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CP01-384-000, CP01-385-000, CP01-386-000

Branford Land Trust
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May 19, 2002

Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426
Attention: Megalie R. Salas, Secretary

Re: Islander East Pipeline Company
Docket Numbers: CP01-384-000, CP01-385-000, CPO1-386-000

Dear Ms. Salas:

Attached please find the Branford Land Trust's comments and critique of the Draft Environmental Impact Statement for the Islander East Pipeline Project, issued by the Federal Energy Regulatory Commission on March 29, 2002.

Respectfully submitted,

William C. Horne
President, Branford Land Trust
P.O. Box 254
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cc w/ enclosure: Joanne Wachholder, FERC
Scott Truesdale (2)
All parties

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The Branford Land Trust's
comment and critique of the
Draft Environmental Impact Statement
prepared by the Federal Energy Regulatory Commission
for the Islander East Pipeline Project
(FERC Docket # CP01-384-000 et al)

May 19, 2002

(Compiled by William C. Horne, Branford Land Trust President)

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I. Introduction

The Draft Environmental Impact Statement (DEIS) prepared by the Federal Energy Regulatory Commission (FERC) for the Islander East Pipeline Project (FERC Docket # CP01-384-000) is of generally poor quality and characterized by numerous errors and omissions, some of which are listed at the end of this submission. Perhaps the most
G61-1 critical shortcoming is the lack of sediment modeling, including an explanation of the assumptions that go into the model. This information must be made available for public examination and comment before the Final Environmental Impact Statement (FEIS) is written.

Much of the DEIS appears to be taken verbatim from materials provided by the applicant, for example cutting and pasting a reference to the Branford Land Trust web
G61-2 site as authority for the vegetation types that would be affected by the pipeline. (As the author of that material, I can certify that it is a general, superficial description based on casual observation of natural areas throughout Branford, and not an analysis of the specific areas impacted by the pipeline. It was meant as an introduction to interested lay persons, and is not a scientific analysis that could provide a basis for an Environmental Impact Statement.) This heavy reliance on information submitted by the applicant gives the impression that the FERC staff and consultants neither considered detailed inventories and reports compiled by local experts and submitted by the Town of Branford, the Branford Land Trust and other interested parties nor carefully inspected the route of the pipeline and directly evaluated the likely environmental impacts of the project themselves.

Even when the DEIS acknowledges the damage that will be caused by the pipeline (lower diversity in frequently mowed areas, susceptibility of disturbed areas to invasive plant species, inability of temporary work areas to return to preconstruction conditions in less than 25 – 150 years; Sects. 3.4.2.2, page 3-61 and 3.5.2, page 3-63 are two of the
G61-3 numerous examples) it brushes them off as having been minimized by Islander's proposed construction practices and its own recommendations for more information to be filed with the Commission after the period for public comment is past.

G61-4 Furthermore, there are instances (i.e., the Pine Orchard Variation) where a clear choice exists between a variation that would minimize the impact on the environment and one that would merely minimize the visibility of the project (and therefore presumably the community opposition), and in these cases, FERC recommends the option with the greater or longer term environmental impact.

G61-5 The DEIS notes in several places that Islander East is or will be consulting with local officials and organizations (e.g., the Branford Land Trust, Sect. 3.7.2, page 3-76), but make no attempt to independently confirm with the parties that Islander East is supposedly consulting that such consultation are actually occurring or that they are resulting in any concessions by Islander East that reduce the impacts of the pipeline. It has been the experience of the Branford Land Trust that Islander East took every opportunity to present its minimal contacts with the Land Trust as evidence of cooperation by the Land Trust with the project without making any changes that

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G61-1 Sections 3.3.3.2 and 3.4.1.2 of the FEIS have been updated with information from the sediment dispersion modeling.

G61-2 Thank you for your comment. Timely filings from all commenters were considered in the preparation of the EIS. Detailed inventories are considered encyclopedic and are not routinely included in our documents. The applicant provides details about the project that are filed under oath. Filed information is spot checked in the field. These filing are the basis of our documents and are available to the public for review and comment. We welcome comments from the public that allow us to remove incorrect information from our documents.

G61-3 Comment noted.

G61-4 Commented noted. The Pine Orchard Variation is addressed in section 4.4.4.

The disadvantages of the Pine Orchard Variation were described in section 4.4.1 of the DEIS. The variation would be 0.2 miles longer, cross more water bodies, and require more permanent and construction right-of-way than the proposed route. In addition, there are considerable engineering concerns for the HDD and HDD noise impacts at the HDD location.

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G61-5 addressed the Land Trust concerns. Islander East finally produced some substantive improvements only when it was made clear by the Connecticut Siting Council that it would require Islander East to take into account the special nature of the land trust properties, in terms of both high environmental value and low probability of third party damage to the pipeline, to reduce the impact of the construction and right-of-way to the least amount consistent with reasonable inspection and access requirements, and to engage in restoration and management practices that actually mitigated the impact to as great a degree as possible. **FERC must determine the extent to which the government-imposed taking of dedicated conservation land for the profit of private companies is acceptable, and restrict Islander East accordingly. Leaving small powerless organizations like the Branford Land Trust to defend themselves against multi-million dollar corporations armed with government-sanctioned powers of eminent domain guarantees that the public trust will be sacrificed for private gain.**

G61-6 **II. Installation of the pipeline in Long Island Sound**

There are a number of deficiencies in the DEIS related to the environmental impact on Long Island Sound. To begin, the DEIS has failed to incorporate the recommendation of the Environmental Protection Agency in its scoping letter dated November 15, 2001, (FERC document # 2224186) that the EIS for the Islander East project should include "a complete characterization of natural resources along the marine route, specific monitoring plans (before, during and after construction), appropriate mitigation measures to replace lost habitat value, and a discussion of time of year restrictions for the project." EPA also recommended that the analysis suggest effective ways to integrate the results of the monitoring plan with mitigation measures.

G61-7 **II.A Construction activity at the Connecticut landfall and adjacent near-shore waters**

This is potentially the most serious environmental impact of the entire project, and the DEIS analysis is woefully deficient, in part because Islander East has failed to provide an analysis of sediment transport in the area or a plan for an alternate crossing method to be used if HDD fails, and in part because the DEIS ignores the likely impact of typical winter weather on spoil berms created between the HDD break-out point (MP10.9 if all goes as proposed) and MP12. The main concern is the suspension of sediment by dredging and by erosion of the spoil mounds, and the sediment's transport onto working shellfish beds and other sensitive areas.

G61-8 **II.A.1 Alternative crossing method**

Islander East has not provided a plan for an alternate crossing method from the Connecticut landfall out onto the Sound in the event that the HDD fails (Sect. 3.3.2.2, page 3-31). In the event that the HDD fails, the entry into the Sound at the Connecticut landfall will markedly increase what is already the likely single largest negative environmental impact of the entire project, sediment dispersion and transport from the construction area to nearby shellfish beds. **FERC cannot prepare a proper Environmental Impact Statement if it is unable to evaluate the alternative crossing method.** Deferring the evaluation of the alternate crossing method until after the

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G61-5 Comment noted. The DEIS recommended consultation with the Branford Land Trust (and other land managers) to develop construction, mitigation, and restoration plans that minimize construction-related impacts on the properties. This consultation could include route changes.

The Commission has authority under the NGA to allow applicants to use eminent domain to construct pipeline projects certified under section 7(c). However, in the case of pipeline rights-of-way, this typically involves the use of eminent domain to obtain easements and does not involve taking. See section 1.1 of the FEIS for a summary of how the Commission evaluates pipeline proposals.

G61-6 We believe that the natural resources along the marine route were adequately characterized, appropriate mitigation measures identified, and construction scheduling addressed in the DEIS. The FEIS has been updated concerning monitoring plans. See response to comment 1 concerning sediment modeling.

