdc.org/blogs/bmordick/more_earthquakes_this_time_fro.html)

<sup>434</sup> <http://www.cnn.com/id/100880499>

<sup>435</sup> See, e.g., Joaquin Sapien, "What Can Be Done With Wastewater?," Pittsburgh Post-Gazette, Oct. 4, 2009, <http://www.post-gazette.com/pg/09277/1002919-113.stm>; Ian Urbina, "Regulation Lax As Gas Wells' Tainted Water Hits Rivers," New York Times, Feb. 26, 2011, <http://www.nytimes.com/2011/02/27/us/27gas.html?pagewanted=all>

<sup>436</sup> *Id.*

<sup>437</sup> Susan Phillips, "New Technology Treats Fracking Water In Pennsylvania," Sept. 6, 2011, <http://stateimpact.npr.org/pennsylvania/2011/09/06/new-technology-treats-frack-water-in-pennsylvania/>

Shale gas development consumes not only vast quantities of water but also acres of land for well pads, pipelines, and access roads. In the forested and agricultural lands overlaying the Marcellus Shale, this massive industrialization will cause widespread impacts to surface water quality from deforestation, stormwater runoff, and erosion and sedimentation.

Forests play an essential role in water purification.<sup>438</sup> The scientific literature clearly establishes the link between percent forest cover and water quality; for example, reductions in forest cover are directly correlated with negative changes in water chemistry, such as increased levels of nitrogen, phosphorus, sodium, chlorides, and sulfates as well as reduced levels of macroinvertebrate diversity.<sup>439</sup> Reducing forest cover decreases areas available for aquifer recharge, increases erosion, stormwater runoff, and flooding, and adversely affects aquatic habitats.<sup>440</sup> Already in Pennsylvania, researchers have correlated areas of high natural gas well density with decreased water quality, as indicated by lower macroinvertebrate density and higher levels of specific conductivity and total dissolved solids.<sup>441</sup>

Both deforestation and shale gas infrastructure construction and operation will, in turn, lead to greatly increased levels of erosion, sedimentation, and stormwater runoff affecting surface water quality. Excess sedimentation is associated with a number of detrimental effects on water quality, stream morphology, and aquatic life, and has been identified by the EPA as one of the primary threats to US surface waters.<sup>442</sup>

Shale gas well sites are like traditional construction sites in terms of stormwater runoff and sediment discharge levels.<sup>443</sup> A 2005 EPA study concluded that “gas well sites have the potential to negatively impact the aquatic environment due to site activities that result in increased sedimentation rates.”<sup>444</sup> In Pennsylvania, the Nature Conservancy has estimated that nearly two-thirds of well pads targeting the

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<sup>438</sup> Robert A. Smail & David J. Lewis, Forest Service, U.S. Dep’t of Agric., Forest Land Conversion, Ecosystem Services, and Economic Issues for Policy: A Review 12 (2009), <http://www.fs.fed.us/openspace/fote/pnw-gtr797.pdf>

<sup>439</sup> Jackson, J.K. & Sweeney, B.W., “Expert Report on the Relationship Between Land Use and Stream Condition (as Measured by Water Chemistry and Aquatic Macroinvertebrates) in the Delaware River Basin,” Stroud Water Research Center, Avondale, PA, available at <http://www.state.nj.us/drbc/Sweeney-Jackson.pdf>

<sup>440</sup> State of N.J. Highlands Water Prot. and Planning Council, Ecosystem Management Technical Report 39 (2008).

<sup>441</sup> Academy of Natural Sciences of Drexel University, “A Preliminary Study of the Impact of Marcellus Shale Drilling on Headwater Streams,” available at <http://www.ansp.org/research/pcer/projects/marcellus-shale-prelim/index.php>

<sup>442</sup> Entrekin, S. et al., “Rapid expansion of natural gas development poses a threat to surface waters,” Frontiers in Ecology and Environment 2011, 9(9), 503-11 (Oct. 6, 2011), at 507, 509, available at <http://www.esajournals.org/doi/abs/10.1890/110053>

<sup>443</sup> Havens, David Loran, Assessment of sediment runoff from natural gas well development sites. M.S. thesis May 2007, [http://digital.library.unt.edu/ark:/67531/metadc3665/m1/1/high\\_res\\_d/thesis.pdf](http://digital.library.unt.edu/ark:/67531/metadc3665/m1/1/high_res_d/thesis.pdf); see also 55 Fed. Reg. 47,990, 48,044-34 (Nov. 16, 1990) (Phase I stormwater regulation describing scope and significance of water quality impacts from sediment runoff from construction activities); 64 Fed. Reg. 68,722, 68,728-30 (Dec. 8, 1999) (Phase II stormwater regulation reiterating concerns about sediment-laden stormwater discharges and extending permitting requirements to small construction sites).

<sup>444</sup> Banks, Kenneth E., Ph.D., and Wachal, David J., U.S. EPA, Final Report for Catalog of Federal Domestic Assistance Grant Number 66.463 Water Quality Cooperative Agreement for Project Entitled “Demonstrating the Impacts of Oil and Gas Exploration on Water Quality and How to Minimize these Impacts Through Targeted Monitoring Activities and Local Ordinances” (Dec. 2007), [http://www.epa.gov/npdes/pubs/oilandgas\\_impactgrant.pdf](http://www.epa.gov/npdes/pubs/oilandgas_impactgrant.pdf)

Marcellus Shale will be developed in forested areas, necessitating the clearing of 38,000 to 90,000 acres.<sup>445</sup> An additional 60,000 to 150,000 acres of forest area will be lost to pipeline construction and right-of-way maintenance.<sup>446</sup> Compressor stations along the pipelines, which occupy an average of five acres each, are likely to number in the hundreds.<sup>447</sup> In New York, deforestation will occur on a similar scale, with losses in forest cover of up to 16%.<sup>448</sup>

Heavy truck traffic on rural roads, especially unpaved roads, that were not built to withstand hundreds or thousands of truck trips also leads to significant erosion and sedimentation problems.<sup>449</sup> Thousands of truck trips (according to PA DEP officials speaking at public meetings) with each vehicle weighing up to 10 tons, may be required to construct and operate a single well. Ditches along rural roads are the primary pathways for the conveyance of polluted runoff bearing sediments and nutrients to streams, and increase runoff volume and energy as well, contributing to flooding.<sup>450</sup> In addition, access roads constructed or modified to enter gas exploration or extraction facilities contribute significantly to sedimentation and surface water quality degradation.

Pipeline construction and right-of-way maintenance account for a significant proportion of shale gas extraction's land use impacts. Pipelines also create significant erosion and sedimentation problems during construction as well as over the decades-long maintenance of cleared rights-of-way. In joining well pads to transmission infrastructure, a single gathering line may cross numerous streams and rivers, especially in states such as Pennsylvania with a high density of stream mileage per unit of land. Stream and wetland pipeline crossings cause erosion and sedimentation whether implemented through dry ditch or wet ditch crossings.<sup>451</sup> Though erosion and sediment control permits may be required for stream crossings—indeed, in Pennsylvania they are the only permits necessary for gathering line construction—in practice, permit requirements are routinely violated.<sup>452</sup> Both dry and wet ditch crossings necessitate the clearing of area stream banks. Because riparian vegetation functions as a natural barrier along the stream edge, both removing sediment and other pollutants from surface runoff

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<sup>445</sup> *Id.* at 29.

<sup>446</sup> The Nature Conservancy, "Natural Gas Pipelines," Excerpt from Report 2 of the Pennsylvania Energy Impacts Assessment, December 16, 2011, at 5, available at <http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/pennsylvania/ng-pipelines.pdf>

<sup>447</sup> *Id.* at 5-6.

<sup>448</sup> The Nature Conservancy, "An Assessment of the Potential Impacts of High Volume Hydraulic Fracturing (HVHF) on Forest Resources," Dec, 19, 2011, at 4, <http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/newyork/ny-hydrofracking-impacts-20111220.pdf>

<sup>449</sup> See C.J. Randall, *Hammer Down: A Guide to Protecting Local Roads Impacted by the Marcellus Shale* (Dec. 2010), available at [http://www.greenchoices.cornell.edu/downloads/development/marcellus/Marcellus\\_Randall.pdf](http://www.greenchoices.cornell.edu/downloads/development/marcellus/Marcellus_Randall.pdf)

<sup>450</sup> Yen Hoang & Keith Porter, *Stormwater Management in the Rural New York Headwater Areas of the Chesapeake Bay Watershed*, *Journal of Water Law* 21:6 (2010) at 8.

<sup>451</sup> The Nature Conservancy, "Natural Gas Pipelines," Excerpt from Report 2 of the Pennsylvania Energy Impacts Assessment, December 16, 2011, at 7, available at <http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/pennsylvania/ng-pipelines.pdf>

<sup>452</sup> Beth Brelje, *Pike Conservation Official Fed Up With Gas Company's Violations*, *Pocono Record*, Sept. 20, 2011, <http://www.poconorecord.com/apps/pbcs.dll/article?AID=/20110920/NEWS/109200330/-1/rss01> (noting numerous violations documented on Tennessee Gas Pipeline Company project).

and stabilizing stream banks,<sup>453</sup> its clearing necessarily increases a stream's susceptibility to erosion events. Cumulatively, the construction of numerous crossings across a single watercourse may significantly degrade the quality and flow rate of the water body.<sup>454</sup> Erosion and sedimentation problems are often exacerbated by the staging of construction, during which soils are exposed for long periods and over long distances by clearing, grading, and trench cutting before final pipeline installation and revegetation.<sup>455</sup>

Authorizing Port Ambrose will exacerbate these types of environmental impacts – as the importing facility could be converted to an exporting facility. Each one of the issues described in the section above creates individual, direct impacts of an intense nature. Taken in the context of the widespread boom for shale gas in the mid-Atlantic, these types of impacts also possess an extreme contextual significance. LNG export will in fact increase production of shale gases in the mid-Atlantic, and because LNG export is the causal link inciting such action the aforementioned impacts require a hard look and properly in-depth, informative assessment.

**d. Shoreside impacts must be quantified, data gaps filled**

It is not clear which land based facilities Liberty intends on using for construction of Port Ambrose; without those details it is impossible to determine the complete onshore impacts of the project. Locations for Marine Construction Support Bases, On-shore Warehouses, Concrete Weight Coating Plant, and even onshore offices are unknown or not yet determined in Liberty's application. The application does not adequately describe the Marine Construction Support Bases that are needed to service marine construction vessels. While the application describes the security for such bases as "adequate," security throughout the construction of this port is equally as important as security after construction, and should be thoroughly reviewed.

As stated earlier, the Bureau of Ocean Energy Management understands that the "total project should be discussed. The onshore facilities that will support construction activities and those that will support the O&M component are addressed minimally" and needs to be fully discussed in order to understand the complete onshore environmental impact associated with the construction and operation of Port Ambrose.<sup>456</sup>

Several unknown elements are not addressed in the application including security, disaster response, and potential locations for onshore facilities. The application refers to the lack of interference with local roadways and traffic during operation, yet does not address the affect transportation and construction will have on local roadways and traffic.

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<sup>453</sup> David J. Welsch, Forest Service, U.S. Dep't Agric., NA-PR-07-91, Riparian Forest Buffers: Function and Design for Protection and Enhancement of Water Resources (1991), [http://na.fs.fed.us/spfo/pubs/n\\_resource/buffer/cover.htm](http://na.fs.fed.us/spfo/pubs/n_resource/buffer/cover.htm)

<sup>454</sup> Canadian Association of Petroleum Producers, Canadian Energy Pipeline Association, and Canadian Gas Association, "Pipeline Associated Watercourse Crossings," 1-4 (2005).

<sup>455</sup> Comments on Environmental Assessment of MARC I Hub Line Project, Exhibit G, FERC Docket No. CP10-480-000, Submittal 20110711-5189 (filed Jul. 22, 2011) (statement of Susan Beecher, Executive Director, Pike County PA Conservation District (Jul. 8, 2011)), available at [http://elibrary.ferc.gov/idmws/docket\\_sheet.asp](http://elibrary.ferc.gov/idmws/docket_sheet.asp)

<sup>456</sup> Data Gaps, item #112, Liberty LNG Docket #13.

Coupled with the potential onshore habitat impacts from fracking, the unknown locations, toxic chemical storage conditions, and socioeconomics of planned shoreside activities add up to significant unanswered questions. The applicant should address these socioeconomic, economic, and environmental impact deficiencies with additional application disclosures while MARAD and the UCSG perform a more comprehensive review of these shoreside impacts and unknowns in the Draft EIS.

## VIII. SOCIOECONOMICS

The Liberty LNG application references the Neptune LNG Port and Northeast Gateway Deepwater Port off the coast of Massachusetts in relation to the creation of Port Ambrose when discussing habitat alteration. However, it does not address the specific details about the jobs created throughout construction and operation of the ports. Any Draft EIS must include specific data from those two ports about who was used, for what purposes, for what duration of time, and how many in order to understand the job benefits Liberty LNG is claiming will stem from the port.

A recent report by Cornell University's Global Labor Institute investigated the socioeconomic impacts of the construction of Keystone XL. The paper researched claims made by TransCanada Corporation and the American Petroleum Institute that, if constructed, TransCanada's proposed Keystone XL (KXL) pipeline would stimulate the US economy through the creation of thousands of well-paying jobs.<sup>457</sup> The report establishes that 3-7 construction and inspection personnel would be needed per mile of pipeline spread, which would require 6-9 months each to complete.<sup>458</sup>

According to Canada's National Energy Board (NEB), the socio-economic impacts will be of a "temporary nature and limited to the relatively short duration of pipeline construction without significant long term effect on the surrounding communities."<sup>459</sup> In comparison to the Keystone XL pipeline project, the Arctic Gas Pipeline construction Plan projects 800-1200 construction and inspection personnel needed for each pipeline spread depending on the location and size of the pipeline.<sup>460</sup> Again, according to the NED, the jobs created for each project will be temporary and insignificant in stimulating the economy.

Here, Liberty LNG claims this port will generate over 600 construction jobs, without providing any data, contracts, or job role descriptions to justify their estimate, and between 6 and 10 permanent jobs – four of which will not be needed if LNG shipments do not arrive (which happened for all three existing LNG deepwater ports around the nation).

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<sup>457</sup> Pipe Dreams? Jobs Gained, Jobs Lost by the construction of Keystone XL, Cornell University Global Labor Institute, [http://www.ilr.cornell.edu/globalaborinstitute/research/upload/GLI\\_KeystoneXL\\_Reportpdf.pdf](http://www.ilr.cornell.edu/globalaborinstitute/research/upload/GLI_KeystoneXL_Reportpdf.pdf) (last visited August 13, 2013).

<sup>458</sup> Pipe Dreams? Jobs Gained, Jobs Lost by the construction of Keystone XL, Cornell University Global Labor Institute, [http://www.ilr.cornell.edu/globalaborinstitute/research/upload/GLI\\_KeystoneXL\\_Reportpdf.pdf](http://www.ilr.cornell.edu/globalaborinstitute/research/upload/GLI_KeystoneXL_Reportpdf.pdf) (last visited August 13, 2013).

<sup>459</sup> Pipe Dreams? Jobs Gained, Jobs Lost by the construction of Keystone XL, Cornell University Global Labor Institute, [http://www.ilr.cornell.edu/globalaborinstitute/research/upload/GLI\\_KeystoneXL\\_Reportpdf.pdf](http://www.ilr.cornell.edu/globalaborinstitute/research/upload/GLI_KeystoneXL_Reportpdf.pdf) (last visited August 13, 2013).

<sup>460</sup> Arctic Gas Pipeline Construction Impacts on Northern Transportation, PROLOG Canada Inc., <http://www.arcticgaspipeline.com/Reference/Documents&Presentations/Canada/1-03ArcticGasPipelineConstructionSTUDY.pdf> (last visited August 13, 2013).

Specifically, Liberty LNG’s construction estimate (which is both not finalized and confidential) hypothetically provides the USCG and MARAD with detailed information (once developed) on who Liberty LNG plans on hiring, for how long, and where, but this information is not public, and has not thus far been an element of socioeconomic review. The port may generate 600 job contracts, but there is no way to know if they will all be for the 9-month project construction timeframe, if some will but others will be for 1- or 2-week contracts, or if these 600 jobs will go to 600, 200, 100, or 50 people, total. Furthermore, there is no evidence beyond Liberty LNG’s claims as to how many of these jobs would go to local workers or be out-of-region hires. Finally, there is no description of how many of these jobs would go to people already employed – Liberty LNG, in the application, mentions some aspects of construction support from existing shipyards, support vessels, and materials suppliers, often counting those people as part of the Liberty LNG “600.”