G61-7 We have recommended that Islander East file an alternative crossing plan if the HDD is unsuccessful. This requirement has been modified to included CTDEP since the HDD of the Connecticut shoreline is within the coastal zone. (See section 3.3.2.2). This recommendation is consistent with recommendations for instances when an HDD may be unsuccessful on other projects.

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G61-8 preparation of the FEIS and transferring the responsibility for such evaluation to the Director of OEP (FERC recommendation page 3-31) is unacceptable and a violation of the intent, if not the letter, of NEPA. FERC should state explicitly that in the event of the failure of HDD, the project cannot go forward until the environmental impact of any alternative crossing method has been evaluated, **including a public comment period.** FERC should also explicitly define what constitutes failure of the HDD, including the number of attempts that are acceptable.

II.A.2 Sediment resuspension and dispersion

The DEIS acknowledges that sediment transport along the route of the pipeline is dominated by turbulent flows (page 3-35), and this is particularly true of the shallow near-shore areas around the Thimble Islands. The DEIS notes (page 3-37) that area from MP 10.2 to 11 is one in which sediment is eroded or sorted and reworked. Moreover, it cites a study by Signell, et al., 2001 (which is missing from the reference list), which notes that fine sediments in these shallow areas are regularly resuspended by tidal currents and that storm-related events that occur 10-20 times per year can redistribute fine sediments in waters shallower than 20 meters (more than 60 feet). Modeling studies by the same US Geological Survey (USGS) scientists at Woods Hole (Signell, R.P., List, J.H, and Farris, A.S., 2000. Bottom Currents and Sediment Transport in Long Island Sound: A Modeling Study. *Journal of Coastal Research*, 16(3), 551-566; Signell, R.P., Knebel, H.J., List, J.H, and Farris, 199A.S.,Physical Processes Affecting the Sedimantary Environments of Long Island Sound. Published in Proceedings, 5th International Conference on Estuarine and Coastal Modeling, M.L. Spaulding and A.F. Blumberg, Eds., ASCE Press) indicate that **wind driven bottom wave orbital velocities in this area exceed the speed necessary to resuspend fine grained muds more than 10 percent of the time**. Data on wind distribution over a 12 year period (Nov 1984 - Dec 1996) from the NOAA Ambrose Light meteorological station cited in the USGS studies indicate that "wind events having wind speeds of at least 10 m/s [over 20 mph] occur about 10-20 times a year **chiefly during the winter months**" when the mounds of sediments will be in place (emphasis added). Information supplied by Islander East on December 31, 2001, (An Investigation of Sediment Transport and Circulation in the Vicinity of the Thimble Islands, Central Long Island Sound; Project Status – November, 2001 by W. Frank Bohlen) showed that the area from the HDD breakout to MP 12 was subjected to frequent wind and wave conditions sufficient to raise significant amounts of sediment (surface and bottom) from a natural bottom.

G61-9 The key point that the FERC staff ignores in its analysis is the different susceptibility to erosion of stable, undisturbed bottom, on the one hand, and mounds of dredged sediment that rise 10 feet or more above the bottom, on the other. The mounds are exposed to sheer forces and turbulence that the undisturbed bottom does not experience. In fact, the mounds create the turbulence that will eat them away as currents and waves flow over and around them. Islander East proposes to construct 10-12 foot high spoil berms that will extend for more than a mile, rise to within 2 feet of the surface at low tide and contain more than 50,000 cubic yards of fine sediment. (In contrast, the dredging necessary for either the ELI or the One-Pipe system alternatives would occur in water greater than 20 feet deep, and mechanical plowing could begin at the point where the

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A computer modeling evaluation of marine sediment dispersion associated with the installation of the Islander East pipeline has been conducted. This study also addresses the impacts of storm events on sediment mounds and long-term mound stability. The results have been incorporated into section 3.4.2.1 of the FEIS.

G61-8 See response to comment 7.

G61-9 See response to comment number 1.

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G61-9 lateral pipeline attaches to the existing pipeline. The area that would need to be dredged would be limited, about 60-70 feet across and 5-10 feet deep. The quantity of dredged sediment could be stored on barges, eliminating the danger of storm-induced erosion and dispersion.) In his testimony to the Connecticut Siting Council, Dr. Bohlen acknowledged that material in the berms will be susceptible to higher than usual levels of erosion, and that once suspended, the material could remain suspended for days during the turbulence generated by strong winds and waves. Islander East proposes that under the best conditions (if the reaming of the HDD bore goes smoothly) the berms will be in place for at least one month and as long as three months. During this time, the wind data from the USGS studies cited above indicate that they can be expected to experience at least 3 to 4 high wind events with the associated wave induced erosion. While the modeling of the sediment dispersal from these berms was not available, FERC estimated that the plume could extend for a half mile during active dredging, and there is no reason to think that the plume from the erosion of the stockpiled sediment would behave any differently.

G61-10 While the DEIS shows concern for the possible impact of severe winter storms on construction vessels (Sect. 3.8.1.2, page 3-83), **it's analysis ignores or dismisses the environmental impact of these storm events** (Sect. 3.4.1.2, pages 3-51, 3-54; Sect. 3.8.1.2, page 3-82). Its only recommendation with regard to damage to shellfish beds is that "Islander East should file with the Secretary, prior to the issuance of the final EIS, the results of the offshore sediment deposition studies as described in the Study Plan, including an assessment of potential impacts to shellfish beds and other fisheries. Provide an estimate of the locations types, duration, and quality of the identified impacts." Instead of recommending the elimination of construction and routing practices that create the conditions for an almost certain massive economic and environmental impact, the DEIS notes that Islander East can be taken to court for damages. This litigious outcome should be what environmental impact analyses anticipate and avoid.

G61-11 There is another impact related to the excavation of the basin and trench between MPs 10.9 and 12 that the DEIS and Islander East ignore. Dispersion of the temporarily stored sediments by storm events (which has a high probability of occurring, see earlier discussion) will require Islander East to import sediments for the burial of the installed pipeline. The locations from which these sediments will be taken from have not been identified and no assessment of the impacts to offshore and coastal resources which could result has been provided.

II.A.3 Impacts of horizontal directional drilling (HDD)

On page 3-31, the DEIS considers the effect of drilling mud due to "temporarily inundating" marine organisms. It should also consider the effect of toxic contaminants present in the drilling mud, especially but not limited to barium sulfate. Testimony presented to the Connecticut Siting Council showed that individual preparations of bentonite differed in their effects on marine organisms, which in some cases were lethal.

In Section 3.3.3.2 (Long Island Sound; Environmental Consequences), the DEIS states (page 3-44) that the drilling fluids would consist of bentonite clay, native rock

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G61-10 Storm events are addressed in section 3.3.3.2 of the FEIS.

See response to comment 7. Additionally, Islander East is working closely with potentially affected shellfish lease bed holders and consulting with state and Federal agencies to minimize impacts to shellfish lease beds. Islander East proposed to use the subsea plow trenching method to install the pipeline through the shellfish lease beds where the water depth is > 20 feet. The subsea plow is the least destructive of the trenching methods. Additionally, Islander East proposed to perform the construction during winter months to avoid impacting shellfish spawning.

G61-11 Use of imported sediments for pipeline burial would need to come from EPA- or state-approved sources. Section 3.3.3.2 of the FEIS has been modified to address this issue which also includes a new recommendation.

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cuttings, and freshwater with no additives. Islander East testified to the Connecticut Siting Council (CSC) that bentonite is purchased in any of several premixed forms that differ in terms of their contents (CT Siting Council Exhibit 28, transmitted to FERC in the April 30,2002, Supplemental Data Filing, tab 15). Moreover, Islander East has stated in its Proposed Findings of Fact submitted to the CSC on May 17, 2002 (#27, pages 13-14), that the water for the drilling fluid will be appropriated from Long Island Sound, which is not a source of freshwater. (This change in the proposed procedure will probably be missed by many evaluators of the DEIS, making a thorough evaluation of the current state of the project impossible.)