In examining the socioeconomics of the proposed Port, the USCG and MARAD must specifically, publicly, and precisely describe the employment outcomes of this project’s construction – for the short and long term. Energy companies have accused of exaggerating long term economic impacts associated with pipeline construction. Thus, it is imperative that the Draft EIS provide specific socioeconomic data on the jobs to be created during construction and operation of Port Ambrose so that there can be a transparent balancing of what benefits Liberty LNG is claiming, and the economies that are already extant in the area in question (including but not limited to port commerce, fisheries, recreation, tourism, and research socioeconomics). This level of precision and disclosure is required for numerous other aspects of the Port’s NEPA review (e.g., ichthyoplankton, air emissions, safety and security) and should be considered just vital for socioeconomic review.

#### **IX. THREATENED AND ENDANGERED SPECIES**

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.”<sup>461</sup> 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.

Liberty LNG’s application purports to examine the biological assessment associated with the building and execution of Liberty’s Port Ambrose liquefied natural gas port, but fails to recognize the long-term effects associated with disruption to this habitat. It describes the “existing conditions of biological resources in the Port Ambrose project area and identifies potential impacts and mitigation measures for construction, installation, operation, and decommissioning of the Port in relation to biological resources” but states that there will be no long-term effects on the biological resources.<sup>462</sup>

According 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.”<sup>463</sup> Liberty LNG has identified 49 threatened or endangered

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<sup>461</sup> Data Gaps, item #13, Docket # USCG-2013-0363-0013.

<sup>462</sup> Liberty LNG Application, Volume II, Report 4, at 4-1.

<sup>463</sup> 16 U.S.C. § 1531 (a)(1).

species local to Port Ambrose that will be harmed due to the industrialization of the NY Bight. The following is a list of endangered and threatened species) at risk from this port:<sup>464</sup>

Green Sea Turtle <i>Chelonia mydas</i>	Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i>	Loggerhead Sea Turtle <i>Caretta caretta</i>
Hawksbill Sea Turtle <i>Eretmochelys imbricate</i>	Leatherback Sea Turtle <i>Dermochelys coriacea</i>	Fin Whale <i>Balaenoptera physalus</i>
North Atlantic Right Whale <i>Eubalaena glacialis</i>	Humpback Whale <i>Megaptera novaeangilae</i>	Sperm Whale <i>Physeter macrocephalus</i>
Sei Whale <i>Balaenoptera borealis</i>	Blue Whale <i>Balaenoptera musculus</i>	West Indian Manatee <i>Tricheus manatus</i>
Piping plover <i>Charadrius melodus</i>	Roseate tern <i>Sterna antillarum</i>	Eskimo curlew <i>Numenius borealis</i>
Common tern <i>Sterna hirundo</i>	Black tern <i>Chlidonias niger</i>	Least bittern <i>Ixobrychus exilis</i>
Black rail <i>Laterallus jamaicensis</i>	King rail <i>Rallus elegans</i>	Pied-billed grebe <i>Podilymbus podiceps</i>
Henslow's sparrow <i>Ammodramus henslowii</i>	Bald eagle <i>Haleaeetus leucocephalus</i>	Upland sandpiper <i>Bartramia longicauda</i>
Golden eagle <i>Aquila chrysaetos</i>	Northern harrier <i>Circus cyaneus</i>	Peregrine falcon <i>Falco peregrinus</i>
Loggerhead shrike <i>Lanius ludovicianus</i>	Sedge wren <i>Cistothorus platensis</i>	Short-eared owl <i>Asio flammeus</i>
Common loon <i>Gavia immer</i>	American bittern <i>Botaurus lentiginosus</i>	Osprey <i>Pandion haliaetus</i>
Sharp-shinned hawk <i>Accipter cooperii</i>	Red-shouldered hawk <i>Buteo lineatus</i>	Black skimmer <i>Rhynchops niger</i>
Common nighthawk <i>Chordeiles minor</i>	Whip-poor-will <i>Caprimulgus vociferous</i>	Red-headed woodpecker <i>Melanerpes erythrocephalus</i>
Horned lark <i>Eremophila aplestris</i>	Yellow-breasted Chat <i>Icteria virens</i>	Vesper Sparrow <i>Pooecetes gramineus</i>

<sup>464</sup> Liberty LNG Application, Volume II, Report 4, at 4-17, 19, 24-28, 35-39, 44-48.

Grasshopper Sparrow  
*Ammodramus savannarum*

Seaside Sparrow  
*Ammodramus maritimus*

Shortnose sturgeon  
*Acipenser brevirostrum*

Atlantic sturgeon  
*Acipenser oxyrinchus oxyrinchus*

Sandplain gerardia  
*Agalinis acuta*

Seabeach amaranth  
*Amaranthus pumilu*

Northeaster beach tiger beetle  
*Cicindela dorsalis dorsalis*

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,”<sup>465</sup> and ‘threatened species’ as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”<sup>466</sup>

Congress declared it to be a national policy that “all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this chapter.”<sup>467</sup> The application briefly touches upon the various impacts the Port Ambrose port will have on threatened and endangered species and specifically states that there will be no impact to the species. The Liberty LNG Application does not do an adequate job of analyzing the potential, devastating effects the proposed liquefied natural gas port will have on endangered and threatened species.<sup>468</sup>

**Any Draft EIS must include quantitative data about the fish and other invertebrates displaced because of Port Ambrose along with a qualitative study about the types of potential invasive species. Specific migratory patterns of species such as the North Atlantic Right Whale need to be mapped out in relation to the port as well as the length of time allowed before noise pollution affects the species’ communication.**

A detailed assessment of each species, and the Port’s impacts to those species (individual, cumulative, short term, long term, for at least one alternate port location, and a baseline “no action” status description) must be included in the Draft EIS.

#### **a. 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).”<sup>469</sup> The Liberty LNG application directly impacts the benthic community, specifically benthic invertebrates, through the destruction of the marine environment.

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<sup>465</sup> 16 U.S.C. § 1532 (6).

<sup>466</sup> 16 U.S.C. § 1531 (20).

<sup>467</sup> 16 U.S.C. § 1531 (c)(1).

<sup>468</sup> Data Gaps, item #134, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>469</sup> 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).



**Food**

The benthic invertebrates provide food for the “bottom dwelling and feeding fish” and provide an indication of the overall health of an area due to their impacts on the food chain.<sup>470</sup> If the food chain were to be disrupted at this initial level, it would have tremendous influences on not only the invertebrates and vertebrates of the region, but specifically the endangered and threatened species of the NY Bight. The relationship between organisms of an ecosystem is an important one;

*“Humans may value watching bald eagles yet be unaware or indifferent toward pocket gophers. Yet if pocket gophers are a critical part of the raptors’ food supply, then humans have a derived value for the pocket gophers and their habitat ...The ecological inter-relationships necessary to support the high-profile species may mean that the entire ecosystem must be protected.”<sup>471</sup>*

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.”<sup>472</sup> Port Ambrose is directly impacting this ecological balance.

The port’s impacts will not only be seen during the construction due to pipeline alignment, but the physical location of Port Ambrose will have a long-term impact on the benthic invertebrates due to the STL Buoy structure affecting substrate.<sup>473</sup> The National Marine Fisheries Services (NMFS) recognizes the lack of analysis of the impacts on habitats within the application. The EIS should explicitly analyze the parallels between disturbing the benthic environment and thus influencing the food chain for the threatened and endangered species along with providing a thorough analysis of “anticipated recovery times for marine fishery habitats within the environmental evaluation.”<sup>474</sup>

**Inter-species relationships**

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 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.”<sup>475</sup> Liberty LNG adds that “these

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<sup>470</sup> Liberty LNG Application, Volume II, Report 4, at 4-20.

<sup>471</sup> [Economic benefits of rare and endangered species: summary and meta-analysis, www.appstate.edu](http://www.appstate.edu) (last visited August 5, 2013).

<sup>472</sup> 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).

<sup>473</sup> Liberty LNG Application, Volume II, Report 4, at 4-59.

<sup>474</sup> Data Gaps, item #68, 177, Liberty LNG Docket #USCG-2013-0363-0013

<sup>475</sup> Liberty LNG Application, Volume II, Report 4, at 4-58.

introduced species may pose a threat to endangered species and to biodiversity.”<sup>476</sup> Port Ambrose will amplify the introduction and threat of new species into the environment.

### ***Migration***

For some of the threatened and endangered species, the NY Bight is only their habitat for a part of the year, yet that time is extremely critical in the development of the species. For example, the North Atlantic Right Whale lives in the North Atlantic Ocean but travels to warmer waters for mating and calving. According to the Natural Resources Defense Council (NRDC) the northeastern section of the United States is the critical habitat of the North Atlantic Right Whale.<sup>477</sup> Due to migration, this endangered species is at a greater risk of being harmed because of the construction and operation of Port Ambrose. For example, NRDC notes the increased potential of vessel strikes with the right whale. NMFS recognizes that the application does not address these potential impacts with vessels and species such as whales, sea turtles, and Atlantic sturgeon.<sup>478</sup> Mitigation measures, such as port closures during times of migration of the right whale need to be analyzed in order to better understand this habitat disturbance.

The current marine habitat associated with the NY Bight is already not conducive to the list of endangered and threatened species provided within Liberty’s application. Any disturbance to their already inadequate habitat would have detrimental effects on the continuation of their species. The application states that there will be long-term impacts to the substrate, and thus the benthic community, but it fails to recognize the significant impacts of the short-term construction disturbances associated with the port that could lead to organism displacement and habitat alteration. The slightest disruption to this habitat would have significant and devastating effects to the endangered and threatened species based on this proposed LNG port. **Specifically, the Draft EIS needs both quantitative and qualitative studies regarding the anticipated fish and invertebrate species displaced as well as the number and types of invasive species anticipated. Any disruption to the secondary level of the food chain (fish and invertebrates) will impact the fishing industry. Similarly, specific migratory patterns of species need to be mapped out in relation to the port, given that some species will be forced to alter their migratory patterns putting them and the shipping industry at a greater risk.**

### **b. Noise**

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. 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.”<sup>479</sup> For T&E species especially, the disturbance to biological functions could lead to complete extinction of the species.

Construction and operation of Port Ambrose will provide a constant new source of sound that will be unavoidable for the marine environment. The Draft EIS should more explicitly analyze the impacts of

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<sup>476</sup> Liberty LNG Application, Volume II, Report 4, at 4-58.

<sup>477</sup> [Whale Songs in the City, Natural Resources Defense Council, www.nrdc.org](http://www.nrdc.org) (last visited August 6, 2013).

<sup>478</sup> Data Gaps, item #70, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>479</sup> Liberty LNG Application, Volume II, Report 4, at 4-62.

maintenance and repair vessels present at the port and the noise levels associated with such vessels. Maintenance and repair includes annual inspection of the pipeline, replacement of components, or annual inspections of the port along with the “acoustic footprint” of these operations.<sup>480</sup> The underwater noise levels associated with such operation in relation to the marine life needs to be analyzed thoroughly and in accordance the Marine Mammal Protection Act’s definition of harassment.

### **Marine Mammal Harassment**

According to Section 3 of the Marine Mammal Protection Act, “the term ‘harassment’ means 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 in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, feeding, or shelter.”<sup>481</sup> The underwater analysis states that species will potentially undergo Level B harassment due to experiencing 120-dB received contour traveling approximately 1.5-1.7 miles for approximately 30 minutes.<sup>482</sup> However, since this harassment will only occur every 5-16 days, Liberty LNG believes that no long-term effects on species will be seen.<sup>483</sup> During the application review, deficiencies were found due to the lack of support for Liberty LNG’s previous statement. Results from a “site-specific quantitative acoustic analysis” assessment are necessary for this type of a conclusion.<sup>484</sup>

The application clearly states that “...it is anticipated that impacts on marine mammals resulting from construction activities will be short-term and consist of minimal to negligible behavioral harassment effects. Impacts on marine mammals from noise and acoustic shock during construction are expected to be insignificant and temporary.”<sup>485</sup> However, NMFS recognizes 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 and, thus, needs to be considered. Based on this evaluation, direct and indirect effects to listed species of whales, Atlantic sturgeon, and sea turtles [all of which represent endangered and threatened species] will need to be fully addressed.”<sup>486</sup>*

Even brief exposures to underwater noise will impact the various species of the NY Bight.

### **Other Species**

The report does not adequately review the noise impacts to species other than marine mammals such as fish, turtles, shellfish, and birds.<sup>487</sup> Although little is known regarding the effects of noise on

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<sup>480</sup> Data Gaps, item #56, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>481</sup> 16 U.S.C. § 1361 (2)(a).

<sup>482</sup> Data Gaps, item #108, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>483</sup> Data Gaps, item #108, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>484</sup> Data Gaps, item #108, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>485</sup> Liberty LNG Application, Volume II, Report 4, at 4-100.

<sup>486</sup> Data Gaps, item #72, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>487</sup> Data Gaps, item #26, Liberty LNG Docket #USCG-2013-0363-0013.

invertebrates, BOEM notes that there have been studies researching the impacts noise has on hearing capabilities and impacts of sound on invertebrates and states that any form of sound can cause stress on fish.<sup>488</sup> It is necessary for the application to further research these areas in order to adequately understand the noise impacts on marine life. This Draft EIS should more explicitly analyze this issue's effects on inter and intra-species communication and how important those types of communication are for the livelihood of the marine life.<sup>489</sup>

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. However, the analysis of noise throughout the application indicates, without supporting data, that noise impacts to marine life in the NY Bight will be minimal due to pre-existing background noise already present.<sup>490</sup> Previous discussions of noise impacts have solely been qualitative and comparative to the Neptune LNG Deepwater Port Project from 2005 to 2009, **thus a quantitative impact study needs to be reviewed to determine the construction and operation noise impacts on biological functions, such as intra- and inter-species communication.**<sup>491</sup>

### c. Economics

If habitat disturbance and noise impacts due to the construction and operation of Port Ambrose are not significant enough to impact the future threatened and endangered species in relation to the port, then a closer look at the economics behind threatened and endangered species might help. Threatened and endangered species add an economic value to their local economy by adding “aesthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people.”<sup>492</sup> Protection of T&E species and habitats could have a beneficial impact on the economy.<sup>493</sup> Threatened and endangered species are quite valuable, environmentally and economically:

*“The anthropocentric or human-centered benefits of protecting T&E species can be grouped into several categories: (a) use value such as viewing of the species; (b) an option value to maintain genetic information provided by populations of T&E species that may be useful for medicinal and genetic engineering applications; (c) existence value derived from the satisfaction of knowing that a particular species has a sustainable population in its native habitat; (d) bequest value the current generation receives from knowing preservation today provides this species to future generations. Collectively these benefits are often referred to as a Total Economic Value.”<sup>494</sup>*

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<sup>488</sup> Data Gaps, items #43, 42, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>489</sup> Data Gaps, item #26, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>490</sup> Data Gaps, item #106, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>491</sup> Data Gaps, item #104, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>492</sup> 16 U.S.C. § 1531 (a)(3).

<sup>493</sup> Economic benefits of rare and endangered species: summary and meta-analysis, 1996. Available at <http://www.appstate.edu/~whiteheadjc/eco3620/mocktrial/pdf/loomisandwhite-ee-1996.pdf> (last visited August 5, 2013).

<sup>494</sup> Economic benefits of rare and endangered species: summary and meta-analysis, 1996. Available at <http://www.appstate.edu/~whiteheadjc/eco3620/mocktrial/pdf/loomisandwhite-ee-1996.pdf> (last visited August 5, 2013).

The survival of threatened and endangered species will benefit the total economic value, but the preservation of fish species and sediment is necessary for T&E survival. The proposed DWP site is in an area known as Cholera Bank, which is extremely important to commercial and recreational fishing in the area.<sup>495</sup> NMFS recognizes the deficit in fully analyzing the exclusion of commercial fishing operations or issues pertaining to displacement of local fishes on the economy.<sup>496</sup> A Draft EIS must perform a quantitative study based on the effects to the commercial fishing industry.

As stated previously, the introduction of other species into the marine environment will 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 dynamic environment that introduces new species into the NY Bight. These new species can greatly impact the local habitat for the endangered and threatened species because of food alteration and predator/prey alteration. The application fails to analyze the cost associated with the introduction of new species into the marine environment and how those new species could have a negative impact on the species already present.<sup>497</sup>

**A Draft EIS should specifically state the economic value of having endangered and threatened species in the NY Bight and how possible impacts on those species could decrease the value of the NY Bight's tourism, fisheries, and species-based economies.**

### ***Conclusions***

The Liberty LNG application does not adequately analyze the potentially devastating risks of the proposed port to threatened and endangered species. Habitat, noise pollution and the economy are all factors that are associated with the species and will be impacted by Port Ambrose. Each factor's impact will have cascading effects on the ecosystems that these species delicately rely upon.

The Draft EIS must fill the gaps in the application by examining how will maintenance, repair, and decommissioning activities affect the habitat and noise pollution in the NY Bight; whether species displaced during construction of similar ports return after construction ceases; which other species will be impacted by the port's noise pollution and which specific biological functions will be altered (i.e. communication); what is the economic value of threatened and endangered species in the NY Bight and how will disruptions from port construction and operation affect this value; and, how, in a quantifiable way, does the construction of Liberty LNG's Port Ambrose affect the status quo of endangered and threatened species, their existence, and their recovery in the NY Bight?

## **X. FISH AND FISHERIES**

### **a. Inadequate examination of the socioeconomics of exclusion**

According to the National Marine Fisheries Service, the "proposed DWP site is in area known as Cholera Bank" and adjacent to "Middle Ground, Angler Bank, East of Cholera and Mussel Grounds [which] are all important recreational and commercial fishing grounds."<sup>498</sup> As such, NMFS cautions that Liberty LNG did

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<sup>495</sup> Data Gaps, item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>496</sup> Data Gaps, item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>497</sup> Liberty LNG Application, Volume II, Report 4, at 4-58.

<sup>498</sup> Data Gaps, Item #128, Liberty LNG Docket #USCG-2013-0363-0013.

not adequately review the “economic impacts caused by the creation of an exclusion zone that would preclude commercial and recreational fishing activity in the area” for construction, operations, ship transits, and decommissioning of Port Ambrose.<sup>499</sup> The total economic impacts of the Port’s construction (and necessary exclusions) should also be thoroughly analyzed in the Draft EIS using site specific data and compares to data obtained from Neptune or Northeast Gateway LNG ports currently sitting idle.

Data and assessments of direct and indirect economic impacts from Port Ambrose on both New York and New Jersey fisheries and regional ports are needed. It is also critical as NMFS noted, that “It is important to use current and accurate data and information in determining the potential impacts on historical, current and future fishing activities.”<sup>500</sup>

New Jersey fisheries, which rely on the resources of the New York Bight, have been omitted from the commercial and recreational fishing summaries.<sup>501</sup> According to the New Jersey legislature, in a propose resolution highlighting the impact Sandy caused the state’s fishing economies, “in 2011, the commercial fishing industry in New Jersey generated \$6.6 billion in sales, contributed \$2.4 billion to the gross State product, and supported 44,000 jobs throughout the State, while the State’s recreational fishing industry generated \$1.7 billion in sales, contributed \$871 million to the gross State product, and supported 10,000 jobs.”<sup>502</sup> This information is presently lacking in the Liberty LNG application, and cannot be overlooked in the Draft EIS. Similar information on jobs and generated sales must be provided for the New York, as the current information does not recognize the significant value of fish and fisheries to the region. Without this level of detail, there can be no adequate balancing of socioeconomic impacts from the port, no measuring of the alternatives, and no transparent review of the effect this proposal will have on fisheries.

#### **b. Pre-operation impacts**

First, according to NMFS, more information is needed for site selection. The agency recommends “that the applicant provide additional information on commercial and recreational fishing at the proposed site and pipeline locations.”<sup>503</sup> Similarly lacking is an explanation of site selection criteria; NMFS notes that

*“the application appears to use siting criteria for the DWP and pipeline that does not fully account for our trust resources. While the application discusses criteria addressing some potential effects to resources of concern to us, including proximity to designated fishing grounds, spawning areas, and critical habitats for protected resources or EFH, additional information regarding commercial and recreational fishing should be utilized in the site selection analysis.”<sup>504</sup>*

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<sup>499</sup> Data Gaps, Item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>500</sup> Data Gaps, Item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>501</sup> Liberty LNG Application, Volume 2, Report 6, at 6-2 thru 6-5.

<sup>502</sup> NJ Legislature; Resolution AR178/SR110. Available at [http://www.njleg.state.nj.us/2012/Bills/AR/178\\_I1.HTM](http://www.njleg.state.nj.us/2012/Bills/AR/178_I1.HTM) (last visited August 1, 2013).

<sup>503</sup> Data Gaps, Item #22, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>504</sup> Data Gaps, Item #22, Liberty LNG Docket #USCG-2013-0363-0013.

Second, construction exclusion zones and timeframes need to be specified to evaluate impacts to fish populations from displacement of fishing activities and on the fisheries. Simply concluding that impacts on fisheries will be “relatively small and temporary” does not fulfill NEPA or DPA review requirements.<sup>505</sup>

Third, a precise summary of total water use and discharges are needed for the construction phase and its impacts on fish and fisheries assessed. During commissioning, and potentially during periods of low or intermittent flow, **an open loop cooling system will be used**; the application states that

*“the average cooling water intake/discharge rate for a LNGRV could approach 8.2 million gallons per day (mgd) (5,700 gpm) [per buoy] during this period. A short duration (approximately 1 hour) maximum seawater intake/discharge rate of up to 13,900 gpm may occur if the vessel auxiliary steam dump condenser is needed.”<sup>506</sup>*

Also, hydrostatic testing of the Mainline and Laterals will impact local water quality – these activities will use approximately 3.5 million gallons of seawater containing biocides.<sup>507</sup> It is not clear what the resulting chemicals will be from the neutralization of the biocide and what the water quality impacts will be of the discharge of this water. The Draft EIS must quantify, summarize, and analyze the impacts from all of these open-water impacts.

Fourth, the entrainment and impingement impacts from hydrostatic testing and open-loop commissioning need to be assessed for endangered and threatened species, marine mammals, fish populations (due to egg/larvae removal), and removal of phytoplankton and zooplankton that form the base of the marine food web. Significantly, NMFS notes that while “the application includes an ichthyoplankton entrainment assessment, the data used to develop this model were not representative of the conditions of the project site.”<sup>508</sup> Entrainment data provided (from other sites, other ecosystems) are not useful for assessing the impacts of ballast water uptake, so the Draft EIS must develop and disclose site specific data from the pipeline route that accounts for daily, seasonal, and yearly variations in order to form accurate analyses.

Fifth, the discharges are expected to increase from the intake temperature by “approximately 9°F to 14°F (5°C to 8°C), with a maximum difference of 18°F (10°C)” which appear to be based on best professional judgment – not data analysis.<sup>509</sup> The water quality impacts of these discharges needs to be quantified and modeled using site specific data that is representative of seasonal and daily variations to evaluate the area that will be impacted.

Construction support vessel use and discharges, and potential accidents, also need to be quantified and assessed for all of the above water impacts, using site- and vessel-specific models.

Sixth, the application does not provide sufficient information and data to explain the extent and magnitude of pipeline implementation impacts on fish, shellfish and associated fisheries. According

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<sup>505</sup> Liberty LNG Application, Volume 2, Report 6, 6-13.

<sup>506</sup> Liberty LNG Application, Volume 2, Report 3, at 3-17.

<sup>507</sup> Liberty LNG Application, Volume 2, Report 3, at 3-16.

<sup>508</sup> Data Gaps, Item #176, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>509</sup> Liberty LNG Application, Volume 2, Report 3, at 3-17; Liberty LNG Application, Volume 1, Appendix C – Draft NPDES Permit Application, at 3.

NMFS a monitoring plan should be developed for the project and, “The monitoring plan should also include pre and post construction monitoring of the pipeline alignment to ensure proper burial of the pipeline and benthic community recovery.”<sup>510</sup>

The total area of seafloor disturbance from construction activities is needed on fish habitat and resources. A 75 foot wide swath for the Mainline alone would impact 197 acres of seafloor, which “will prove lethal to most organisms within the plowed area.”<sup>511</sup> The biological impacts, including the biomass and number of species killed need to be assessed. The impacts of the seafloor habitat loss on other species need to be evaluated. More site specific information and past studies on biological recovery is needed. NMFS, notes these significant pipeline concerns in recommending that:

*“the applicant develop and implement a comprehensive benthic sampling program for both the deepwater port site and the entire pipeline alignment. We specifically recommend that all benthic profiling be prepared and transmitted in color-enhanced format and that all methods and results of studies are presented clearly. It is advisable that any references used also provided in their entirety in an appendix so that they may be consulted in subsequent stages of project review. This will improve your ability to analyze fully the proposed project’s impacts on benthic resources and the forage base for federal and non-federal fishery resources.”<sup>512</sup>*

Seventh, and finally, noise impacts on fish and fisheries from construction need to be evaluated and analyzed. Over 700 fish species produce low frequency, species-specific sounds.<sup>513</sup> Sea turtles, squid, octopus, shrimp, crab, and even coral and fish larvae have been found to respond to sound. Noise can injure and be fatal to marine life. As BOEM noted, “Another effect on fish is interference with communication. A number of fish communicate using sound. Also noise can cause generalized stress.”<sup>514</sup> Application reviewers at Tetra Tech recommended that “[s]pecific identification of the potential for impacts from noise to specific marine mammal and fish species should be assessed from the noise modeling.”<sup>515</sup> According to NMFS, “More information on and a detailed description of the source levels produced by all construction and operation activities as well as information on the distance at which noise levels will be below injury/disturbance/harassment thresholds, established by us for marine mammals, sea turtles, and Atlantic sturgeon for underwater noise, must be provided.”<sup>516</sup>

The conclusions that construction impacts to commercial and recreational fisheries will be “short-term and minor” are clearly unsubstantiated and significant data gaps must be addressed in the Draft EIS.<sup>517</sup>

### **c. Operational impacts**

First, the report does not evaluate the full extent of impacts that exclusions zones will have on fisheries. Liberty LNG’s exclusion requirements threaten the use many fishing areas of interest, including “the

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<sup>510</sup> Data Gaps, Item #67, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>511</sup> Liberty LNG Application, Volume 2, Report 4, at 4-81.

<sup>512</sup> Data Gaps, Item #65, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>513</sup> Transactions of the American Fisheries Society 137:533–541, 2008

<sup>514</sup> Data Gaps, Item #41, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>515</sup> Data Gaps, Item #104, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>516</sup> Data Gaps, Item #72, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>517</sup> Liberty LNG Application, Volume 2, Report 4, at 10.



area known as Cholera Bank ... and the adjacent Middle Ground, Angler Bank, East of Cholera and Mussel grounds [which] are all important recreational and commercial fishing grounds,” according to NMFS.<sup>518</sup> More information and analysis is needed to evaluate impacts on fisheries from exclusions zones around the buoys and LNGRVs when in transit and at port. NMFS recommended “that the applicant provide additional fisheries information, including information on the economic impacts of a potential fisheries exclusion zone, as the applicant seeks authorization for an exclusion zone of 500 meters around each buoy, as well as 1000 meter no anchor zone.”<sup>519</sup> Given that the USCG has theorized that the coexistence of the Liberty LNG port and an offshore wind energy area may require the establishment of a 3000 to 4000 meter band within the proposed offshore wind area for LNG vessels and the port, this level of exclusion should be analyzed for impact on fish and fisheries communities.

Second, several data gaps in fishery data need to be filled. NMFS has stated that “an analysis of impacts of fishery resources and habitats should be included within the environmental evaluation.”<sup>520</sup> There needs to be an accurate assessment of the current “distribution and abundance of marine fishery resources at the project site (by species and life stage and including early life stages)” and “the impacts on those species and the fishery from impingement, entrainment, and properties (e.g., temperature, salinity, and biocide concentration) of the discharge plume.”<sup>521</sup> According to BOEM, “Need to update regulatory information concerning the Atlantic sturgeon. Its status has changed from proposed to listed. Also, the EFH Assessment includes Atlantic salmon adults in the project area. They are not mentioned in the Biological Resources Section of the Environmental Evaluation.”<sup>522</sup> Tetra Tech also noted that several species including albacore tuna, scalloped hammerhead shark, and smooth dogfish were not included in the description of the Atlantic Highly Migratory Species Fishery Management Plan which should be added.<sup>523</sup> The ecological impacts to fishery resources that result from displacing commercial and recreational fishing operations, increasing fishing pressures in other areas, noise, lighting, dredging, and habitat contamination all must be assessed in the Draft EIS.

Third, up to 1.93 million gallons per day may be removed per LNGRV.<sup>524</sup> Site specific data are needed to provide an accurate assessment of entrainment and impingement impacts to the base of the marine food web: phytoplankton, zooplankton, and ichthyoplankton. As NMFS noted,

*“the ‘Ichthyoplankton Entrainment Assessment’ ... cannot be considered a valid assessment of the potential entrainment effects of the proposed project due to the date used in the assessment. According to the document, the larval density data were obtained from studies within Great South Bay, New York. The STL Buoys proposed by the applicant will be approximately 18 miles offshore in water depths of approximately of 100 to 120 feet. The estuarine data are taken from an environment that is not representative of the conditions, habitat, and larval densities that may be found at the DWP site or along the pipeline alignment.”*<sup>525</sup>

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<sup>518</sup> Data Gaps, Item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>519</sup> Data Gaps, Item #128, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>520</sup> Data Gaps, Item #177, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>521</sup> Data Gaps, Item #67, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>522</sup> Data Gaps, Item #129, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>523</sup> Data Gaps, Item #58, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>524</sup> Liberty LNG Application, Volume 2, Report 4, at 4-67.

<sup>525</sup> Data Gaps, Item #66, Liberty LNG Docket #USCG-2013-0363-0013.

The distribution and abundance of plankton is highly variable and more site specific information collected over time to account for seasonal and yearly fluctuation needs to be provided to evaluate environmental and fishery impacts. BOEM also expressed concern as to the lack of information on site-specific entrainment impacts when it asked that Liberty LNG assess “[w]hich species are most likely to be affected based on location of intakes, time of year and densities of fish offshore” in filling data gaps.<sup>526</sup> The consequences of removing large amounts of biomass on a routine basis on the ecosystem are significant; updated science on plankton in the New York Bight is needed, as decisions made for Port Ambrose could have potentially drastic effects on the existing, robust, local fisheries.

Fourth, accidental releases of LNG or other chemicals are concerning for fish and fisheries and have been inadequately explained and assessed in the application. In addition to asphyxiation concerns, NMFS has indicated that natural gas can be toxic to marine life and produce birth defects in mammals and fish.<sup>527</sup> Moreover, NMFS states that: “According to Patin 1999, acute fish poisoning and lethal damage occur at concentrations of gas hydrocarbons over 1mg/L. Primary behavioral responses are observed at levels as low as 0.02-0.1 mg/L.”<sup>528</sup> Requested information by USCG should be provided to fill these serious data gaps as well as address unsubstantiated claims of significance (e.g., the request that Liberty LNG supply NOAA with a “spill model output to defend the statement ‘...the release of diesel fuel...the spill would be small...so impact to fish and prey resources would be local.’”).<sup>529</sup>

The potential of damage to the pipeline and accidental release from it still need to be assessed. The potential risks and impacts for collisions with other vessels, such as oil tankers and new Panamax container ships, need to be evaluated for environmental and fishery impacts.

Fifth, the cumulative impacts have been inadequately assessed. Although renewables and the Rockaway lateral project were included, the cumulative impacts were not evaluated quantitatively or in terms of ecosystem and fishery impacts and these analyses are still needed. The application notes that the site is “within some of the lease blocks in the NY Collaborative Wind Farm area of interest.”<sup>530</sup> The applicant claims that projects are compatible uses, but this seems unlikely and not enough information has been provided to support the claim. As NMFS has stated “Port Ambrose project applicant should consider cumulative effects of the two projects on fish habitat, fishery resources and commercial and recreational fishing activities.”<sup>531</sup> Moreover, existing impacts from shipping, military activities, cable-laying and other ocean activities were not evaluated in the cumulative impacts. Nor was the expected noise pollution from the extensive proposed seismic oil/gas exploration activity from Delaware to mid-Florida that will impact the New York Bight.

What little information Liberty LNG does provide indicates that impacts and potential risks will be substantial. The conclusions that operation impacts to commercial and recreational fisheries will be “minor” are unjustifiable.<sup>532</sup> The DEIS must include much more detailed information and data that is site specific and up-to-date to evaluate fish and fishery impacts.

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<sup>526</sup> Data Gaps, Item #41, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>527</sup> Data Gaps, Item #22, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>528</sup> Data Gaps, Item #22, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>529</sup> Data Gaps, Item #63, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>530</sup> Liberty LNG Application, Volume 2, Report 4, 4-112.

<sup>531</sup> Data Gaps, Item #88, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>532</sup> Liberty LNG Application, Volume 2, Report 6, 6-15 and 6-16.

**d. Baselines & the No Action Alternative**

The values of the region's fisheries have been underreported and fail to include the robust fishery of New Jersey and regional ports that rely on a healthy and productive New York Bight.

Baseline data provided is outdated and in certain cases not even representative of the site. There are significant baseline data gaps including lack of ambient noise levels, plankton, and benthic data that have implication for fishery evaluations. According to NMFS, "Sufficient information on ambient noise levels is not provided. Ambient noise levels within the project area and the contribution of additional noise from DWP/pipeline construction and operations needs to be evaluated further."<sup>533</sup> In addition, Superstorm Sandy had significant impacts on coastal fishery habitats in the region having unknown implications on the current baseline ecological conditions and assumptions.