G61-12 The DEIS fails to sufficiently consider, either in Sect. 3.3.3.2 or in the other sections where HDD is discussed (Sect. 2.3.2.8, pages 2-18 to 2-20; Sect. 2.3.4.1, page ; Sect. 3.3.2.2, page 3-30, 3-31) the impact of disposing of the water used in the drilling mud during recycling of the mud and at the end of the HDD operation or of the drilling mud itself. It states (Sect. 2.3.2.8, page 2-20) that excess drilling mud could be incorporated into the soil in an upland area or disposed of at an appropriate facility, and that water left over from the drilling mud will be discharged into a well-vegetated upland area or into an energy dissipation/sediment filtration device at the site. The site of the HDD at the Connecticut landfall is surrounded by a small residential area and an environmentally important and sensitive natural coastal area, components of which are owned by the Branford Land Trust, the Town of Branford, and the State of Connecticut. Drilling mud generated at this site must be disposed of at an approved off-site facility, not on-site or nearby. The final EIS must also consider the environmental impacts of soluble and or leachable additives present in the commercial preparation of bentonite that Islander East will use, as well as hydrocarbons and other contaminants that may accumulate in the drilling mud during its prolonged contact with the drill rig machinery. Islander East should be required to provide details of where the excess water will be discharged at the Connecticut landfall site. If the water will be salt water, as indicated in the filing with the CSC, it must not be discharged onto vegetated upland areas. On the other hand, direct discharge of potentially contaminated water directly back into Long Island Sound or nearby tidal wetlands is likely to have other impacts that must be carefully evaluated. A special federal and/or state discharge permit may be required.

G61-13 **II.A.4 Impacts on marine mammals**

The DEIS states erroneously that harbor seals are the only marine mammals that occur regularly within the project corridor (Sect. 3.4.2.1, page 3-59), since other species of seals (gray, harp and hooded) have been recorded by CT DEP and other conservation organizations in Long Island Sound in recent years (see report by Branford Blue Ribbon Committee), and Mr. C. Sullivan testified to FERC and Tetra Tech staff on May 8, 2002, that harbor and gray seals were found in the Thimble Islands, one of the few areas along the Connecticut shore with such a high density of favorable haul-out sites, during a recent field visit. The DEIS states that marine mammals are expected to avoid the site during construction activities, without commenting on the fact that driving marine mammals from their haul out sites, even as an indirect effect of nearby activities, constitutes harassment under the Marine Mammals Protection Act

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G61-12 As noted in your comment, drilling mud would be disposed in an upland area or approved disposal site. Any construction related material that contains contaminants requires special procedures for disposal. Excavated spoil, drilling mud, and drilling water, if considered contaminated, should be appropriately handled. Salt water used to create drilling mud would be considered a contaminant in upland areas. We agree that it should not be disposed in nearby areas. Islander East would not be allowed to dispose of any material in a wetland.

Since issuance of the DEIS, Islander East has submitted a Directional Drilling Monitoring and Operations Program Plan that describes measures it will undertake to monitor for, and contain and remediate, planned and unplanned releases of drilling mud to the Long Island Sound. We have reviewed this plan and believe that its implementation would adequately minimize environmental impacts from releases of drilling mud. Section 3.3.3.2 of the FEIS has been updated to reflect this.

G61-13 See response to comment letter G47.

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II.B. Construction activity in waters deeper than 20 feet

II.B.1 Contaminated sediments

G61-14 Regarding the remainder of the route between the Connecticut and Long Island landfalls, Islander East's sampling frequency of once per mile is not sufficient, a conclusion that is supported by the concern voiced by the US Dept. of Interior in its comments dated May 10, 2002. The samples analyzed by Islander East account for less than 0.01% of the length of the route and an even smaller fraction of the total area that would be disturbed. USGS studies show average metal levels to be 1.5 to 5 times higher than background. For example, a map on the relevant USGS web page (USGS Studies in Long Island Sound – Geology, Contaminants and Environmental Issues; http://woodshole.er.usgs.gov/project-pages/longislandsound/index.htm) shows levels of copper at individual sampling sites to be within the ERL and ERM ranges along nearly the entire route of the pipeline. Samples should be taken at least once per half mile, and when individual samples show levels equal to or greater than the ERL (Effects Range-Low), a greater frequency should be required to determine conclusively that there are no nearby areas of high contamination that will be disturbed by the installation of the pipeline. There should also be an analysis of the potential for increasing mobilization or bioavailability of contaminants that are moved from anoxic/hypoxic conditions to oxygenated water.

G61-15 In addition to the inadequacy due to infrequent sampling along the route, the **criteria used to estimating the potential for damage from contaminants that were found in the samples are confusing and potentially misleading.** The vibratory core sampling report prepared for Islander East by TRC Environmental Corp. and submitted to FERC in response to FERC's February 5 request for information states (page 4) that for metals "the percent of studies indicating adverse effects was less than 10% when concentrations were below the ERL values", and that adverse effects were typically caused by concentrations in the ERL range in 20 to 30% of the studies and by concentrations in the ERM range in 60 to 90% of the studies. Similar figures are given for organic compounds.

Note that this system of evaluation says nothing about the nature or severity of the biological effects, only that some adverse biological effect was found at or below this concentration in a certain percentage of the studies. Without knowing the biological effects and organisms that were studied and the severity or frequency of the effects found, it's impossible to know how serious the consequences of disturbing the contaminated sediments might be. For example, there is great concern about the health of lobster populations in Long Island Sound. Did all the studies examine the effects of contaminants on lobsters? At what stages of lobster development? For how long an exposure? What characteristics of lobster biology were monitored and for how long after exposure to the contaminant? What percentage of the study population had to be affected for the result to be evidence of an effect? Without knowing the answers to these questions, it is not possible to determine if a particular contaminant stirred up by the pipeline installation poses a threat to lobsters (or even if there are studies that could answer that question). Even if some concentration of a contaminant had been

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G61-14 Islander East filed its Long Island Sound Sampling, Analysis and Study Plan (Study Plan) on April 17, 2002. (See section 3.3.3.2.)

G61-15 Issues related to contaminated sediments are addressed in section 3.3.3.2. Impacts resulting from potential increases in bioavailability of contaminants are addressed in section 3.4.1.2 of the FEIS.

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G61-15 reproducibly found to be critically toxic at a particular stage of a particular organism's life cycle, that concentration could still fall within (or below) the ERL range for the contaminant because the other studies in the database were examining effects on other organisms or at stages of development where sensitivity was not as acute.

G61-16 The DEIS estimates the extent of sediment plumes that would be generated by the two methods of jetting and plowing, and the jetting produces a much larger plume because it suspends a much larger amount of sediment. For a variety of reasons, but particularly because of the potential to mobilize contaminants associated with the sediments disturbed by the pipeline installation, the final EIS should recommend and FERC should require that the pipeline must be installed using the lower impact plowing method. Islander has the option of having a plow manufactured if the existing plows are not available, and this would seem to be a good investment if the number of available plows is such a limiting factor.

II.B.2 **Hydrostatic testing**

G61-17 The comments on the DEIS filed by the Central Pine Barrens Commission notes that their staff has become aware that Islander East is planning to use biocides in the water used for hydrostatic testing. This is contrary to what Islander presented in its application and is not discussed in the DEIS, another example of the constantly changing nature of the project that prevents the affected public from commenting effectively on the environmental impacts. The possible use of biocides in hydrostatic testing is a particular concern regarding Long Island Sound, since the water used to test the pipeline between Branford and Wading River (approximately 22 miles of 24 inch pipeline) will be drawn from and returned to the Sound. There is currently speculation that biocides used to control mosquitoes infected by the West Nile Virus have contributed to or been directly responsible for the recent lobster morbidity and mortality. FERC must clarify this issue and provide an opportunity for public comment if Islander East is indeed planning to add biocides to the water used for hydrostatic testing.