Without incorporating much more thorough fishery data (including impacts on catches, ports, and fishermen from exclusion zones, noise, pollution, operations, accidents, and potential disasters), the Draft EIS will not be a complete analysis of the impact of Port Ambrose on fisheries. Without complete data on the billions of dollars of income, sales, and indirect impacts that the area's fisheries generate (as well as the actual food produced), there can be no legal NEPA or DPA balancing of the status quo against this fossil fuel port.

**XI. CULTURAL SITES & RECREATION**

The Liberty application needs to consider if Port Ambrose will interact or interfere with cultural sites and recreation. Ocean Surveys, Inc. used remote sensing to determine possible effects of the proposed Project on cultural resources listed on or eligible for National Register of Historic Places.<sup>534</sup> This study took place "along 2 proposed subsea pipeline route options..., two laterals interconnecting the subsea pipeline to the Port, and within a rectangular area approximately 1 mile by 3 miles encompassing the proposed Port."<sup>535</sup> A Draft EIS must provide the survey strategy performed on the proposed Port rectangular area in order to determine its effects on cultural sites and recreation.

***Paleo-landforms in state and federal waters***

Surveys of potential paleo-landforms in state and federal waters were performed. For state waters, Liberty concluded that the

*"preservation potential of cultural materials in this region is likely very low. Exceptions include the flanks of buried channels, which are numerous on this part of the shelf. However, Project effects will most likely be within the depth range where sediments have been reworked extensively."*<sup>536</sup>

There are many significant issues with this conclusion. First, the Liberty LNG application clearly states that there are numerous flanks of buried channels in the Port area, therefore, the potential effects of

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<sup>533</sup> Data Gaps, Item #72, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>534</sup> Liberty LNG Application, Volume 2, Report 5, at 5-1.

<sup>535</sup> Liberty LNG Application, Volume 2, Report 5, at 5-1.

<sup>536</sup> Liberty LNG Application, Volume 2, Report 5, at 5-8.

the Port on these flanks is higher than if the likelihood of such flanks existing in the area was minimal. Second, the chirp seismic data of federal waters identified three paleo-channels, one of which was previously unidentified.<sup>537</sup> These channels might contain more potential paleo-landforms than believed to be within the area. Third, “the depth range where sediments have been reworked extensively” is never identified.<sup>538</sup> This depth range is likely within the 15 feet that was analyzed for targeted paleo-landforms. The paleo-landforms found in deeper water depths greater than 15 feet would have different sediment cover and may cause a potentially larger conflict with the proposed Project.

### ***Onshore Surveys and Data Gaps***

Preliminary surveys were supposedly performed at the onshore staging areas in Coeymans, NY, and Quonset Point, RI. The Liberty LNG application states that the “preliminary survey have been conducted only at” these two areas, despite listing other potential onshore staging areas in the application.<sup>539</sup> All potential onshore staging areas must be analyzed for the Draft EIS. Even for those areas that were surveyed, the data gaps analysis conducted by federal agencies concluded that “there is no information about this staging area within the cultural resources survey reports.”<sup>540</sup> The Draft EIS must include information on the surveys, information on the proposed onshore sites, and data generated by those surveys.

The Draft EIS must examine impacts on cultural resources and to ocean users including recreational divers, whale watching tours, recreational boaters, fishing community, archaeologists, cruise line tourists, etc., from Port construction, operation and long-term exclusions. This review must provide the preliminary survey strategy performed on the proposed Port rectangular area for public review. Analyses for potential paleo-landforms need to be conducted up to depths of 50-100 feet because the 8 pile driven anchors mooring the STL buoys can reach these depths and preliminary surveys did not explore these depths.

Prior to submitting the Draft EIS, Liberty must develop a program for formal evaluation of potentially significant cultural resources found in field survey reports and develop an unanticipated discoveries plan, and provide more information on ocean users and impacts of their potential recreational displacement – including impacts to the full suite of users that could potentially be affected, from fishermen to surfers, boaters, divers, wildlife enthusiast, etc. Without filling these gaps in the Cultural Resources analysis, the Draft EIS will be as incomplete as the Liberty LNG application.

## **XII. WATER & SEDIMENT IMPACTS**

### **a. Construction impacts**

The conclusion that “[c]onstruction activities in the New York Bight are anticipated to result in minor impacts of short duration to water quality in the area” is poorly supported and more information is

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<sup>537</sup> Liberty LNG Application, Volume 2, Report 5, at 5-7.

<sup>538</sup> Liberty LNG Application, Volume 2, Report 5, at 5-8.

<sup>539</sup> Liberty LNG Application, Volume 2, Report 5, at 5-11.

<sup>540</sup> Data Gaps, Item #79, Liberty LNG #USCG-2013-0363-0013.

needed.<sup>541</sup> A Draft EIS must include qualitative data supporting the minor impact on water quality on the NY Bight associated with construction activities.

### ***Open loop cooling during commissioning***

The system is indicated to be a closed-loop freshwater system, and yet, an open loop seawater system may be used for commissioning of the Port and/or commissioning of a new LNGRV and may be used apparently for the freshwater supply for cooling water.<sup>542</sup> Due to limited use of the regasification system during this timeframe, the Liberty LNG application states that ballast water may not be adequate to provide for cooling purposes. The Liberty LNG application states that

*“the average cooling water intake/discharge rate for a LNGRV could approach 8.2 million gallons per day (mgd) (5,700 gpm) [per buoy] during this period. A short duration (approximately 1 hour) maximum seawater intake/discharge rate of up to 13,900 gpm may occur if the vessel auxiliary steam dump condenser is needed.”<sup>543</sup>*

The commissioning of the Port and LNGRV should be evaluated separately because more than one LNGRV may be commissioned at the facility. It is not clear what the commissioning process involves – other than that it will be done at both buoys. The commissioning period is indicated to be a time frame of up to 45 days per buoy, but no indication is given as to whether new commissioning will be required after maintenance, repair, or upkeep of the buoys.<sup>544</sup> The NPDES permit application indicates that maximum total water discharge could be up to 738 million gallons for both buoys – per commissioning; a significant amount once, even more significant if needed multiple times over the lifespan of the port.<sup>545</sup> Overall water use may be even greater given that the NPDES permit application states that “seawater will be used to supply the vessel’s central freshwater coolers, dump condenser and freshwater generators.”<sup>546</sup> A Draft EIS must clarify the commissioning process.

It is assumed - but not guaranteed - that a new LNGRV will be used for commissioning the Port and that the ballast will be clean. It is imperative that the Draft EIS include the impacts of a LNGRV that has used ballast water in its system.

### ***Thermal pollution and open loop cooling***

The discharges are expected to increase from the intake temperature by “approximately 9°F to 14°F (5°C to 8°C), with a maximum difference of 18°F (10°C)” which appear to be based on best professional judgment – not data analysis.<sup>547</sup> The water quality impacts of these discharges needs to be quantified and modeled using site specific data that is representative of seasonal and daily variations to evaluate the area that will be impacted. As suggested during application review, referencing Section 3.3.2.2,

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<sup>541</sup> Liberty LNG Application, Volume 2, Report 3, at 3-13.

<sup>542</sup> Liberty LNG Application, Volume 2, Report 3, at 3-17.

<sup>543</sup> Liberty LNG Application, Volume 2, Report 3, at 3-17.

<sup>544</sup> Liberty LNG Application, Volume 2, Report 3, at 3-17.

<sup>545</sup> Liberty LNG Application, Volume 1, Appendix C – Draft NPDES Permit Application, at 2.

<sup>546</sup> Liberty LNG Application, Volume 1, Appendix C – Draft NPDES Permit Application, at 20.

<sup>547</sup> Liberty LNG Application, Volume 2, Report 3, at 3-17; Liberty LNG Application, Volume 1, Appendix C – Draft NPDES Permit Application, at 3.

Liberty LNG should provide (and the Draft EIS model) the thermal plume from “the vertical cooling water discharge for the LNGRV into the surrounding water and the corresponding plume dimensions relative to thermal compliance with water quality standards or requirements” and provide compliance points.<sup>548</sup>

The thermal impacts on the biota in the area need to be assessed, including the potential for triggering algal blooms, altering planktonic communities, and attracting organisms. The statement that motile organisms will avoid the discharge area is not supported by any information, a deficiency the Draft EIS cannot let stand.

### ***Construction water use impacts***

Construction support vessel use and discharges needs to be quantified and impacts assessed.

First, hydrostatic testing of the Mainline and Laterals will use approximately 3.5 million gallons of seawater containing biocides.<sup>549</sup> It is not clear what the resulting chemicals will be from the neutralization of the biocide and what the water quality impacts will be of the discharge of this water. The impacts of water removal and impacts on marine life due to egg and larvae removal, etc. still need to be evaluated. Studies from previous pipeline testing are needed to support the conclusion that water quality impacts will indeed be minor. Entrainment and impingement data and modeling are needed for phytoplankton, zooplankton, and ichthyoplankton using site specific data from along the pipeline route and port area.

Second, the Liberty LNG application does not provide sufficient information and data to explain the extent and magnitude of pipeline implementation impacts for any of the various methods described and to provide for its protection. It is not clear if the pipeline will be adequately covered by sediment and will remain covered over time and how this will be evaluated. It is also not clear if mats covering the pipeline will provide adequate protection in areas where the pipeline is above the seafloor.

Third, water quality impacts might occur over a construction corridor is described as 200 ft. wide along the length of the pipeline and laterals, and a 75-foot wide swath is expected to be impacted by plowing activities the main process for lowering the pipeline for both the Mainline and Laterals.<sup>550</sup> A 75-foot wide swath for the Mainline would impact 197 acres of seafloor, which “will prove lethal to most organisms within the plowed area.”<sup>551</sup> The Liberty LNG application indicates that “[a] total of approximately 219 acres (89 ha) of seafloor are expected to be impacted during construction of the Mainline and other Port structures.”<sup>552</sup> The acreage should be verified, as it seems to be low based on the Mainline impacts alone. In addition, it states that “the Project’s footprint is small and only occupies 0.3 mi<sup>2</sup> (0.8 km<sup>2</sup>) for each buoy system (including safety zones).”<sup>553</sup> However, these “small” areas are 192 acres each. The total seafloor construction impact area appears to be over a larger area than the suggested total of 219 acres. A Draft EIS needs to review and possibly recalculate the proposed construction impact area.

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<sup>548</sup> Data Gaps, Item #163, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>549</sup> Liberty LNG Application, Volume 2, Report 3, at 3-16.

<sup>550</sup> Liberty LNG Application, Volume 2, Report 3, at 3-14; Liberty LNG Application, Volume 2, Report 4, at 4-81.

<sup>551</sup> Liberty LNG Application, Volume 2, Report 4, at 4-81.

<sup>552</sup> Liberty LNG Application, Volume 2, Report 4, at 4-81.

<sup>553</sup> Liberty LNG Application, Volume 2, Report 4, at 4-112.

Fourth, the biological impacts, including the biomass and number of species killed, needs to be reassessed. The impacts of the seafloor disturbance and loss of the benthic community in this large region on other species needs to be evaluated. More site specific information and past studies on biological recovery is needed. The overall impacts on fisheries and endangered and threatened species is needed. (More information on habitat alteration can be found in the Fish and Fisheries section as well as the Endangered and Threatened Species Section.)

### ***Resuspension of sediments and contaminants***

As indicated in the Baseline Needs section, site specific data and modeling analysis is needed on contaminants, their potential resuspension, and impacts on marine life for the Port and associated pipelines. According to NMFS,

*“[t]he report does not sufficiently address the alteration of the benthic community (e.g., amount removed, recovery time) or turbidity plumes produced by each construction activity (e.g., concentration levels, distance the plume extends, and period of time plume remains within the area) and the associated impacts on listed species. Analyses of such impacts are needed as such effects could potentially alter sea turtle, Atlantic sturgeon, and marine mammal foraging success, health, or result in temporary abandonment of the affected area.”<sup>554</sup>*

Modeling analysis is needed to support claims in the application that “[w]ater quality impacts associated with plowing and plow backfilling activities are not anticipated to extend beyond the 200-ft (61-m) construction corridor.”<sup>555</sup> Application review has recommended that “[s]ediment dispersion models should be conducted to determine dispersion and settlement, as well as vertical dispersion of the plume into the water column.”<sup>556</sup> The impacts of other pipeline installation activities (anchoring, hand jetting, etc.) on turbidity and contaminant resuspension need to be assessed in the Draft EIS.

The Draft EIS must consider the potential of the Port, alternative site locations, and pipeline routes to disturb and suspend contaminated sediments using the most up-to-date, site specific data. Historic dump sites, other than Historic Area Remediation Site, such as the sewer dump site, the cellar dirt dump site, etc. need to be clearly identified. Site specific contamination data is needed. The potential for encountering unexploded ordinances or other military related items and potential water impacts needs to be assessed (the Shallow Hazards section was confidential and not available for review).

### **b. Operation and Maintenance**

#### ***Cooling System Contradictions***

The Liberty LNG application contains contradictory information regarding the cooling system that will be used in the LNGRV's.

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<sup>554</sup> Data Gaps, Item #71, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>555</sup> Liberty LNG Application, Volume 2, Report 3, at 3-14.

<sup>556</sup> Data Gaps, Item #168, Liberty LNG Docket #USCG-2013-0363-0013.

The cooling system is described “to operate as a “Closed-Loop” system, which does not rely on drawn seawater as the heat source for regasification. The LNGRVs will utilize a specially-designed ballast water cooling system that will entirely re-circulate on board the vessel during Port operations, thus eliminating any vessel discharges while at the Port.”<sup>557</sup> Consistent with this, it is stated that “a closed-loop, freshwater-based heating medium (recirculated water-glycol mixture) will be used in the regasification system’s shell-and-tube vaporizers to regasify the LNG and deliver natural gas into the Laterals and the Mainline. No intake of sea water will be necessary for this purpose.”<sup>558</sup> However – other information contradicts these statements, “[w]hen an LNGRV is connected to a STL buoy in regasification mode, it will use seawater from its ballast water tanks as a source of cooling water for the engines and the auxiliary cooling system needs” and “[t]here will be ballast water withdrawal during regasification to replace the weight of the LNG that has been regasified and offloaded from the vessel.”<sup>559</sup>

The NPDES permit application also states “[w]hen an LNGRV is connected to an STL buoy in a regasification mode, it will use seawater from its ballast water tanks as a source of cooling water for the engines and other cooling needs.”<sup>560</sup> In the application, Liberty LNG notes that it “assumed ballast water withdrawal rate associated with a 400 mmcf/d send-out rate is **1.93 [million gallons per day]** mgd (at 1,340 gpm or 304 m3/hr.).”<sup>561</sup> Clarifications of the cooling system that will be used in the LNGRV’s needs to be included in a Draft EIS – including, specifically, whether and to what extent this system will use seawater.

The Liberty LNG application needs to have consistent explanation of how the LNGRV’s cooling and ballast systems will function. If it is only freshwater as claimed, it needs to be clarified how this system will operate and what the source of freshwater will be. It is also not clear how an enclosed system could meet ballast needs. It is also not clear why the ballast water tanks have over double the capacity (4.66 million gallons) of the proposed ballast water uptake.<sup>562</sup>

### ***Inadequate Information***

Not only is the information provided contradictory, it is also inadequate to evaluate environmental impacts. According to USEPA, Region 2, “[t]he discharge water treatment plan/process found in the project overview should be included in detail in the application for a National Pollutant Discharge Elimination System (NPDES) Permit.”<sup>563</sup> Upon application review, NMFS also highlighted deficiencies:

*“We recommend that the applicant include a discussion of the construction and operational discharges into federal waters. Based on experiences with other LNG projects in the Northeast, the discharge water may be as high as 10 degrees Celsius above ambient. It is unclear from the document what other discharges may occur from this project. We recommend that a clear discussion of all of the discharges associated with the operation of the proposed DWP be*

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<sup>557</sup> Liberty LNG Application, Volume 1, at 17.

<sup>558</sup> Liberty LNG Application, Volume 2, Report 9, at 9-5.

<sup>559</sup> Liberty LNG Application, Volume 2, Report 3, at 3-17.

<sup>560</sup> Liberty LNG Application, Volume 1, Appendix C – Draft NPDES Permit Application, at 20.

<sup>561</sup> Liberty LNG Application, Volume 2, Report 4, at 4-67.

<sup>562</sup> Liberty LNG Application, Volume 1, at 42.

<sup>563</sup> Data Gaps, Item #172, Liberty LNG Docket #USCG-2013-0363-0013.



*provided. Further, an analysis of impacts on fishery resources and habitats should be included within the environmental evaluation.”<sup>564</sup>*

In addition, “[a] detailed description of the overall water use at the port by an LNGRV during LNG delivery and the length of time particular volumes of water will be used is needed (e.g., on day one, over 8 hours, X MGD of water will be used, during initiation of regasification process X MGD of water will be used for X hrs. for X days).”<sup>565</sup> The overall water use along with the amount of heated water discharged during port operations needs to be understood. No information is provided to explain how ballast water will be treated and where exchanges will be made.