III. **On-shore construction**

III.A. **Wetlands impacts**

III.A.1 **General wetland impacts**

G61-18 The DEIS fails to incorporate the regulations and recommendations of the US Environmental Protection Agency (EPA), outlined in its November 19, 2001, letter to the FERC (Document ID 2224186). In that letter, EPA points out that the EIS should provide a detailed assessment of the functions and values of the wetlands and waterbodies along the route of the pipeline. Other than listing the type of wetland crossed and a general description of the plants typically encountered in wetlands in this region, the DEIS fail to provide the required description.

G61-19 The EPA letter states that impacts to wetlands "include but are not limited to: ... clearing impacts resulting in a change of cover type within a wetland (i.e. converting a forested wetland to an emergent or scrub/shrub wetland)", and that the EIS should "specifically document proposed mitigation to compensate for unavoidable wetlands

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G61-16 Comment noted. The FEIS recommends that the plowing method be used for offshore construction. See section 3.4.1.2.

G61-17 See sections 2.3.1.6 and 3.3.3.2 for information regarding the use of a biocide to control bacterial growth during hydrostatic testing in the marine portion of the pipeline. Islander East is not proposing to add biocide for onshore hydrostatic testing.

G61-18 Wetlands affected by the project were delineated using the 1987 COE Wetlands Delineation Manual and delineation forms for the wetlands are all in the public record. Table 3.7.1-2 lists each wetland by number, milepost, NWI classification, crossing length, and acreage affected. We believe this provides sufficient information on which to evaluate potential wetland impacts. Additional details on dominant species, diversity, etc. of each wetland are available from the field delineation forms. There would be no net loss of wetlands due to project construction.

As stated in section 3.7.2 of the FEIS, we believe that Islander East has minimized wetland impacts through the proposed route, the use of its ESC Plan, and other proposed impact mitigation measures that would avoid or minimize potential impacts on wetlands.

G61-19 There would be no wetland filling. Affected wetlands must still function as wetlands after construction and restoration of the project.

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G61-19 impacts". The DEIS accepts at face value the contention of Islander East that no mitigation is necessary because no wetlands are being filled. This is clearly in contradiction to the EPA recommendations. It is also contrary to the recommendation by the Dept. of Interior (May 10, 2002) that the temporal loss of emergent and scrub-shrub wetland and the permanent loss of forested wetlands be compensated for by restoration/recreation of wetlands at a 1:1 acreage ratio and preservation at a 2:1 ratio. The position taken by the DEIS that a loss of up to 50% of the diversity in wetlands is considered to be acceptable restoration (Sect. 3.7.2, page 3-76) is inconsistent with the comments of both EPA and the Dept. of the Interior. Such a degree of biological impoverishment is outrageous and should not be tolerated, let alone condoned.

G61-20 The EPA letter points out that EPA's regulations (EPA's 404 Guidelines) require that with regard to actions having an impact on wetlands, there be no practicable, less environmentally damaging alternative to the proposed action, and that the EIS should include "an evaluation of ways in which each alternative alignment can be designed to avoid impacts to wetlands". The implication is that where alternative routes with lower wetland impacts exist, they should be used. The DEIS clearly fails to do this in the case of many of the wetlands crossed by the pipeline in Branford, where simply routing the pipeline on the other side of the Branford Steam Railroad track would be practicable and would have less impact on the wetlands.

III.A.2 Vernal pools

G61-21 The Connecticut Dept. of Environmental Protection, in its comments on the Islander East Pipeline Project to the Connecticut Siting Council, notes that several vernal pools may be present. (My personal observation is that vernal pools do indeed exist immediately to the east of the Tilcon/Branford Steam Railroad marshalling yard, and they are intensively used by amphibians during the breeding season.) The DEIS environmental analysis of wetlands (Sect. 3.7, pages 3-71 to 3-77) makes no mention of vernal pools. This is a serious oversight, especially given that the EPA considers the wildlife functions of vernal pools to be so significant that individual permits are generally required for activities that affect vernal pools, regardless of the size of the area impacted. The EPA also specifically notes that careful field assessment of vernal pools is necessary. Such assessment must be done in the spring, when the pools are filled with water and populated by the obligate organisms that breed in the pools. Islander East's field evaluations of wetlands were conducted in late summer, a time completely inappropriate for the evaluation of vernal pools. The final EIS should not be issued until the pipeline route can be evaluated during the months of March and April for the presence and functional value of vernal pools.

III.B. Invasive species

G61-22 The DEIS points out that Executive Order 13112 requires that "Federal agencies whose actions may affect the status of invasive species shall not authorize, fund, or carry out actions that are likely to cause or promote the introduction of spread of invasive species in the United States", and that "all feasible and prudent measures to minimize risk of harm would be taken" (Sect. 3.5.2, page 3-63). The report of the Branford Blue Ribbon Committee indicated that the experience of the Inland Wetlands and

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G61-20 Alternative alignments to crossing larger wetlands were evaluated in section 3.7 of the FEIS. Avoidance or minimization of impacts to wetlands are factors used when identifying alternatives and variations. Because of the linear nature of many of the wetlands paralleling the railroad in Connecticut and the residential nature of the area, avoidance on many of the wetlands was not practicable. In these cases, moving the proposed route results in a longer pipeline and usually results in a wetland crossing at another location with a longer pipeline route having greater land requirements.

G61-21 See response to comment 25 in letter S1.

G61-22 See response to comment 31 in letter S1.

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G61-22 Watercourses Commission and the Branford Land Trust is that the kind of clearing proposed by Islander East will promote the establishment of invasive species in the cleared areas. This conclusion is supported by the comments of the Connecticut Department of Environmental Protection in its evaluation of the project for the Connecticut Siting Council, which states "there is a high probability that the cleared area within the Islander East right-of-way (ROW) will become dominated by invasive species if left to regenerate naturally." In it's comments on the DEIS, dated May 10, 2002, the US Dept. of the Interior recommends that "restored/created wetlands and those wetlands temporarily impacted by the project be monitored for a period of **10 years**, with reports generated during years 1, 2, 5, and 10. If during any monitoring period, invasive/exotic plant species occupy more than 5% of any vegetative community, **the applicant should eradicate those species** and establish plant species beneficial to wildlife." (Emphasis added.) Finally, the dominance of invasive plants in the existing Algonquin Gas right-of-way where it crosses property of the North Branford Land Trust ((NHV-090), documented by the Branford Land Trust in its August 1 submission on the need for a full Environmental Impact Statement, demonstrates what will almost certainly happen if Islander East is only required to "consult with local invasive plant experts, **as necessary** [who is to decide what is necessary?], to develop control measures" (emphasis added). **The Commission is abdicating its responsibility under Executive Order 13112 if the EIS does not recommend and the Commission require specific measures to (1) regularly monitor the right-of-way for the presence of invasive plants for the life of the pipeline right-of-way and (2) provide for their immediate removal by methods that balance effectiveness and low collateral environmental impact.**

G61-23 As noted by the Central Pine Barrens Commission in its comments on the DEIS, straw bales should not be used for erosion control because of the likelihood that they will introduce invasive species into the area.

III.C. <u>Mitigation and restoration</u>

G61-24 Page ES-2: states that implementation of Islander's Erosion and Sedimentation Control Plan (ESC Plan) with FERC's additional recommendations would "provide a level of environmental protection that is equal or greater than" FERC's standards. **The standards to be met should those of the State of Connecticut and the affected municipalities at the time that Islander East submitted its application.**

G61-25 The DEIS states (Sect. 3.7.2, page 3-75) that proposed mitigation measures would avoid or minimize impacts to wetlands. How can FERC be sure that mitigation is adequate when the specific mitigation plan has not been developed? Moreover, the comments by the Dept of Interior and the letter from EPA make it clear that the kind of impacts that the DEIS considered acceptable to the FERC staff are inconsistent with the standards of other federal agencies.

G61-26 The recommendation of the FERC staff to ignore Section VI.D.5 of FERC's procedures for restoring forested wetlands revegetation is unacceptable. As discussed elsewhere, both the EPA and the Department of the Interior consider active mitigation of

G61-23 Islander East would use silt fences to the maximum extent possible, and will generally avoid the use of hay bales. If hay or straw bales are used, they would be inspected for weed infestation.