### ***Entrainment and Impingement***

According to NOAA, “The entrainment and impingement impacts on aquatic organisms from LNG facilities have the potential to be substantial.”<sup>566</sup> The Port Ambrose LNG project proposes to use up to 1.93 million gallons of seawater per day per LNGRV for ballast water as gas is offloaded.<sup>567</sup> “Although the application includes an ichthyoplankton entrainment assessment, the data used to develop this model were not representative of the conditions of the project site,” stated NMFS.<sup>568</sup> The entrainment data provided are not useful for assessing the impacts of ballast water uptake, site specific data must be used for an accurate analysis. The impact of ballast water uptake on phytoplankton and zooplankton biomass and populations and subsequent impacts on fish, marine mammals, and endangered species still needs to be assessed. Cumulative impacts from construction and long-term operation of the Port need to be evaluated and included in the Draft EIS.

### ***Biocides and other chemicals***

The application does not include information on contaminants that may be released from antifouling paints or other materials that may be used on vessels or equipment at the Port. This needs to be evaluated in the Draft EIS.

Furthermore, the application states that “[s]ince LNG is non-toxic and would not tend to significantly penetrate the water surface, the water quality impact associated with an LNG release would be negligible.”<sup>569</sup> However, this underestimates the actual risks posed. LNG is cryogenic and will freeze and kill any living tissue that comes into contact with it.<sup>570</sup> LNG will not stay in a liquid form once released for long and its flammability, hazards to humans and marine life, and emissions as a vapor need to be evaluated. LNG will convert to a gas form consisting of mostly methane. Methane’s toxicity is

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<sup>564</sup> Data Gaps, Item #177, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>565</sup> Data Gaps, Item #167, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>566</sup> M. R Johnson, et al. “Impacts to Marine Fisheries Habitat from Nonfishing Activities in the Northeastern United States” US DEPARTMENT OF COMMERCE, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Regional Office, Gloucester, Massachusetts, February 2008, pg. 75 <http://nefsc.noaa.gov/nefsc/publications/tm/tm209/tm209.pdf> (Visited Aug. 13, 2013).

<sup>567</sup> Liberty LNG Application, Volume 1, Appendix C – Draft NPDES Permit Application, at 21.

<sup>568</sup> Data Gaps, Item #176, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>569</sup> Liberty LNG Application, Volume 2, Report 3, at 3-19.

<sup>570</sup> The International Group of Liquefied Natural Gas Importers, LNG Information Paper No. 1, The Basic Properties of LNG [http://www.giignl.org/fileadmin/user\\_upload/pdf/LNG\\_Safety/1-LNG\\_Basics\\_8.28.09\\_Final\\_HQ.pdf](http://www.giignl.org/fileadmin/user_upload/pdf/LNG_Safety/1-LNG_Basics_8.28.09_Final_HQ.pdf) (Visited Aug. 14, 2013).

dependent upon the availability of oxygen; high methane levels can cause asphyxiation at low oxygen levels.<sup>571</sup> NOAA has reported the “[d]ischarge of contaminants (from LNG facilities) can occur as a result of spills during offloading procedures associated with either onshore or offshore facilities... acute impacts to nearby resources and habitats can be expected.”<sup>572</sup> BOEM pointed out an omission of data to support conclusions: “negligible effects decisions are made without any citation to a study examining the dissipation of LNG in the water and the chemical reactions that result following a spill.”<sup>573</sup>

The application contains information on the various chemical tanks on the LNGRV, in addition to the capacity of 145,000 m<sup>3</sup> LNG. Tanks onboard the LNGRV “will have the following approximate capacities: 1,558,800 gallons Marine Low-Sulfur Diesel oil tanks, 63,000 gallons Gas Oil, 10, 100 gallons Urea tanks, and 2,000 gallons Mercaptan tank.”<sup>574</sup> Thousands to millions of gallons of petroleum products can damage marine environments and can be flammable. Urea can potentially be dangerous.<sup>575</sup> Mercaptan is listed as a toxic industrial chemical and is a severe fire hazard that in a vapor and air mixture can explode.<sup>576</sup> Releases of urea and methyl mercaptan need to be assessed for human health, including risks to LNGRV and support vessel crews and other potential ocean users in the nearby region, and environmental impacts. Comprehensive risk assessments and modeling of accidental releases of natural gas or other chemicals are needed in the DEIS.

### ***Invasive and Non-Native Species***

The Draft EIS needs 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 can transport invasive species during ballast water exchanges and by biofouling of hulls or anchor chains. Section 4.1.5.1 suggests non-natives could only be introduced by water discharges.<sup>577</sup> During commissioning, an open loop system will be used for cooling purposes and potential impacts need to be evaluated. It is assumed - but not guaranteed - that a new LNGRV will be used for commissioning the Port and that the ballast will be clean. The mooring system for the port also will introduce new hard-bottom substrate to the seafloor region. Invasive species, such as the seasquirt, *Didemnum vexillum*, could be transferred from a tanker to the mooring system and could be destructive to the benthos in the immediate and larger region.<sup>578</sup>

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<sup>571</sup> [Emergency and Continuous Exposure Limits for Selected Airborne Contaminants Volume 2 \(1984\)](#) Committee on Toxicology, Board on Toxicology and Environmental Health Hazards, Commission on Life Sciences, National Research Council [http://www.nap.edu/openbook.php?record\\_id=689&page=95](http://www.nap.edu/openbook.php?record_id=689&page=95) (Visited Aug. 13, 2013) p.95-96

<sup>572</sup> M. R Johnson, et al. “Impacts to Marine Fisheries Habitat from Nonfishing Activities in the Northeastern United States” US DEPARTMENT OF COMMERCE, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Regional Office, Gloucester, Massachusetts, February 2008, p. 74. <http://nefsc.noaa.gov/nefsc/publications/tm/tm209/tm209.pdf>

<sup>573</sup> Data Gaps, Item #142, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>574</sup> Liberty LNG Application, Volume 1, at 42.

<sup>575</sup> Urea, Occupational Safety & Health Administration, [https://www.osha.gov/dts/chemicalsampling/data/CH\\_274930.html](https://www.osha.gov/dts/chemicalsampling/data/CH_274930.html) (last visited Aug. 12, 2013).

<sup>576</sup> Toxic Industrial Chemicals (TICs), Occupational Safety & Health Administration, <https://www.osha.gov/SLTC/emergencypreparedness/guides/chemical.html> (last visited Aug. 12, 2013); Material Safety Data Sheet, Matheson Tri Gas, <http://www.mathesongas.com/pdfs/msds/MAT14620.pdf> (last visited Aug. 12, 2013).

<sup>577</sup> Liberty LNG Application, Volume 2, Report 4, at 4-8.

<sup>578</sup> Aquatic Species, United States Department of Agriculture, <http://www.invasivespeciesinfo.gov/aquatics/seasquirt.shtml> (last visited Aug. 13, 2013).

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 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.

### ***Impacts during LNGRV Anchoring and Port maintenance***

The application indicates that “the permanent footprint of the proposed Port and the area encompassing the cable sweep of the STL Buoy anchor chains” are “significant disturbances.”<sup>579</sup> 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.<sup>580</sup> The area impacted is described as minimal (3 acres) which seems to be an underestimation, and it is not clear how this determination was made. The impact is described as “This area of the sea floor will be unable to be colonized by a static benthic faunal community and will remain essentially uninhabited until the Port is no longer in use.”<sup>581</sup> 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.

### **c. Water, sediment, LNG exports and shifting baselines**

The water and sediment impacts associated with Port Ambrose exporting LNG need to be assessed now - as the port will most likely be converted to a facility capable of both import and exports. If exports occur, ballast water will be discharged at the Port as gas is loaded and these impacts need to be assessed. Thermal pollution, biocides, nutrient pollution (from discharges and from increased deposition from air emissions), noise pollution, introduction of invasive and non-native species, among other impacts need to be evaluated.

Accurate, up-to-date, site specific data is needed to establish biological and chemical baseline conditions at the site to evaluate environmental impacts. Inadequate and non-representative data have been used in the application. Turbidity and contaminant data is lacking to support conclusions made about sediment and water quality. Current and historic data is needed on dissolved oxygen concentrations, nutrient concentrations, temperature, salinity and other water quality parameters that reflect seasonal and daily variability and ranges. As NMFS has stated, “Although the application includes an ichthyoplankton entrainment assessment, the data used to develop this model were not representative of the conditions of the project site.”<sup>582</sup> More information on baseline populations of plankton, fish, shellfish, and other sea life, especially endangered and threatened species, that will be adversely affected is needed.

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<sup>579</sup> Liberty LNG Application, Volume 2, Report 4, at 4-60.

<sup>580</sup> Liberty LNG Application, Volume 2, Report 4, at 4-77.

<sup>581</sup> Liberty LNG Application, Volume 2, Report 4, at 4-83.

<sup>582</sup> Data Gaps, Item #176, Liberty LNG Docket #USCG-2013-0363-0013.

**XIII. AIR EMISSIONS**

Overall, it is vital to note that not all emission data have been provided in the application; comprehensive emissions calculations and analyses are also needed from port construction to decommissioning, and these must be released to the public. In addition, emissions at shoreside support facilities during all these phases have not been identified (nor are the location of those facilities).

**a. Construction**

Several emissions associated with Port construction have not been evaluated. First, the actual construction of LNGRV and its environmental impacts, have not been taken into account in the report and should be included in the DEIS. The location of the construction site of the LNGRVs or if the LNGRVs have already been constructed outside of the U.S. has not been explained. Second, the application also fails to include the fuel use and emissions from Coast Guard patrols that may be needed to secure the exclusion zones while the pipeline is placed which crosses a designated shipping lane. Emissions associated with current fishing, cruise line, recreational boating, barges, and shipping that will have to alter or delay their course due to the pipeline and port construction need to be similarly quantified. Third, it also does not appear that construction emissions take into account emissions that will be accrued if difficulties arise during construction due to problems with cable crossings or encountering unknown or unexpected geological features. These data deficiencies must be remedied in the Draft EIS.

As stated in the application, “construction emission will occur in nonattainment areas for ozone (regulated as NO<sub>x</sub> and VOC emissions) and PM<sub>2.5</sub>.”<sup>583</sup> Emissions of NO<sub>x</sub> will exceed the applicability threshold with a maximum of 436 tons per year produced.<sup>584</sup> Offsets for these emissions need to be specified. The carbon dioxide equivalents for construction is very high with almost 60,000 tons produced.<sup>585</sup> Using EPA’s conversion tool, the construction greenhouse gas emissions alone are equivalent to 11,340 passenger vehicles or the electricity used by 8,148 homes per year.<sup>586</sup>

**b. Operation and Maintenance**

The Liberty LNG application describes that “LNGRVs will contain air pollutant emission sources including two marine boilers used to supply heat for regasification and two dual-fuel engines/generators used to supply electrical power to run the LNGRV’s internal ship systems and equipment associated with LNG regasification pumping operations. In addition, a gas combustion unit (GCU) will combust any excess boil-off gas (BOG) while the LNGRV is moored at the Port.... The pipeline route will not contain any sources of air pollutant emissions during operation.”<sup>587</sup>

***Inconsistent Emission Scenarios***

The annual port operations need to include the higher rate of emissions that will occur during no-sendout and low-sendout loads than only the lower rates that occur during the average sendout. More

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<sup>583</sup> Liberty LNG Application, Volume 2, Report 9, at 9-54.

<sup>584</sup> Liberty LNG Application, Volume 2, Report 9, at 9-54.

<sup>585</sup> Liberty LNG Application, Volume 2, Report 9, Table 9-24.

<sup>586</sup> <http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results> Visited (Aug. 12, 2013).

<sup>587</sup> Liberty LNG Application, Volume 2, Report 9, at 9-5.

information and clarification are needed on engine send out rates. For instance, in Table 9-10 the low sendout rate is for 57 MMBtu/hour and no sendout is 208 MMBtu/hr.<sup>588</sup> It states that the “LNGRV may operate at sendout rates as low as 50 MMscf/d, and a single engine may be used during such an event at operating loads as 34 percent.”<sup>589</sup> It is not clear that there have been calculations for the low sendout of 50 MMscf/d or engine load of 34 percent or that these have been included in the annual calculation. Also, for modeling purposes, the low sendout rate used is at a higher rate of 64.5 MMscf per day.<sup>590</sup> This low sendout rate should be consistent throughout the report; a disconcerting oversight given that “[e]missions of certain pollutants, VOC in particular, may increase on a g/kW-hr basis as engine load decreases, and mass emissions to the atmosphere (lb./hr. basis) may be higher at lower loads than at the loads associated with peak and average sendout.”<sup>591</sup> In addition, as Tetra Tech noted, “a single regas engine at 68% load is sufficient for annual average sendout of 400 MMscf/day. But on p. 9-7 it states that with a single engine the maximum sendout is limited to 341 MMscf/day, at an engine load of 85%.”<sup>592</sup> This discrepancy needs to be addressed in a Draft EIS.

### ***Exclusions of Air Emissions***

The exclusion of startup and shutdowns in the air emission modeling and calculations is a concern given that emissions during startup may be greater than during normal operations – notably for NOx levels. The application states that shutdown or startups events after initiation of regasification may be 30 minutes, and that marine diesel fuel will be used for pilot fuel. Second engines may be needed to transition to greater sendout rates. A Draft EIS must include the reasoning behind not utilizing model startup emissions.<sup>593</sup>

Each LNGRV will moor at the Port for between six to seventeen days to complete the unloading process. It seems probable that the LNGRV may need to shutdown operations and/or disconnect for weather related concerns. The application also states that “[o]nce connected to the STL Buoy, the LNGRV will be generally held in place through mooring; however, depending on the sea and wind conditions, vessel propulsion may be needed.”<sup>594</sup> The emissions associated with temporary relocation to offshore locations and more minor positioning movements still need to be assessed as part of the port’s Potential to Emit (PTE). Any emission that would not occur in absence of the port should be included in the PTE.

The total emissions from LNGRV transit in the region (NY Bight) and from maneuvering and propulsion at the port should be calculated as part of the PTE. The INPUFF model that examined a worst case scenario for ship emissions is questionable, and not all information is provided such as what constitutes the worst case wind and sea state conditions.<sup>595</sup> The worst case scenario assumes a constant ship speed. The worst case emission would seem to be from accelerating from a stationary position at port until a constant speed was reached – which should have been modeled.

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<sup>588</sup> Liberty LNG Application, Volume 2, Report 9, Table 9-10

<sup>589</sup> Liberty LNG Application, Volume 2, Report 9, at 9-9.

<sup>590</sup> Liberty LNG Application, Volume 2, Report 9, at 9-45.

<sup>591</sup> Liberty LNG Application, Volume 2, Report 9, at 9-7.

<sup>592</sup> Data Gaps, Item #3, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>593</sup> Data Gaps, Item #5, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>594</sup> Liberty LNG Application, Volume 2, Report 9, at 9-8.

<sup>595</sup> Liberty LNG Application, Volume 2, Report 9, at 9-41 and 9-42.

To evaluate the emissions for this port, annual emission data need to be provided for the additional emissions sources from the LNGRV that is not related to LNG gasification. This includes routine testing and maintenance of small watercraft engines for lifeboats and a rescue boat that will be up to 30 minutes per week.<sup>596</sup> The amount of fuel burned for this testing and the resulting emissions should be estimated and quantified.

The application notes that “[e]missions of VOCs may occur due to volatilization of tank contents during material handling (transfer or “working” losses) and during storage (“breathing” losses).”<sup>597</sup> However, these fugitive emissions have not been quantified and need to be included in the PTE.

The Chemical Accident Prevention Provisions are clearly inadequate and must consider the accidental release of LNG from the LNGRV and of natural gas from the pipeline system if damage to the pipeline would occur. Although LNG is not flammable, LNG is cryogenic and will freeze any living tissue that comes into contact with it. It can also cause materials to become brittle and lose strength or functionality. These hazards and impacts need to be considered in the event of an accidental release. LNG will not stay in a liquid form once released for long and its flammability, hazards to humans and marine life, and emissions as a vapor need to be evaluated.

The Operation section does not include the fuel use and emissions from Coast Guard patrols that will be needed to secure the exclusion zones while the vessels are in transit or in port. The most conservative modeling estimates include two LNGRVs with only one support vessel. It is not clear how many patrol boats would be need in this scenario.

Emissions associated with current fishing, cruise line, recreational boating, barges, and shipping that will have to alter or delay their course due to the port and LNG transit to and from it must be considered. Again, any emissions that would not occur in absence of the port should be evaluated and included in the PTE.

Even though the PTE does not include all of the new emissions that would occur in the region as a result of the proposed port, hundreds of tons of smog and ozone forming chemicals, particulates, and toxins are reported produced at this facility every year if 45 tankers import LNG. The reported PTEs include: nitrogen oxides (NO<sub>x</sub>) 35.3 tons/yr., volatile organic compounds (VOC) 22.4 tons/yr., sulfur dioxide (SO<sub>2</sub>) 1.0 tons/yr., particulate matter (PM<sub>10</sub>) 17.7 tons/yr., carbon monoxide (CO) 73.9 tons/yr., Lead 7.5E<sup>-4</sup> tons/yr., Total HAP 7.5 tons/yr. reportable.<sup>598</sup>

Inadequate data has been provided to support the conclusion that “[s]ince Port Ambrose will be constructed and operated primarily in federal waters of the Atlantic Ocean, impacts on all residential areas, regardless of race/ethnicity or minority composition, will be avoided.”<sup>599</sup>

Moreover, the port would be considered a major source of greenhouse gases as it exceeds the 100,000 tons/year of carbon dioxide equivalents with 183,420 tons of CO<sub>2</sub> equivalents per year reported.<sup>600</sup>

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<sup>596</sup> Liberty LNG Application, Volume 2, Report 9, at 9-8.

<sup>597</sup> Liberty LNG Application, Volume 2, Report 9, at 9-8.

<sup>598</sup> Liberty LNG Application, Volume 1, Appendix G, at 4.

<sup>599</sup> Liberty LNG Application, Volume 2, Report 9, at 9-26.

<sup>600</sup> Liberty LNG Application, Volume 2, Report 9, Table 9-12.

Using EPA's online conversion tool, the annual PTE greenhouse gases would be equivalent to annual emissions 34,666 passenger vehicles or the electric use by 24,910 homes per year.<sup>601</sup>

**c. Decommissioning and LNG Export Air Impacts**

Decommissioning will require several actions, including the disconnection and purging of the pipelines which will release natural gas and be filled with seawater and plugged.<sup>602</sup> The connection to Transco pipeline will be sealed. The STL Buoys, PLEMS, and risers at the Port site and associated chains and ropes will be removed from the sites and taken to an unspecified shore location. Mooring piles are to be cut at the mudline and recovered. Estimates of air emissions from Decommissioning (vessel and in-water activities and natural gas release) have not been provided and need to be quantified.

As Port Ambrose is more likely to export LNG than import it based on current and forecasted economics, the impacts from exporting LNG need to be evaluated. This is particularly important for air emission impacts which will be greater for liquefaction than gasification processes. Liquefaction is an energy intensive process to cool natural gas to -162 °C (-260 °F), which produces more emissions than gasification. According to an industry report, gasification, or vaporization, uses 1.5% natural gas compared to 8% for liquefaction of the gas delivered.<sup>603</sup> A National Energy Technology Laboratory presentation suggests that for every 1 kg of LNG delivered 0.02 kg is used for regasification compared to 0.13 kg of natural gas is used for liquefaction.<sup>604</sup> Increased gas use will cause a significant increase in emissions which need to be evaluated prior to construction of the Port.

Carbon dioxide equivalent (CO<sub>2-e</sub>) emissions are of particular concern due to the liquefaction process, when natural gas is used to fuel gas turbines, which in turn power the plants and refrigeration compressors. Fuel consumption is dependent upon the efficiency and productive capacity of the liquefaction plant and subsequently represents an area of further research.<sup>605</sup> The main types of greenhouse gas emissions in LNG liquefaction are:

- Fuel consumption for driving turbines and motors to operate equipment,
- Combustion of waste gases in flares, and
- Gas losses from venting associated with pre-treatments, maintenance processes and losses from equipment and pipes.<sup>606</sup>

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<sup>601</sup> Clean Energy, U.S. Environmental Protection Agency, <http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results> (last visited Aug. 12, 2013).

<sup>602</sup> Liberty LNG Application, Volume 2, Report 1, at 1-27.

<sup>603</sup> Greenhouse Gas Life-Cycle Emissions Study: Fuel Life-Cycle of U.S. Natural Gas Supplies and International LNG, Advanced Resources International, Inc., [http://www.adv-res.com/pdf/ARI\\_LCA\\_NOV\\_10\\_08.pdf](http://www.adv-res.com/pdf/ARI_LCA_NOV_10_08.pdf) (last visited Aug. 12, 2013).

<sup>604</sup> Life Cycle Analysis of Coal and Natural Gas-fired Power Plants, U.S. DOE, National Energy Technology Laboratory, <http://netldev.netl.doe.gov/file%20library/research/energy%20analysis/publications/lcacoal-ngplants-2010-pres.pdf> (last visited August 12, 2013).

<sup>605</sup> Tamura, I., Tanaka, T., Kagajo, T., Kuwabara, S., Yoshioka, T., Nagata, T., Kurahashi, K., Ishitani, H., 2001. "Life cycle CO<sub>2</sub> analysis of LNG and city gas". Applied Energy. Volume 68, p. 301-319.

<sup>606</sup> Arteconi, A., Brandoni, C., Evangelista, D., Polonara, F. 2010. "Life-cycle greenhouse gas analysis of LNG as a heavy vehicle fuel in Europe" Applied Energy. Volume 87, p. 2005 – 2013.

CO<sub>2-e</sub> emissions also occur during flare combustion, emissions of raw gas (leaks) and venting. During the liquefaction process, carbon dioxide (CO<sub>2</sub>) is initially removed from natural gas using amines as a solvent. This regeneration process causes CO<sub>2</sub> and methane (CH<sub>4</sub>) to be dissolved in small quantities.<sup>607</sup> CH<sub>4</sub> is typically recovered and used as fuel for turbines, while CO<sub>2</sub> is released to the atmosphere as off-gas.

The actual construction of and/or conversions of LNGRVs, where these will be from or where construction activities will take place, and associated environmental impacts also need to be taken into account in the report.

**d. A new air impact baseline must be developed**

No site specific data on existing air quality for the port or onshore facilities has been obtained and is needs to be included. The air quality impacts on the health of existing ocean users (fisherman, recreational boaters, cruise line passengers, shipping crews, etc.) and marine life have not been evaluated. Increased nitrogen oxide emissions could lead to greater nitrogen deposition in the marine water surrounding the port. These impacts have not been evaluated. Omitted data or information described above (site specific data, more modeling information, more comprehensive PTE evaluation of all new emissions sources that results from the Port, impacts to ocean users and marine life, etc.) needs to be included in the Draft EIS.

**XIV. CLIMATE CHANGE EXACERBATION**

The lifecycle emissions from natural gas being extracted, liquefied, shipped and degasified, and used must be included. Liquefying natural gas increases air emissions associated with natural gas use. In an analysis of LNG exports, the American Petroleum Institute indicates that 15% of LNG is used during processing, transport, and liquefaction.<sup>608</sup> According to the National Energy Technology Laboratory, in comparing upstream energy basis, LNG has greater greenhouse gas emissions than coal.<sup>609</sup> The use of other fuels, such as diesel, in LNGRV transportation do not appear to have been included in these analyses.

***Greenhouse Gas Emissions***

An examination of Port Ambrose's greenhouse gas emissions based on primarily the regasification operations alone indicates that the port would emit 183,420 tons of CO<sub>2</sub> equivalents per year and be a major greenhouse gas source.<sup>610</sup> Using EPA's online conversion tool, the annual PTE greenhouse gases

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<sup>607</sup> Tamura, I., Tanaka, T., Kagajo, T., Kuwabara, S., Yoshioka, T., Nagata, T., Kurahashi, K., Ishitani, H., 2001. "Life cycle CO<sub>2</sub> analysis of LNG and city gas" Applied Energy. Volume 68, p. 301-319.

<sup>608</sup> U.S. LNG Exports: Impacts on Energy Markets and the Economy, ICF International, <http://www.api.org/~media/Files/Policy/LNG-Exports/API-LNG-Export-Report-by-ICF.pdf> (last visited August 12, 2013).

<sup>609</sup> Power Generation Technology Comparison from a Life Cycle Perspective, National Energy Technology Laboratory, <http://www.netl.doe.gov/energy-analyses/pubs/Technology%20Assessment%20Compilation%20Report.pdf> (last visited August 12, 2013).

<sup>610</sup> Liberty LNG Application, Volume 2, Report 9, Table 9-12.



would be equivalent to annual emissions 34,666 passenger vehicles or the electric use by 24,910 homes per year.<sup>611</sup>

The Congressional Bicameral Task Force on Climate Change recently called on the Department of Energy to “conduct a thorough analysis of the climate change impacts of proposed LNG exports, including the effects on both domestic and overseas emissions.”<sup>612</sup> The Task Force issued a report with several policy recommendations to implement the President’s Climate Action Plan and recognizes that exporting LNG will have significant carbon emissions. In addition, the report acknowledges that LNG exports may increase natural gas prices which could cause a shift to increased coal use and associated greenhouse gas emissions.

The report states that “LNG export terminals are multi-billion-dollar energy infrastructure investments. DOE should understand the climate impacts of LNG exports before these facilities are constructed in order to ensure that there is a net climate benefit from such exports.”<sup>613</sup> This Draft EIS must fully quantify the lifecycle impacts on climate that this project would represent. The “net” climate impact analysis must include, among many factors, the increased climate impact resulting from furthering the region’s reliance on fossil fuels (instead of renewables, or conservation and efficiency), the increased climate impact that results from liquefaction, transport and regasification through an LNGRV’s operations and delivery, and the increased climate impact that would result from expanded fracking (and subsequent methane releases).

### ***Impact on existing ocean users and marine life***

Climate change impacts from the Port on existing ocean users (fisherman, recreational boaters, cruise ship passengers, shipping crews, etc.) and marine life have not been evaluated. Climate changes have already been increasing ocean temperatures and altering fish population ranges in the New York Bight region. Increased methane and carbon dioxide emissions are also resulting in ocean acidification.

### ***Conclusions***

The lifecycle air emissions from natural gas being extracted, liquefied, shipped and degasified, and used needs to be included in the Draft EIS. The climate impacts of the Port as both an import and an export facility need to be considered. The increases in fracking activities and associated environmental impacts that will likely result from the Port’s use as an export facility need to be evaluated. The impact of this facility on New York State’s efforts to reduce greenhouse gas emissions also needs to be evaluated.

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<sup>611</sup> Clean Energy, U.S. Environmental Protection Agency, <http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results> (last visited Aug. 12, 2013).

<sup>612</sup> U.S. Congressional Bicameral Task Force on Climate Change, Implementing the President’s Climate Action Plan: U.S. Department of Energy, Actions the Department of Energy Should Take to Address Climate Change, at 3. <http://democrats.energycommerce.house.gov/sites/default/files/documents/Bicameral-Task-Force-DOE-Climate-Report-2013-8-6.pdf> Visited (Aug. 14, 2013).

<sup>613</sup> U.S. Congressional Bicameral Task Force on Climate Change, Implementing the President’s Climate Action Plan: U.S. Department of Energy, Actions the Department of Energy Should Take to Address Climate Change, at 15. <http://democrats.energycommerce.house.gov/sites/default/files/documents/Bicameral-Task-Force-DOE-Climate-Report-2013-8-6.pdf> Visited (Aug. 14, 2013).

**XV. GEOLOGICAL AND OCEANOGRAPHIC RISKS TO PORT**

First, the proposed pipeline crosses the New York Bight Fault Zone and more investigation of the safety of the pipeline in this area is needed. The statement that “The seismicity of the New York Bight area of the United States has been relatively stable over the past several hundred years” is questionable;<sup>614</sup> and Figure 7-7 in the application that summarizes earthquake epicenters omits critical epicenter data in the marine region including the 1884 earthquake.<sup>615</sup> 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.”<sup>616</sup>

The largest historic shock, mf 5.25 in 1884, occurred along that zone.”<sup>617</sup> 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 and there were several.<sup>618</sup> Many other earthquake epicenters are also not included in Figure 7-7 that occurred in the pipeline region that needs to be identified. 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.”<sup>619</sup>

It is not clear how it was determined that faults in the area were indeed inactive as claimed. It was also estimated that the probability of an earthquake of mf 5.25 is about 22% over the next 50 years for the area.<sup>620</sup> The seismic map presented in Figure 7-8 that suggests a 3-5% risk, however, it is not clear how this was determined or what this risk level means.<sup>621</sup> The conclusion of minimal risk still needs to be explained and justified with updated science. The Draft EIS must include updated and correct scientific data, and a more thorough risk analysis.

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<sup>614</sup> Liberty LNG Application, Volume 2, Report 7, at 7-9.

<sup>615</sup> Liberty LNG Application, Volume 2, Report 7, Figure 7-7.

<sup>616</sup> 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)

<sup>617</sup> 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)

<sup>618</sup> 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).

<sup>619</sup> 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).

<sup>620</sup> 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).

<sup>621</sup> Liberty LNG Application, Volume 2, Report 7, Figure 7-8.

Second, a risk analysis of physical oceanographic conditions (currents, tides, and waves) is lacking and is needed to evaluate risks to the port. More site specific information on currents and waves are needed in the port region. The application states that “Each LNGRV will moor at the Port for between six to seventeen days to complete the unloading process.”<sup>622</sup> There are sea-state limitations for connecting and disconnecting to STL Buoys and discharging natural gas.

The risks and probabilities of sea-state limitations being exceeded while the LNGRV are expected to be at port need to be evaluated in the event of unexpected weather or sea state changes. The timeframe needed for the LNGRV to disconnect and transit to safe location (which needs to be identified) must be evaluated. The potential dangers of wind, waves, and currents to a LNGRV need to be explained and evaluated in the Draft EIS.

Third, sand borrow pit areas have been not all been identified. The U.S. Corps of Engineers projects in New York and New Jersey in the vicinity of the Port should also be identified, given that, after Superstorm Sandy, the availability of clean sand for beach replenishment is a significant new cumulative action that affects this port proposal directly. The Draft EIS must include updated and verified data that takes into account all of this extensive beach replenishment currently underway in both New Jersey and New York after Superstorm Sandy.

#### **XVI. WEATHER AND CLIMATE RISKS TO PORT**

Weather and climate risks to Port Ambrose are not covered in Liberty’s application. Extreme weather and storm effects on LNG operations and facilities need to be addressed in the Draft EIS. Nor’easters can occur any time of year, and occur roughly ten times in the New York Bight. Nor’easters typically occur from fall to spring, while hurricanes and tropical storms usually occur during summer and fall.

As stated in the application, the maximum sea state for connection of a LNGRV to a STL buoy is wave heights of 9.8 feet, wind speeds of 30 knots, and current speed of 2.9 knots.<sup>623</sup> Sea state limitations for which the LNGRV may discharge natural gas and may be disconnected from the STL buoy are wave heights of 22 feet, wind speeds of 52 knots, and current speed of 1.7 knots.<sup>624</sup> In NJ/NY areas, moderate storms can result in higher wave heights and storm surges due to the configuration and topography of the shorelines. High wave heights can delay and impede LNG transfer. The Draft EIS needs to perform wave, current, and wind analyses to assess how often the LNGRVs will have to wait to connect or disconnect and a risk analysis of how long it would take a LNGRV to disconnect and move out of an area during extreme weather and sea conditions.

Superstorm Sandy broke all records of wave and surge heights. A storm surge of 13.88 feet occurred at Battery Park and a 32.5 foot wave was registered past a buoy 10 nautical miles southeast of Breezy Point, New York.<sup>625</sup> Marinas were devastated. Liberty needs to evaluate the risks of sudden changes in

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<sup>622</sup> Liberty LNG Application, Volume 1, at 17.

<sup>623</sup> Liberty LNG Application, Volume 1, at 40.

<sup>624</sup> Liberty LNG Application, Volume 1, at 40.

<sup>625</sup> OURAMAZINGPLANET STAFF. “HURRICANE SANDY SMASHES OCEAN WAVE RECORDS.” *LIVESCIENCE* November 14, 2012 <http://www.livescience.com/24790-hurricane-sandy-wave-record.html>

weather and sea state conditions to both the Port and Onshore Facilities. With climate change, these weather and sea state conditions will only exacerbate the risks to the port.

Climate change is predicted to increase storm frequency and intensity and is increasing sea level rise.<sup>626</sup>

The Draft EIS should include the extreme weather and storm impacts and risks on LNG operations as well as port and onshore facilities – under current and projected future conditions. The Draft EIS should clearly state whether Liberty plans to stop operations at certain wave heights and include a risk analysis of how long it would take a LNGRV to disconnect and move out of an area during extreme weather and sea conditions and evaluation of the risks of sudden changes in weather and sea state conditions.

## **XVII. NOISE**

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.”<sup>627</sup> In the Liberty LNG application, noise impacts are inadequately assessed and must be quantitatively examined for a more comprehensive suite of marine life with site specific data. 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.<sup>628</sup> 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.

Liberty LNG’s application states that there will be no long-term effects on the biological resources of the NY Bight. Closer examination of the application 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.<sup>629</sup> The application 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...”.<sup>630</sup> Such changes could have drastic consequences on survival of the species.