G61-24 Comment noted.

G61-25 The proposed construction and restoration procedures in the ESC Plan and our Procedures through wetlands as modified by our recommendations will minimize construction impacts. (See section 3.7.2.) The COE may require, through its Section 404 permitting process, additional construction, restoration and compensation conditions as mitigations.

G61-26 We have observed successful wetland restoration of forested wetlands from native seed stock, and we concur that Islander East's plan to allow natural revegetation (a modification to our Procedures) is a reasonable approach to achieve revegetation of

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G61-26 temporary clearing of wetlands to be an important component of any Environmental Impact Statement. The decision by FERC staff to acquiesce to Islander East's request for a lesser standard serves only the financial interests of the applicant.

G61-27 The DEIS inexplicably considers the clearing of forested habitat in the temporary construction areas, which it concedes will take as long as 150 years to recover (Sect. 3.5.2, page 3-63; Sect. 5.1, page 5-1), and the loss of as much as 50% of biological diversity in wetlands (Sect. 3.7.2, page 3-76) to be a minimal impact. Particularly with regard to dedicated conservation land such as land trust properties in Connecticut and the Central Pine Barrens Core Preservation Area in New York, alternatives should be found that avoid these impacts.

G61-28 The DEIS only addresses the issue of soil compaction with regard to wetlands and residential and agricultural upland areas (Sect. 3.2.2, page 3-15), although it acknowledges (Sect. 3/3/1/2, page 3-24) that "Near-surface soil compaction caused by heavy construction vehicles could also reduce the soils ability to absorb water." Since one of the benefits provided by wooded areas such as the Land Trust preserves is infiltration and cleansing of storm water, compaction of the soil would degrade the value of the land. The decreased ability of the soil to absorb water would also lead to greater potential for erosion as more of the water runs off. Moreover, the Land Trust has observed instances where the activity of heavy construction vehicles has compacted the soil in wooded upland areas and thereby impaired plant growth. Since wooded uplands are not suited to the mitigation technique used on compacted agricultural areas (deep plowing), soil compaction that occurs on the temporary work areas in the Land Trust's nature preserves is likely to be impossible to mitigate, resulting in the long-term degradation of the environmental quality of the land. The FEIS must consider this degradation when weighing the impact of the Islander East's project.

G61-29 It should be specified that seed mixes and plantings used to re-vegetate temporary work areas and permanent right-of-way will contain only native species unless the land owner specifically request otherwise.

III.D. Effects on wildlife

G61-30 In addition to the possible effect on marine mammals, discussed above, the DEIS incorrectly dismisses the effect on wildlife of temporary displacement and permanent loss of habitat. This project is not occurring in the depths of the North Maine woods, where identical habitat stretches for miles, but in the most highly developed and densely populated urban corridor in the country. Permanent loss of habitat, no matter how small, reduces the viability of numerous species. This is particularly true of migratory birds that arrive on the southern coast of Connecticut after long flights from as far as the Southern Hemisphere, needing to refuel and rest before resuming their flights to breeding grounds further north. Removal of coastal forested habitat, such as that on the Branford Land Trust's Goss property, represents a real loss to these species. Moreover, even temporary displacement stresses individual animals, making them less able to compete for limited resources even when they are able to find small patches of suitable habitat.

forested wetlands given that the original surface elevation is restored and tree stump-root complexes are preserved. However, in the event a permitting agency identifies the need for a site-specific forested wetlands revegetation plan, Islander East stated it would develop such a plan and consult with regional agencies for pertinent recommendations. In New York, Islander East will avoid direct impacts to wetlands through the use of HDD methods.

G61-27 Islander East has proposed construction modifications and route variations to minimize impacts to the land trusts and the Central Pine Barrens. See section 3.8.3.2. Also see response to comment 24 for letter S1 and response to comment 4 for letter F2.

G61-28 Comment noted. Text in section 3.2.2 of the FEIS has been updated.

G61-29 The ESC Plan, section 3.6.2, indicates that the seed mix identified in appendix B would be used, except where landowners request alternative seed mixes. This is also stated in section 3.2.2 of the FEIS. A landowner may request seed mixes and plantings which are native seeds.

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IV. Cumulative Impacts (Section 3.13, pages 3-134 ff.)
The DEIS analysis of cumulative impacts is deficient in a number ways.

G61-31 In the discussion of impacts on **water quality** (page 3-135), it dismisses the effects of the pipeline as insignificant compared to the cumulative degradation associated with present and future land-use activities. **This comment is an insult to the citizens of Branford**, especially the members of the Branford Land Trust, the Branford River Project and numerous town boards and commissions, who have been and continue to work, sometimes quite effectively, to reverse the degradation of water quality that have historically occurred. The town is spending millions of dollars to upgrade its sewer treatment plant in order to markedly reduce the amount of nitrogen discharged into Long Island Sound. The Land Trust and River Project have engaged in successful educational efforts to increase the awareness of Branford residents of how to protect and improve water quality and other environmental resources. One of the most effective ways of accomplishing this has been the ability of the Land Trust to acquire and protect wetlands and adjacent uplands from exactly the kind of development that Islander East is proposing to do. Permitting the pipeline to violate natural areas that the Land Trust holds in trust for future generations sends the message to our town that taking responsibility for protecting our local environment is a waste of time, energy and money, because the federal government will only turn around and confiscate the protected land in order to benefit private interests that have the power and influence that we lack.

G61-32 The DEIS dismisses cumulative impact to **vegetation and wildlife** on the grounds that habitats have already been substantially altered in the vicinity of the proposed pipeline. This ignores the successful efforts of the Land Trust and others to acquire and protect properties in this area to maintain what has been left of a natural corridor that is all the more important because of the densely developed nature of the town. It also ignores the fact that locating the pipeline here makes future reduction in Branford's limited open space resources all the more likely. (See comments below on the almost certain need for Islander East to install looping to meet the market demand that it has projected will need to be met in little more than two years.)

The DEIS once again acknowledges the fact that forested areas, like those on Land Trust properties, will not return to preconstruction conditions for a very long time.

V. Alternatives (Section 4.0)
The DEIS contains extensive discussion of alternatives (system alternatives, route alternatives and route variations) to the Islander East project. Section 4.0 begins with a statement of the criteria for selecting potentially environmentally preferable alternatives (page 4-1):

- Delivering increased volumes of natural gas to meet the load of new, efficient, clean burning, gas-fired electric generating plants as well as older, existing facilities that may convert to natural gas in the future; and

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G61-30 As stated in section 3.4.2 of the DEIS, Islander East has minimized impacts to wildlife and wildlife habitat by reducing the width of the permanent right-of-way in wetlands, collocating the proposed right-of-way with either existing rights-of-way, and limiting routine vegetation maintenance to occur no more than once every 3 years and outside of the nesting season.

G61-31 Comment noted.

G61-32 Comment noted.

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- Supplying enough natural gas to heat 600,000 homes in Long Island, and New York City and *meet future local gas distribution company growth in Connecticut* (emphasis added);
- Fully integrating market access between New York and New England; and
- Enhancing access to virtually every major natural gas supply basin in North America.

EPA in its November 15, 2001, letter to FERC on NEPA scoping of the Islander East project and The US Dept. of the Interior in its comments on the DEIS both state concerns about the need for a broad and full evaluation of alternative routes on land and sea.

G61-33 The DEIS failed to evaluate all system alternatives that could meet these criteria and enhance the transportation of gas to Long Island. Specifically, the Cross Bay Pipeline project was not included. This proposal, approved by FERC on November 8, 2001 (97 FERC ¶ 61,165 (2001)) could provide 125,000 Dth a day of new firm transportation service from New Jersey to Long Island (nearly all of the initial Precedent Agreements of Islander East with the two KeySpan companies), with construction of only one compressor plant and no new pipeline. As the Commission noted in its November 8 order the benefits provided by the project could be achieved "with minimal impact to the environment." The fact that Cross Bay Pipeline Company, L.L.C., a partnership of Duke Energy, Keyspan (the two partners in Islander East) and Transco, informed the Commission on December 7, 2001 (FERC document # 2228517) that it would not accept the Commission's order, in part because "the market targeted by the Cross Bay project has not materialized" should not eliminate it from consideration.

G61-34 There are several points to be made about how the system alternatives considered in the DEIS (and the Cross Bay Project, which was not considered) meet these criteria.

1) All of the system alternatives evaluated in the DEIS, including the Islander East proposal, deliver natural gas *to Long Island* for electric generation and residential consumption.
2) None of the alternatives described in the DEIS contributes to meeting future growth of demand for gas in Connecticut. (The compressor station that Iroquois has proposed to construct at the Brookfield interconnect with Algonquin in connection with its Eastchester Extension *would* increase capacity to meet demand between Brookfield and Milford, and indirectly via the interconnect to the Tennessee Gas Pipeline system in the Shelton area to Fairfield County, Westchester County and northeastern Pennsylvania.)
3) Fully integrating market access between Long Island and Connecticut and enhancing Connecticut's access to every major gas basin in North America requires that there be sufficient gas reaching Long Island by routes other than those that pass through Connecticut to provide sufficient gas to Connecticut should the need arise. This in turn requires that the infrastructure for transporting gas to western Long Island from New Jersey and New York City and from western Long Island to the eastern Long Island terminus of the Islander East

G61-33 See section 4.2.5 for an analysis of this alternative.

G61-34 See response to comment 33.

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G61-34 project be adequate for this need. The DEIS should have addressed this question, but did not.

V.A. No action or postponed action alternative (Sect. 4.1)

G61-35 In the discussion of alternative energy sources as components of the mix, the DEIS states that "Replacement of the natural gas by other energy sources is also impracticable in the timeframe required by the end users." I have three points to make.

1) Alternative energy sources can increase their share of the energy mix on Long Island and meet some of the demand that Islander East proposed to meet with natural gas even if it is not able to meet all of it. Long Island Power Authority (LIPA) lowered electric use on Long Island last year by about 115 MW through its Clean Energy Initiative, according to LIPA's Richard Kessel (http://www.lipower.org/newscenter/pr/2002/mar12_02.html). LIPA is aggressively pursuing the development and implementation of alternative technologies such as residential solar (339 MW hrs/year installed through the Solar Pioneer program this year alone, more than 6-fold more than the total previously installed), geothermal, wind and hydrogen-powered fuel cells.
2) Artificially lowering the cost of natural gas by government action (which is surely the effect of the grant of the power of eminent domain) interferes with the market and in effect subsidizes natural gas, thereby possibly slowing the development of alternative energy technologies that will certainly be needed in the future and might even today slow the production of greenhouse gases.
3) The cancellation of the Cross Bay Project because "the market targeted by the Cross Bay project has not materialized" suggests that the timeframe required by the end users is not a short as suggested by Islander East. The construction of the Cross-Sound cable, scheduled to be on line this summer and capable of delivering up to 330 MW of electricity, will help relieve tight energy markets on Long Island. Thus, more time may be available for increasing the contribution of alternative technologies to the energy mix on Long Island, and that time could be further extended by the construction of the Cross Bay Project once a market for the additional 125,000 Dth per day has developed.

V.B. System alternatives (Sect. 4.2)

V.B.1 One-Pipe System Alternative (Sect. 4.2.1)

G61-36 The fact that Duke and Keyspan acknowledged in their December 7 letter to the Commission, cited above, that there was insufficient market for 125,000 Dth of gas a day to justify the financial risk of the project indicates that the assumptions of market demand used by the Commission staff in determining the hypothetical capacity of the One-Pipe System Alternative are unrealistically high. Therefore, based on the statement in Cross Bay December 7 letter, the "one pipe" alternative should be smaller, with less looping and less environmental impact on land in Connecticut.

The environmental impact of the One-Pipe System Alternative on Long Island Sound will be substantially less than the Islander East project.

- The length of the offshore pipeline would be only 17.1 miles, nearly 25% shorter than the Islander East pipeline.

G61-35 The reasons why solar power, wind power, and liquefied or compressed natural gas as alternative sources of power to the end user of the proposed pipeline project were not practical is discussed in section 4.1. The timeframe for need is based on Islander East's end user agreements and was identified in Islander East's application to the Commission.

G61-36 Section 4.2 has been revised to include more information on system alternatives. The Cross Bay Project is discussed in section 4.2.5 of the FEIS.

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G61-36
- The nearshore construction area would be much smaller (1.4 acres for tie-in to the existing Iroquois pipeline, compared to more than 15 acres for the clamshell dredging of the HDD transition basin and trench (including spoil mounds) to the point where the mechanical plow can be used. (Note that the 15 acre area does not include the additional impact that will occur as a result of dredging a flotation trench in water less than 10 feet deep at mean low water. For that distance, the width of the directly impacted area will increase by more than 70%, from 110 feet to 190 feet.)
- The amount of sediment removed for tie-in to the existing Iroquois pipeline will be small enough to be placed in barges, avoiding the formation of spoil berms that will increase the amount of sediment dispersed onto nearby shellfish beds and other areas. (See earlier discussion of the likely environmental impact from sediment dispersed from the Islander East construction site.)

G61-37 The DEIS fails to identify dedicated conservation land crossed by the 16 miles of looping hypothesized by FERC. However, a comparison of the Islander East Project with the One-Pipe System Alternative prepared by Islander East at the request of the Connecticut Siting Council notes that there are four special land uses crossed by the One-Pipe System: a state forest, a hiking trail and two properties of the Shelton Land Trust. This is in comparison with the six land trust properties crossed by the Islander East project (NHV-015, North Haven Land Trust; NHV-087 and NHV-090, North Branford Land Trust; NHV-169, NHV-176, NHV-182, NHV-194, Branford Land Trust). The Islander East route also crosses the 'Round Branford recreational trail where the trail traverses the Branford Land Trust Goss property (NHV-194). (Note that a route adjustment proposed by Islander East during the Connecticut Siting Council hearing would eliminate the crossing of Branford Land Trust property NHV-175. If this adjustment is accepted by FERC, then the special land use properties crossed by the Islander East route would be reduced to five.)

G61-38 The DEIS fails to provide evidence to support FERC's apparently arbitrary decision that 16 miles of 36-inch-diameter pipeline loop will be required. Moreover, the implication in the last paragraph of Section 4.2.1 that the impacts of the One-Pipe loop and Islander East pipeline on the affected landowners are similar neglects the fact that the right-of-way for the One-Pipe alternative is already a gas pipeline right-of-way, in contrast to the Branford Steam Railroad corridor which is narrower and less extensively cleared. The DEIS also excludes from consideration the fact that Islander East has stated in a response to a FERC request for information that it anticipates installing looping to meet projected future demand, which would further increase the cumulative environmental impact of Islander East, especially on the small land trust properties along the route in North Haven, North Branford and Branford. Finally, the Islander East comparison referred to above notes that the first three miles from the Brookfield

G61-39 interconnect already contains three pipelines (Iroquois, Algonquin main line, Algonquin loop). A fourth pipeline is not as great an incremental change as that which would be experienced by properties along the Branford Steam Railroad corridor.

G61-37 See comment 36.

G61-38 See comment 36. Islander East would have to apply for a certificate to construct any future looping of the pipeline.

G61-39 Thank you for your comment.

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G61-40 **V.B.2 ELI System Alternative** (Section 4.2.2)

As in the case of the One-Pipe System Alternative, the environmental impact of the ELI System Alternative on Long Island Sound will be substantially less than the Islander East project.