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).”<sup>631</sup> Ambient noise level data is not provided in the Liberty LNG application; “[a]mbient noise levels within the project area and the contribution of additional noise from DWP/pipeline construction and operations needs to be evaluated further.”<sup>632</sup> Pre-existing

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<sup>626</sup> [http://climatechange.rutgers.edu/njadaptpdfs/ClimateImpacts/Trends\\_Projections.pdf](http://climatechange.rutgers.edu/njadaptpdfs/ClimateImpacts/Trends_Projections.pdf) (Visited Aug. 14, 2013).

<sup>627</sup> Nowacek, Douglas P., *et al.*, 2007. Response of cetaceans to anthropogenic noise. *Mammal Review* 37: 81-115

<sup>628</sup> 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

<sup>629</sup> Data Gaps, item #72, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>630</sup> Data Gaps, item #72, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>631</sup> Liberty LNG Application, Volume 2, Report 9, at 9-59.

<sup>632</sup> Data Gaps, item # 72, Liberty LNG Docket # USCG-2013-0363-0013.

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?

Marine mammals, for example, “use sound in social interactions as well as forage, to orient, and to respond to predators.”<sup>633</sup> 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.”<sup>634</sup>

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.”<sup>635</sup> Previous discussions of noise impacts, however, have solely been qualitative and comparative to the Neptune LNG Deepwater Port Project from 2005 to 2009.<sup>636</sup>

In comparison to the Neptune LNG Project, Port Ambrose would be located 19 miles from the shore in water approximately 100 feet deep whereas the Neptune project was constructed offshore in water approximately 240 feet deep.<sup>637</sup> “Received sound levels could not only vary based on differences in bottom depth, but also factors such as sound power, source dimensions, construction method, pile diameter, etc.”<sup>638</sup> These differences between the two ports diversify how noise will impact the species of the NY Bight when compared to the species off the coast of Massachusetts.

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 in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, feeding, or shelter.”<sup>639</sup> 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.

The underwater analysis states that species will potentially undergo Level B harassment due to experiencing 120-dB received contour traveling approximately 1.5-1.7 miles for approximately 30 minutes.<sup>640</sup> However, since this harassment will only occur every 5-16 days, Liberty LNG believes that

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<sup>633</sup> Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations, European Association for Aquatic Mammals, [http://sea-inc.net/assets/pdf/mmnoise\\_aquaticmammals.pdf](http://sea-inc.net/assets/pdf/mmnoise_aquaticmammals.pdf) (last visited August 8, 2013).

<sup>634</sup> Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations, European Association for Aquatic Mammals, [http://sea-inc.net/assets/pdf/mmnoise\\_aquaticmammals.pdf](http://sea-inc.net/assets/pdf/mmnoise_aquaticmammals.pdf) (last visited August 8, 2013).

<sup>635</sup> Nowacek, Douglas P., *et al.*, 2007. Response of cetaceans to anthropogenic noise. *Mammal Review* 37: 81-115

<sup>636</sup> Data Gaps, item #104, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>637</sup> Data Gaps, item #104, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>638</sup> Data Gaps, item #104, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>639</sup> 16 U.S.C. §1361 (2)(a).

<sup>640</sup> Data Gaps, item #108, Liberty LNG Docket # USCG-2013-0363-0013.

no long-term effects on species will be seen.<sup>641</sup> During the application review, deficiencies were found due to the lack of support for Liberty LNG’s previous statement. Results from a “site-specific quantitative acoustic analysis” assessment are necessary for this type of a conclusion.<sup>642</sup>

The Liberty LNG application does not do an adequate job of researching the noise implications to the specie of the NY Bight. The National Marine Fishery Services (NMFS) recognizes that noise will be generated at each point of construction, operation, repair, and maintenance.<sup>643</sup> Pile driving, jetting, and vessels will be responsible for the majority of noise impacts on marine mammals, Atlantic sturgeon, and sea turtles, along with other fish and invertebrates.<sup>644</sup>

The Draft EIS must include individual, quantitative studies of sound disturbances to both mammals and invertebrates local to Port Ambrose. This data is important for sustaining the preexisting culture of the NY Bight (i.e. fisheries).

The Liberty LNG application purportedly believes that “expected noise levels are anticipated to be negligible compared to existing background noise in the New York Bight and is expected to have insignificant impacts.”<sup>645</sup> Previous discussions of noise impacts, however, have solely been qualitative and comparative to the Neptune LNG Deepwater Port Project from 2005 to 2009, **thus a quantitative impact study needs to be reviewed to determine the construction and operation noise impacts on biological functions, such as intra- and inter-species communication.**<sup>646</sup>

#### a. Construction

Noise exposure is capable of significantly impacting a species physiological effects (i.e. non-auditory structures), whether directly or indirectly.<sup>647</sup> 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.”<sup>648</sup> A liquefied natural gas port is significantly new 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 insignificant.<sup>649</sup>

The Liberty LNG application fails to sufficiently address the noise impacts associated with construction of Port Ambrose on sea turtles, Atlantic sturgeon and marine mammals.<sup>650</sup>

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<sup>641</sup> Data Gaps, item #108, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>642</sup> Data Gaps, item #108, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>643</sup> Data Gaps, item # 72, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>644</sup> Data Gaps, item # 72, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>645</sup> Data Gaps, item #106, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>646</sup> Data Gaps, item #104, Liberty LNG Docket #USCG-2013-0363-0013

<sup>647</sup> Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations, European Association for Aquatic Mammals, [http://sea-inc.net/assets/pdf/mmnoise\\_aquaticmammals.pdf](http://sea-inc.net/assets/pdf/mmnoise_aquaticmammals.pdf) (last visited August 8, 2013).

<sup>648</sup> Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations, European Association for Aquatic Mammals, [http://sea-inc.net/assets/pdf/mmnoise\\_aquaticmammals.pdf](http://sea-inc.net/assets/pdf/mmnoise_aquaticmammals.pdf) (last visited August 8, 2013).

<sup>649</sup> Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations, European Association for Aquatic Mammals, [http://sea-inc.net/assets/pdf/mmnoise\\_aquaticmammals.pdf](http://sea-inc.net/assets/pdf/mmnoise_aquaticmammals.pdf) (last visited August 8, 2013).

<sup>650</sup> Data Gaps, item # 72, Liberty LNG Docket # USCG-2013-0363-0013.

***Marine Mammals***

The Liberty LNG application specifically states that impacts on marine mammals as a result of construction activities will be minimal and short-term.<sup>651</sup> During application review, a lack of analysis of the impacts of noise and acoustic shock on marine mammals within the application was noted.<sup>652</sup> The draft EIS should explicitly analyze these impacts.

The Liberty LNG application also states that “...noise generated by pipe laying vessels will only exceed the 180 dB threshold for potential injury within very close distances to the vessels...it is not likely that a marine mammal will approach the vessel within a distance to be exposed to potentially injurious sound levels.”<sup>653</sup> The draft EIS needs to address this assumption, provide supporting data, and evaluate sound travel in air and water.

***Fish and Invertebrates***

The report does not adequately review the noise impacts to species other than marine mammals such as fish, turtles, shellfish, and birds.<sup>654</sup> Although little is known regarding the effects of noise on invertebrates, BOEM notes that there have been studies researching the impacts noise has on hearing capabilities and impacts of sound on invertebrates and states that any form of sound can cause stress on fish.<sup>655</sup> It is necessary for the application to further research these areas in order to adequately understand the noise impacts on marine life. This Draft EIS should more explicitly analyze this issue’s effects on inter and intra-species communication and how important those types of communication are for the livelihood of the marine life.<sup>656</sup>

Any type of noise can cause stress to fish.<sup>657</sup> In order to quantify the stressors that would be responsible for inducing this stress, the draft EIS should explicitly analyze the sound profile and duration of sound generation from vessels associated with Port Ambrose construction.<sup>658</sup> Such vessels include dynamically positioned dive support vessel, dynamically positioned pipelay vessel, heavy lift vessel, and other vessels used for construction, maintenance, and/or repair activities.<sup>659</sup>

**b. Operation and Maintenance**

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

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<sup>651</sup> Data Gaps, item #109, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>652</sup> Data Gaps, item #109, Liberty LNG Docket #USCG-2013-0363-0013.

<sup>653</sup> Liberty LNG Application, Volume 2, Report 9, at 9-63.

<sup>654</sup> Data Gaps, item #26, Liberty LNG Docket #, USCG-2013-0363-0013.

<sup>655</sup> Data Gaps, item #43, 42, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>656</sup> Data Gaps, item# 26, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>657</sup> Data Gaps, item #42, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>658</sup> Data Gaps, item# 105, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>659</sup> Data Gaps, item# 105, Liberty LNG Docket # USCG-2013-0363-0013.



such vital activities can lead to detrimental consequences for the animal(s) affected.”<sup>660</sup> Liberty believes 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.”<sup>661</sup> However, any change in habitat (including noise pollution) can be extremely detrimental to the continuation of a species.

There are several deficiencies in the Liberty LNG application in relation to the operation and maintenance of Port Ambrose. For example, the “acoustic footprint” associated with the maintenance and repair vessels present at the port needs to be quantified both at a major and minor scale of repair and maintenance in order to better understand the extent of the noise pollution.<sup>662</sup>

### **Marine Mammals**

The Liberty LNG application does not address the impacts to marine mammals from maintenance and repairs, but there will definitely be noise exposure throughout such activities.

*“During the operational life of the Project, marine animals will be exposed to noise from the LNGRVs in transit, the sounds of thrusters positioning the vessels at the unloading buoys, and the sounds associated with the regasification process. The latter two activities will occur at each of the two fixed location unloading buoys. The noise from the regasification process is low and is not expected to reach the NOAA Fisheries Level B harassment criteria...for continuous noise related to marine mammals. Thus, the brief bursts of noise associated with use of thrusters to position the ships are the only noises that could disturb marine mammals at the unloading buoys.”<sup>663</sup>*

A Draft EIS needs to include an overview of the types of repairs and the underwater noise levels that are associated with such repair (i.e. annual inspection of the pipeline, replacement components, and annual inspections of the ports).<sup>664</sup>

### **c. Noise impacts must be fully addressed in the Draft EIS**

Site specific baseline data is needed to measure existing noise levels. NMFS stated that, “[s]ufficient information on ambient noise levels is not provided. Ambient noise levels within the project area and the contribution of additional noise from DWP/pipeline construction and operations needs to be evaluated further.”<sup>665</sup> In addition, acoustic data that has been obtained for the area by Cornell University that documented endangered whales communication, including blue whales, has not been included in the application as baseline information.<sup>666</sup> Chronic noise pollution from shipping and other

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<sup>660</sup> Nowacek, Douglas P., *et al.*, 2007. Response of cetaceans to anthropogenic noise. *Mammal Review* 37: 81-115

<sup>661</sup> Liberty LNG Application, Volume 2, Report 9, at 4-68.

<sup>662</sup> Data Gaps, item# 56, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>663</sup> Liberty LNG Application, Volume 2, Report 9, at 4-67.

<sup>664</sup> Data Gaps, item# 56, Liberty LNG Docket # USCG-2013-0363-0013.

<sup>665</sup> Data Gaps, item #72, Liberty LNG Docket #USCG-2013-0363-0013

<sup>666</sup> Cornell University, *ScienceDaily*, Blue Whale Discovered Singing in New York Coastal Waters, May 30, 2009, <http://www.sciencedaily.com/releases/2009/05/090529211633.htm> (last visited August 8, 2013), and Cornell



activities is already a serious problem in the Mid-Atlantic Bight and the global ocean. The long-term effects of chronic noise are only now beginning to be investigated and studied, and the risks of chronic noise are thought to be substantial.<sup>667</sup> The industrial noise rising in many coastal regions has been compared by scientists to a continuous fog that is shrinking the sensory range of marine animals.<sup>668</sup>

### **Conclusions**

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.”<sup>669</sup> 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 for 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.”<sup>670</sup>

The Draft EIS should more explicitly analyze the impacts of maintenance and repair vessels present at the port and the noise levels associated with such vessels as well as fill the gaps in the application by examining how construction, maintenance, and repair activities will affect the noise pollution in the NY Bight; whether the greater depth of Port Ambrose when compared to Neptune will have a more significant impact on said species; which biological functions will be specifically altered (i.e. communication) throughout the process; and, how will species, other than marine mammals, be affected by changes in biological function? Marine species of the NY Bight will be affected by the noise pollution associated with Port Ambrose; thus, more data is needed to understand the extent of the impact.

### **XVIII. SAFETY**

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 capacity. The nature of the facility, and the Empire State Building-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,

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University, Endangered whale heard for the first time in waters around New York City, September 16m 2008, <http://www.birds.cornell.edu/brp/update-items/NYCwhales> (last visited August 8, 2013).

<sup>667</sup> Implications for marine mammals of large-scale changes in the marine acoustic environment, Journal of Mammalogy, <http://www.bioone.org/doi/abs/10.1644/07-MAMM-S-307R.1> (last visited August 8, 2013).

<sup>668</sup> Statement to President Barack Obama of Participants of the Workshop on Assessing the Cumulative Impacts of Underwater Noise with Other Anthropogenic Stressors on Marine Mammals, Okeanos, [http://www.okeanos-foundation.org/download/CIA2009\\_en.pdf](http://www.okeanos-foundation.org/download/CIA2009_en.pdf) (last visited August 12, 2013).

<sup>669</sup> Liberty LNG Application, Volume 2, Report 4, at 4-62.

<sup>670</sup> Data Gaps, item# 72, Liberty LNG Docket # USCG-2013-0363-0013.

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 application's section on safety and security is woefully lacking in specific details about the dangers, burdens, and risks inherent in LNG facilities, and, as such, 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.

### **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.<sup>671</sup> 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.”*<sup>672</sup>

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 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/NJ Bight, or where those costs will come from.<sup>673</sup>

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 Empire State Building, 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.”<sup>674</sup> In developing

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<sup>671</sup> 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).

<sup>672</sup> 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).

<sup>673</sup> Liberty LNG Application, Volume I, Report 10, at 10-4.

<sup>674</sup> 33 C.F.R. 148.735.

the Draft 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 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 out 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."*<sup>675</sup>

Additionally, the effect of Liberty LNG on this capacity (under import and export circumstances) must be assessed, individually and cumulatively (with other projects like the Harbor Deepening Project (and resulting increases in vessel traffic), offshore wind, and expanded offshore pipeline laterals).

### **Recent LNG Safety Concerns**

The rapid growth of LNG does not affect only the ability to safeguard each ship; it also affects the quality of mariners working onboard these vessels. Due to the fundamentally dangerous nature of LNG, highly skilled crews are required to ensure its safe transport. Because of sudden rapid growth in the industry, many experts question whether or not there will be enough qualified mariners to crew these vessels. Yea Byeon-Deok, professor and LNG initiative coordinator of the International Association of Maritime Universities said, during a conference in Australia, many "sub-standard vessels have begun to appear as demand for LNG increases, while there is a chronic shortage of experienced crew."<sup>676</sup> The Society of International Gas Tanker and Terminal Operators (SIGTTO) also recognized this shortage:

*"A short-term answer for an LNG vessel operator is to 'poach' its crew from another such operator but, clearly, the long-term answer is training, training, and further training. SIGTTO members, as much as anyone, wish for the quite unique safety record of LNG shipping to be preserved. The influx of new personnel into the industry is of concern, especially if there is a temptation by a minority of operators to 'cut corners' and put officers into positions of responsibility on a LNG carrier before they have been properly trained."*<sup>677</sup>

The quality-control of shipping is of direct relevance to Liberty LNG's proposal as the New York/New Jersey Bight, the Port of NY/NJ, and the coastal communities surround both, are neighbors to billion dollar fisheries, billion dollar tourism economies, and the most densely populated coastline in the

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<sup>675</sup> New Jersey Governor Chris Christie License Issuance Disapproval Letter, Liberty Deepwater Port Docket # USCG-2010-0993-0038.

<sup>676</sup> "Warning on LNG Shipping Standards," *Oil and Gas News Worldwide*, May 7, 2007

<sup>677</sup> SIGTTO News, September 2005, p.5.

nation. The Draft EIS must take these shortages into account when analyzing and examining the potential national security impact of Port Ambrose.