- The length of the offshore pipeline would be only 17.1 miles, nearly 25% shorter than the Islander East pipeline.
- The nearshore construction area would be much smaller (1.4 acres for tie-in to the existing Iroquois pipeline, compared to more than 15 acres for the clamshell dredging of the HDD transition basin and trench (including spoil mounds) to the point where the mechanical plow can be used. (Note that the 15 acre area does not include the additional impact that will occur as a result of dredging a flotation trench in water less than 10 feet deep at mean low water. For that distance, the width of the directly impacted area will increase from 110 feet to 190 feet or more than 70%.)
- The amount of sediment removed for tie-in to the existing Iroquois pipeline will be small enough to be placed in barges, avoiding the formation of spoil berms that will increase the amount of sediment dispersed onto nearby shellfish beds and other areas. (See earlier discussion of the likely environmental impact from sediment dispersed from the Islander East construction site.)

G61-41 The DEIS fails to provide evidence to support FERC's apparently arbitrary decision that 7 miles of 36-inch-diameter pipeline loop will be required. Iroquois has stated that it believes that the necessary increase in volume delivered can be accomplished by increasing compression (the existing Iroquois pipe is more robust than the older and smaller AGT pipelines that will be retested and upgraded under the Islander proposal), and in the event that looping is required, the looping can be done in several smaller sections to minimize the environmental impact.

The DEIS fails to identify dedicated conservation land crossed by the 7 miles of looping hypothesized by FERC. However, a comparison of the Islander East Project with the ELI System Alternative prepared by Islander East at the request of the Connecticut Siting Council notes that there are no special land uses crossed by the ELI System. This is in comparison with the six (or five, see above) land trust properties and the recreational trail crossed by the Islander East project.

G61-42 The DEIS does not explain why the factors affecting air quality are assumed to be greater for the Milford compressor in the ELI project. In particular, why is the amount of SO_2 emitted by the Milford plant nearly 5 times greater than the amount emitted by Islander's Cheshire compressor when the amounts of all other pollutants emitted by the Milford plant are less than 2-fold more than the emissions of the same compounds by the Cheshire plant?

G61-43 **V.B.3 The Islander East Project**

The DEIS attributes 7 miles of looping to the ELI alternative that is not proposed in Iroquois's application. On the other hand it fails to address the need for additional

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G61-40 Thank you for your comment.

G61-41 We agree that there are several ways to achieve the increased capacity and have revised our discussion. We have chosen what we believe is the most environmentally benign method of designing the alternative. Section 4.2 of the FEIS has been revised to include additional information on the additional compression and location of compressor stations required for the ELI System Alternative.

G61-42 The emission estimates for the proposed Devon Compressor Station at Milford, CT are generalized estimates because no specific turbine model has been selected. Emission estimates for the Devon Compressor Station may change once a specific turbine unit has been identified. The emission estimates for the proposed Cheshire Compressor Station are facility-specific estimates based on identified equipment models and air temperature ranges expected at that facility.

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G61-43 looping that is inherent in Islander East's application, thus unfairly biasing the analysis in favor of the Islander East proposal. Although Islander East has consistently responded to questions about looping along its route by saying that the need for looping and increased compression is "speculative", the Commission has based its decision regarding the need for this project on the Daily Transportation Quantities in Islander East's application. It must now treat those figures as more than mere speculation when determining the environmental impact of the project.

G61-44 Islander East (IE) and the DHIS are greatly understating the cumulative environmental impacts of the project now and in the near future that are consequences of the low capacity and age of the existing Algonquin Gas Transmission (AGT) C-1 and C-1L pipelines between Cheshire and North Haven. (One might ask if this understatement of the true potential environmental impact is the reason that Islander East is not running the 24" pipeline directly from the Algonquin main line in Cheshire.) The cross-sectional area (and thus the volume at constant pressure) of the AGT pipelines feeding into the North Haven metering station (280 sq in; 10" and 16" pipelines) are far surpassed by the cross-sectional area of pipelines taking gas from North Haven (300 sq in: the 24" IE pipeline, the 8" line to the Guilford metering station; the figure does not include Southern Connecticut Gas Co.'s local distribution lines that take delivery in North Haven). This is in addition to the pressure drop that normally occurs as distance from the compressor increases. To compensate for this disadvantage, these smaller and older pipes will be required to operate at the highest pressures within the system, and they will be the first bottleneck to develop when (according to IE's projections cited by FERC in its December 21, 2001 Preliminary Determination on Non-environmental Issues, 97 FERC ¶ 61,363, and discussed below) demand on Long Island exceeds the capacity of the IE pipeline. Thus, the probability of installing new pipe between Cheshire and North Haven is great and should be considered as a likely requirement in the near future and included in the evaluation of the Islander East application.

G61-45 IE's system is designed to transport 260,000 Dth on a firm basis and 25,000 Dth on an interruptible basis for a total of 285,000 Dth. The capacity of the system to do so depends on the ability of the existing AGT C-1 and C-1L pipelines to withstand an increase in operating pressures from 750 psi to 814 psi. The 10" dia. C-1 line was installed prior to 1970, and was not designed for these pressures. If AGT is not able to successfully complete the retest of the C-1 and C-1L lines, AGT and IE will either have to replace the existing 10" C-1 line or install additional pipeline (looping) to provide the capacity necessary to feed the new Islander East pipeline. Since the route of the existing C-1 and C-1L lines is through the Cheshire aquifer and along the Quinnipiac River (and through state parks that lie along the river), this additional work would impose significant additional environmental impacts that must be considered as possible (perhaps likely) consequences of the IE/AGT project.

G61-46 Successful completion of the retest does not guarantee that installation of new pipe in the environmentally sensitive Cheshire aquifer and Quinnipiac River watershed will not be needed soon. FERC's Preliminary Determination on Non-environmental Issues (97 FERC ¶ 61,363, issued Dec. 21, 2001, page 3) provides both minimum and maximum

G61-43 Islander East expects that its maximum daily quantity for each of the first six years of operation will be settled as the specific needs of its customers and the markets served by Islander East are determined. As these markets rationalize in the ensuing years, Islander East anticipates that it would expand its capacity to the extent the market requires by installing compression and/or minor pipeline looping. If Algonquin needs to loop its system as you speculate, it would need to file an application with the Commission seeking approval to do so.

G61-44 Comment noted. See response to comment 43.

G61-45 See response to comment 43.

G61-46 See response to comment 43.

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G61-46 projected transportation quantities based on IE's precedent agreements with AES Calverton, ANP Brookhaven, KEDLI and KEDNY (Preliminary Determination on Non-environmental Issues, 97 FERC ¶ 61,363, December 21, 2001). The projected maximum daily transportation quantity exceeds the system design capacity by November 2004, one year after the system is proposed to go on line. The projected minimum Daily Transportation Quantity exceeds the system design capacity by November 2005, two years after the system goes on line. Thus, Islander appears to be asking for permits on a system that it knows will be out of date within two years of completion. This is not appropriate long term planning, particularly when one consequence is that areas that will not have recovered from the initial work will be disrupted again to increase the capacity of the system. This is particularly undesirable for the many wetlands crossed by the pipeline and it will mean additional eating away at deeded conservation land owned by land trusts.

G61-47 The November 15, 2001, letter from the EPA raised the concern about future cumulative impacts and suggested that certain stretches of the pipeline might carry exclusions that would prevent future tie-ins in order to prevent additional direct and indirect impacts, such as habitat fragmentation and loss of tree canopy, that would further compromise the functional capacity of various wetland systems along the route. The final EIS should place such restrictions on all parts of the route that pass through or adjacent to wetlands, particularly forested wetlands, and land trust and other conservation properties.

V.C. Route alternatives (Sect. 4.3)

V.C.1 Sachems Head and Short Beach Route Alternatives (Sects. 4.3.2 and 4.3.3)

G61-48 Both the Route alternatives proposed by Islander East would cross properties of the Branford Land Trust and are therefore not preferable in terms of impacts on conservation lands.