### **Explosive Risks**

The Liberty LNG application states that since LNG is “non-toxic and would dissipate quickly,” it is unlikely to significantly affect the marine environment associated with the NY Bight.<sup>678</sup> However, this underestimates the actual risks posed. LNG is cryogenic and will freeze and kill any living tissue that comes into contact with it.<sup>679</sup> LNG will not stay in a liquid form once released for long and its flammability, hazards to humans and marine life, and emissions as a vapor need to be evaluated. LNG will convert to a gas form consisting of mostly methane. Methane’s toxicity is dependent upon the availability of oxygen; high methane levels can cause asphyxiation at low oxygen levels.<sup>680</sup> According to LNG safety research done by the U.S. Department of Energy,

*“During an LNG spill, as the cryogenic LNG flows over the relatively warm structural steel within an LNG vessel, the LNG will begin to vaporize. Likewise, if a breach is at, near, or below the waterline, the LNG will also vaporize when it comes in contact with the relatively warm water. In both cases, the methane generated is flammable within a certain concentration range by volume in air (5 to 15 percent). Below five percent concentration, the vapor is too lean to burn, and above 15 percent concentration is enough air to sustain combustion.”<sup>681</sup>*

If an accidental release was to occur, there would be detrimental effects on the marine environment; “...a large breach and spill could have both short-term and long-term impacts on public safety, energy security and reliability, and harbor and waterway commerce at some sites.”<sup>682</sup> Because of this, it is necessary that a Draft EIS includes thorough details associated with preventing the possibility of larger breach and spill events.<sup>683</sup>

Increased terrorism activity also adds to the potential danger of explosion. With this increase in terrorism activity in the Middle East region becoming more frequent, security measures must be put in place for regulating the deliveries of natural gas.<sup>684</sup> U.S. Senator Edward Markey (D-Mass.) cautioned President Obama that security threats in places such as Yemen raise questions about whether it’s safe and reliable for tankers to continue delivering shipments of LNG to various ports (i.e. Everett LNG

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<sup>678</sup> Liberty LNG Application, Volume II, Report 4, at 4-70.

<sup>679</sup> The International Group of Liquefied Natural Gas Importers, LNG Information Paper No. 1, The Basic Properties of LNG. Available at [http://www.giignl.org/fileadmin/user\\_upload/pdf/LNG\\_Safety/1-LNG\\_Basics\\_8.28.09\\_Final\\_HQ.pdf](http://www.giignl.org/fileadmin/user_upload/pdf/LNG_Safety/1-LNG_Basics_8.28.09_Final_HQ.pdf) (last visited August 14, 2013).

<sup>680</sup> Emergency and Continuous Exposure Limits for Selected Airborne Contaminants Volume 2 (1984) *Committee on Toxicology, Board on Toxicology and Environmental Health Hazards, Commission on Life Sciences, National Research Council*, at 95-96.

<sup>681</sup> Liquefied Natural Gas Safety Research, U.S. Department of Energy, [http://energy.gov/sites/prod/files/2013/03/f0/DOE\\_LNG\\_Safety\\_Research\\_Report\\_To\\_Congre.pdf](http://energy.gov/sites/prod/files/2013/03/f0/DOE_LNG_Safety_Research_Report_To_Congre.pdf) (last visited August 16, 2013).

<sup>682</sup> Liberty LNG Application, Volume II, Report 8.

<sup>683</sup> Liberty LNG Application, Volume II, Report 8.

<sup>684</sup> CBC News, Gunmen kill Yemeni troops guarding LNG export plant, August 11, 2013, <http://www.cbc.ca/news/world/story/2013/08/11/yemen-attack.html> (last visited August 16, 2013).

terminal).<sup>685</sup> Upon news of a foiled terror plot at an oil export terminal in al-Dhabah, Rajeh Badi, advisor to Yemen's Prime Minister Mohamed Salem Basindwah, divulged that the terrorists had also planned to seize the port city of Mukalla in Hadramut and attack a liquefied natural gas installation in the Shabwah province.<sup>686</sup> According to Theodore Karasik, director of research at the Institute for Near East and Gulf Military Analysis in Dubai, "Within al-Qaeda military doctrine, attacking energy infrastructure, such as pipelines or ports, is seen as a potent tool."<sup>687</sup>

It is imperative that the Draft EIS substantially review the threat of terrorism at Port Ambrose, and balance those growing risks against the six permanent jobs and vast areas excluding fishermen.

### **Conclusions**

The Draft EIS needs to specifically address the use of LNG as it relates to safety within the waters. The port's location is used by recreational fishers, is one of the busiest shipping waters in the world, and it an important ecological setting for many different species. If this were to explode, it is likely that this would force a closure of the area until a full investigation into the incident was done. This could cost the area millions if not billions of dollars. It could harshly damage the environment, and forcing the recreational and professional fishermen of the area to leave, costing the area even more revenue that is desperately needed. Instead of finding another area that is not in the most important to the economic success of the region, Liberty has been steadfast to the area, claiming that it is the only viable option for the location. This is very much incorrect, and the reviewing agencies should take into account the location of the port when it is deciding to either approve or disapprove this location.

The EIS that is currently being done must take into account what happens to the environment if this tanker were to explode. Currently there is nothing within the application which says this. There is also nothing in the application about the safety and the tanker exploding and the repercussions on it. The EIS must ask for more information from the company and demand that the company explains explicitly how it will stop terrorists, and if the tanker were to explode how will they keep the damage to a minimum and ensure that the environment can either be protected or if the damage is done, what the company will do to rebuild the destroyed environment.

## **XIX. FAILURES IN DISCLOSURE AND THE PUBLIC PROCESS**

### ***Liberty LNG's failure to disclose other port interests***

Port Ambrose is purported to be an import terminal, however, global economics are driving proposed LNG import operations back out to sea. Clearly, this port could be used for exports – legally and technically. The same footprint, impacts, threats, risks and exclusions generated by an import-only Port

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<sup>685</sup> CBC News, Gunmen kill Yemeni troops guarding LNG export plant, August 11, 2013, <http://www.cbc.ca/news/world/story/2013/08/11/yemen-attack.html> (last visited August 16, 2013).

<sup>686</sup> Hatem, Mohammed; Carey, Glen, Bloomberg, Yemen Says It Foiled Al-Qaeda Plot to Seize Energy Plants, <http://www.bloomberg.com/news/2013-08-07/yemen-says-it-foiled-al-qaeda-plot-to-seize-energy-plants.html> (last visited August 16, 2013).

<sup>687</sup> Hatem, Mohammed; Carey, Glen, Bloomberg, Yemen Says It Foiled Al-Qaeda Plot to Seize Energy Plants, <http://www.bloomberg.com/news/2013-08-07/yemen-says-it-foiled-al-qaeda-plot-to-seize-energy-plants.html> (last visited August 16, 2013).

Ambrose would likely be exacerbated were exports allowed. The active companies playing roles at Port Ambrose, Höegh LNG and the ultimate owner West Face Capital, as well as the Liberty LNG CEO Roger Whelan, failed to disclose a significant interest in another port – a facility that appears to have been built with Port Ambrose exports in mind.

In 2009, Höegh LNG was granted permission from the United Kingdom to begin development of “Port Meridian” – a STL-buoy-based deepwater port located in the Irish Sea off the coast of Liverpool. This facility, owned and to-be-operated by Höegh LNG, was developed to import LNG to the UK, given the nation’s worsening import need.<sup>688</sup>

Over a year later, in early 2011, Sonde Resources, the original owner of Liberty LNG, sold what was to become “Port Ambrose” to a new energy player on the market: West Face Long Term Opportunities Global Master L.P., an investment fund located in the Cayman Islands, for \$1 million.<sup>689</sup> West Face kept Liberty LNG CEO Roger Whelan as project lead and Höegh LNG as the operator of the port’s shipments.

After being vetoed by New Jersey Governor Chris Christie, Liberty LNG withdrew their application in April, 2012, only to resubmit it again in September, 2012, at a location designed to escape the Governor’s Deepwater Port Act veto authority (a move which failed, as New Jersey was once again determined to be an Adjacent Coastal State).

West Face then made another foray into the energy market; expanding beyond the ownership of just the Port Ambrose application, the investment fund bought, from Höegh LNG, Port Meridian in the UK for \$20 million.<sup>690</sup> West Face had Liberty LNG CEO Roger Whelan congratulate Höegh LNG on the sale to the West Face family, stating that:

*“Together with West Face, Meridian is very pleased to have this opportunity to expand our working relationship with **Höegh LNG** and to support the development of their FSRU technology. We look forward to working together with the **Höegh LNG** team on this exciting and much needed UK natural gas supply project.”<sup>691</sup>*

In other words, one investment fund from the Cayman Islands (with unknowable financial assets – leading to questions about financial ability to respond to disasters) owns two sub-sea buoy LNG ports on opposite sides of the Atlantic Ocean. Both Port Ambrose and Meridian are led by Roger Whelan; both Port Ambrose and Meridian are operated by Höegh LNG; both Port Ambrose and Meridian are on track for operations around 2015. The one difference between the ports is that around Port Meridian, natural gas is 3 to 4 times more expensive than the natural gas around Port Ambrose.

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<sup>688</sup> Höegh LNG’s Port Meridian Floating LNG Terminal Ready for Construction, RigZone, Wednesday, June 17, 2009. Available at [http://www.rigzone.com/news/oil\\_gas/a/77339/Hoegh\\_LNGs\\_Port\\_Meridian\\_Floating\\_LNG\\_Terminal\\_Ready\\_for\\_Construction](http://www.rigzone.com/news/oil_gas/a/77339/Hoegh_LNGs_Port_Meridian_Floating_LNG_Terminal_Ready_for_Construction) (last visited August 1, 2013).

<sup>689</sup> See, Liberty LNG Application, Volume I, at 9.

<sup>690</sup> Maritime Giant Hoegh to Sell LNG Terminal Interest, November 12th, 2012. Available at, <http://www.naturalgaseurope.com/hoegh-to-sell-uk-lng-terminal-interest> (last visited August 1, 2013).

<sup>691</sup> *Id.*

In its application, Liberty LNG discloses only that “Liberty is an indirect wholly-owned subsidiary of West Face Long Term Opportunities Global Master L.P. ... which is managed by West Face Capital Inc.”<sup>692</sup> Liberty LNG’s offshore experience is slightly more descriptive:

*“Team members were involved in the permitting and construction of the Northeast Gateway and Neptune LNG deepwater ports offshore Boston, as well as other deepwater port and pipeline projects throughout the U.S. The team includes Höegh LNG (Höegh), which has extensive operations experience in both offshore LNG terminals and LNG delivery vessels, including the LNGRV-type vessels currently planned for Port operations. Liberty anticipates utilizing Höegh as its LNGRV operator for the Port, and will thus be able to draw upon Höegh’s extensive experience, which is further detailed in Section 4.”<sup>693</sup>*

Nowhere in the application does Liberty LNG disclose West Face’s ownership of Port Meridian, Roger Whelan’s activities and connections to Port Meridian, or the Höegh LNG connections between Port Ambrose and Port Meridian. These are material failures in the application, and the Draft EIS must be delayed until the USCG and MARAD publicize a full accounting of these companies’ interests.

### ***USCG and MARAD failures in public process***

On Friday, June 14, the Maritime Administration published a notice of application for Port Ambrose. On June 24, ten days later, the public was informed that the Maritime Administration intended to schedule only two public scoping hearings on the project, and that the public comment period would conclude just thirty days later, on July 23 – providing the public with the minimum amount of time required by law for public involvement. After a letter sent to MARAD and the USCG by over 130 organizations demanding that, among other substantive comments, more time be allotted for public review, MARAD and the USCG added 30 more days for scoping comment submission. As evidenced by these comments, and the over-5,000 other submissions delivered at the time of this drafting, there is plenty of information to review, many of deficiencies to identify, and a host of data gaps that the applicant didn’t even begin to analyze.

Notice of the two public hearings (on Tuesday, July 9, in Long Beach, N.Y., and on Wednesday, July 10 in Edison, N.J.) was published in the Federal Register on Monday, June 24, just fifteen days in advance of the first hearing. This short notice, which coincided with the Fourth of July weekend, made it nearly impossible for many interested parties to attend either of these hearings or to prepare for meaningful public participation.

Significantly, during this scoping comment period, from Friday, August 2 until Sunday, August 4th, from Monday August 5th to Tuesday, August 6th, and during the evening on Wednesday August 21st (the day before the comments are due), [www.regulations.gov](http://www.regulations.gov), where the public was directed for submitting comments online, was (and will be) nonfunctional, depriving the public of the ability to comment during six of the additional 30 days granted by the USCG and MARAD.

With over 1500 pages of publicly-reviewable application materials and 2700 pages of redacted, confidential documents, a proposal to put an LNG port in the middle of the most densely populated

<sup>692</sup> Liberty LNG Application, Volume I, at 10.

<sup>693</sup> Liberty LNG Application, Volume I, at 11.

coastline in the nation (in the way of shipping to and from the busiest port on the east coast), exactly where Superstorm Sandy caused massive devastation and where New York State hopes to build an offshore climate-change-mitigating wind energy facility, and with exclusion zones, safety risks, and environmental dangers that could affect billions of dollars of clean ocean economies, review of this application should be conducted more thoroughly than it so far has been.

## **XX. OFFICIAL REQUEST FOR MORE INFORMATION**

Under the Deepwater Port Act regulations, promulgated by the USCG, an “interested party” is allowed to request additional information from a port applicant.<sup>694</sup> This request “must state briefly why the information is needed” and must be received by the USCG before the scoping comment period closes.<sup>695</sup> The USCG is allowed to recommend that MARAD stop the “clock” and delay the processing of the application.<sup>696</sup> This recommendation can be made by the USCG after it considers whether the information requested is “essential” for reviewing the license, and whether the gathering of such data will unduly delay the process.<sup>697</sup>

The undersigned organizations ask that these comments be considered background information for request for more information on a number of topics:

- New Jersey Coastal Zone consistency documentation;
- Hurricane and Superstorms (reanalyze metocean data, coastal economics, energy need);
- Review of the lifecycle air pollution potential for LNG (from liquefaction to end-use);
- Study on the potential impediment to commerce that would arise from a breach on an LNG vessel moored at Port Ambrose – specifically tailored to the Port of New York and New Jersey;
- Visual impact assessment of construction crews, especially at the tie-in with Transco site;
- Documentation from the Department of Energy that the applicant has actually applied for authorization to either import or export LNG;
- Documentation from Transco, or FERC, as to whether the offshore Transco pipeline will be able to receive a new distribution;
- Relative energy potential (and greenhouse gas emissions potential) of using a 3000-meter exclusion swath of the ocean for offshore wind versus an LNG port (operational and as decommissioned); and
- Analysis of local first responder capacity (USCG, state, and local) to respond to emergencies at this proposed port location (intentionally caused emergencies or accidental), including a discussion of how coastal response and security capacity has been affected by Superstorm Sandy and federal government budget cuts.

These reviews are essential for reviewing the environmental and economic impacts of the port, as well as the security concerns with an LNG port in the middle of the most densely populated U.S.-coastline. The gathering of this data will not unduly delay the process; in fact, it will more fully inform the USCG, MARAD, and the public – filling in significant data gaps in the application as presented. As such, the “clock” should stop while this information is developed and disseminated.

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<sup>694</sup> 33 C.F.R. § 148.108.

<sup>695</sup> 33 C.F.R. § 148.108 (b), (c).

<sup>696</sup> 33 C.F.R. § 148.107 (c)(3).

<sup>697</sup> 33 C.F.R. § 148.108 (d).



**XXI. CONCLUSIONS**

There is no demonstrated need for this project, the impacts of exports are not considered, and the socioeconomic impacts to the clean ocean economies (from fishing to surfing and shipping) are overlooked. The review does not take into consideration potential impacts from hurricanes, does not review national security capacity, and fails to provide evidence to back up dozens of claims about jobs, environmental risks, and economic impacts. In addition, meaningful public participation was, in many respects, precluded by inaccurate characterizations of the “new” application, by materials being withheld from the public, and by the applicant simply never furnishing certain essential information. As such, on behalf of the undersigned organizations, Clean Ocean Action and the organizations below ask that you stop the Deepwater Port Act clock on this unwise and unnecessary project until such time as the significant data gaps, deficiencies, and unsubstantiated claims are resolved.

Sincerely,

Cindy Zipf  
Executive Director  
**Clean Ocean Action**

Christopher D. Huch Jr.  
Executive Director  
**Alliance for a Living Ocean**

Tim Dillingham  
Executive Director  
**American Littoral Society**

Sandy Batty  
Executive Director  
**Association of New Jersey Environmental Commissions**

Bruce Ferguson  
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Nathan Kipnis, AIA  
Member, Board of Directors  
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Maya K. van Rossum  
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Patti Wood  
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**Grassroots Environmental Education**

Dave Pringle  
Policy Director  
**New Jersey Environmental Federation**

Debbie Mans  
Baykeeper & Executive Director  
**NY/NJ Baykeeper**

Donna Stein  
President  
**NYC Friends of Clearwater**

Buck Moorhead  
Director  
**NYH2O**

Janet Keating  
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**Ohio Valley Environmental Coalition**

Scott Thompson  
**PaddleOut.org**

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**Responsible Drilling Alliance**

Jeff Tittel  
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**Surfers' Environmental Alliance (SEA)**

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**Surfrider Foundation**

Larry Moriarty  
Chair  
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**Surfrider Foundation - Jersey Shore Chapter**

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Suzanne Golas, csjp  
Director  
**WATERSPIRIT**

Mary Wilding & Margo Pellegrino  
**Concerned Citizens**

**cc: Open Letter**