V.C.2 New Haven (Amtrak) Route Alternative (Sect. 4.3.7)

G61-49 The request by the Branford Land Trust that alternative routes along major transportation corridors cited the Amtrak/I-91 corridor as an example, not with the expectation that this would be the only such alternative to be examined. Furthermore, Islander East appears to have chosen the specific route within this corridor that was least likely to be acceptable when other routes (for example, the route proposed in the Branford Land Trust's submission on February 16, 2002: south from the intersection of the existing Algonquin pipeline and I-91 along the wide grass median strip of I-91 to Exit 9, where a rail line runs southwest into a large marshalling yard) might have proved less problematic. This tendency of Islander to select the worst route when evaluating alternatives, and FERC's acquiescence to this tactic, guarantees that routes with potentially lower environmental impacts that Islander finds unacceptable for other reasons (for example, higher costs of construction) won't be properly evaluated.

G61-47 The Commission does not have a policy governing the location of future taps or tie-ins. However, any future tie-in facilities would have to be approved under the Commission's regulations.

G61-48 The Sachem Head and the Short Beach Route Alternatives are not recommended. Thank you for your comment.

G61-49 The proposal to use the I-91 median and the railroad marshalling yard would also prove problematic and render the suggested route alternative unacceptable from an engineering and safety perspective. See section 4.3.4.

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CP01-384-000, CP01-385-000, CP01-386-000

V.D. **Route Variations** (Sect. 4.4)

V.D.1 **Pine Orchard Variation** (Sect. 4.4.1)

G61-50 The Pine Orchard Variation is another example of Islander East, and FERC, choosing the details of a suggested variation that will most strongly mitigate against its selection. The DEIS states that none of the Pine Orchard Variation would be located along existing right-of-ways when small adjustments would have aligned the route along the Amtrak right-of-way and Totoket Road. Furthermore, Islander East chose to direct the Horizontal Directional Drill HDD path in the Pine Orchard Variation toward the HDD breakout point on the original route, introducing technical difficulties that might reduce the chances of success of the HDD, when drilling directly south would have eliminated these technical difficulties and also reduced the distance required for the clamshell dredging and the associated environmental impacts. Ultimately, however, it seems that the deciding factor in discarding the Pine Orchard Variation was that a golf club would be impacted for a season and that more people might have to look at the HDD rig. The Land Trust does not understand how the visibility of a drilling rig for three months and the inconveniencing of a golf club for a season is considered to be a greater environmental impact than clearing part of a nature preserve, even the reduced area impacted by the Pond Variation, that by FERC's own admission could take as long as 150 years to recover. People benefit from the product being delivered by this project. People, not natural areas dedicated to conservation, should bear the impact of the construction.

VI. **Incomplete or inaccurate data**

G61-51 • Islander East has not completed geotechnical analysis of HDD site (Sect. 3.3.2.2, page 3-30).

G61-52 • Islander East has not completed its modeling of sediment transport (Sect. 3.3.3.2, page 3-42). **An Environmental Impact Statement that lacks a complete and valid sediment transport analysis is incomplete and defective.**

G61-53 • Islander East has not provided a plan for an alternate crossing method from the Connecticut landfall out onto the Sound in the event that the HDD fails (Sect. 3.3.2.2, page 3-31). **An Environmental Impact Statement that lacks an analysis of the alternative crossing method is incomplete and defective.**

G61-54 • According to testimony of Dr. Lance Stewart to the Connecticut Siting Council, the list of fish species known to occur in the project area (Table 3.4.1-1, page 3-46) is missing numerous species. These include blackfish (tautog), and sand eels or sand lances (Ammodytes americanus). The latter serves as an important food source for numerous commercially important fin fish species, including cod, bluefish and summer flounder, and for the federally endangered roseate tern.

GROUPS AND INDIVIDUALS 61

G61-50 Staff believe that the Pine Orchard Variation was adequately addressed and not recommended for the reasons stated in section 4.4.1 of the DEIS. See additional discussion in section 4.4.4 of the FEIS.

G61-51 Islander East is attempting to gain access to complete the geotechnical investigations.

G61-52 See response to comment 1.

G61-53 See response to comment 6.

G61-54 Table 3.4.1 of the FEIS has been modified to include blackfish (tautog) and sand eels or sand lances in the project area. The FEIS has also evaluated the effects of the project on sand eels or sand lances and the subsequent effect on the federally endangered roseate terns.

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CP01-384-000, CP01-385-000, CP01-386-000

G61-55 • Islander East's initial analysis of state-listed endangered, threatened, or special concern species that occur along the pipeline route was based on a search of the CTDEP database, not on field studies. While the state database provides important information about known populations of such species, it is incomplete and cannot be substituted for thorough field studies of the proposed route carried out by independent professionals. Its contents are not the results of comprehensive surveys that covered all areas of the state, and it depends to a large degree on information voluntarily submitted by persons other than DEP field staff. A comprehensive study of the pipeline route at multiple times of the year by independent third party environmental firms or organizations selected by CT DEP and funded by Islander East should be conducted, and the results filed directly with CTDEP and FERC.

G61-56 • In describing the Pond Variation (Section 4.4.2, page 4-38), the DEIS confuses the pond that is on Land Trust's Goss property with the pond on the Gould Lane property (the Goss pond does not "contain lilypads"), suggesting that it did not properly evaluate the impact to the pond on the Goss property when considering the relative impacts of the Pine Orchard Variation and the Pond Variation.

G61-57 • Islander still has not identified private water supply wells in the project area (Sect. 3.3.1, page 3-22).

G61-58 • The DEIS analysis is erroneously based on the assumption that the pipe will be buried for as little as half its diameter in off-shore areas (Sect. 3.8.1.2, page 3-81). DOT regulations require that marine pipelines (except in the Gulf of Mexico) be covered by at least 3 feet of material. This error calls into question the validity of the DEIS analysis of the pipeline impacts in Long Island Sound.

G61-59 • The DEIS incorrectly states (Sect. 3.8.3.2, page 3-102) that the pipeline route crosses only one property of the North Branford Land Trust. (It crosses two, NHV-087 and NHV-090, that are separated by Arthur Road.)

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G61-55 As stated in section 3.6 of the DEIS and FEIS, Islander East has assisted the FERC in meeting Section 7 of the Endangered Species Act requirements by conducting informal consultation with the FWS and NMFS, and by reviewing endangered, threatened, and rare species databases maintained by the appropriate state Natural Heritage Program. As outlined in section 3.6.4.2 of the DEIS and FEIS, Islander East consulted directly with the CTDEP regarding survey requirements for state listed species and conducted a survey for two of the 19 plant and animal species listed by the CTDEP. The CTDEP concurred that the project would not adversely affect any of the state listed species.

G61-56 The description of pond vegetation has been corrected in the FEIS.

G61-57 Section 3.3.1.1 of the FEIS has been updated with this information.

G61-58 Various sections of the FEIS have been updated to reflect that the pipeline would be buried to a minimum depth of 3 feet in offshore areas.

G61-59 Section 3.8.3.2 has been corrected.

19 May 2002

The Honorable Magalie Roman Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E
Washington, D.C 20426

RE: Islander East Pipeline Project
Draft Environmental Impact Statement/ FERC/ - 0143D March

Islander East Pipeline Company, L.L.C
Docket No. CP01-384-000

Algonquin Gas Transmission Company
Docket No. CP01-387-000

Dear Secretary Salas:

Please accept this SUPPLEMENT to my analysis of the Draft Environmental Impact Statement (DEIS) for the proposed gas transmission pipeline described in the application by Islander East, LLC

G62-1 The FERC DEIS has not directed Islander East to complete thorough soil testing within the area adjacent to the Tilcon Railroad Beds where it proposes to install a 24-inch gas pipe, five feet deep. The Tilcon Railroad Line has been operating in this location for nearly 100 years. The use of diesel fuel and its accompanying particulate toxic exhaust emissions as well as heavy wood preservative treatments for the railroad ties creates a high probability that the soils around these tracks may be contaminated Information concerning the components of these petroleum hydrocarbons is listed below:

Diesel fuel – and its components consist of varying amounts of several different compounds including alkanes, mono-aromatics, and poly-aromatic hydrocarbons (PAHs). Aromatics are petroleum components with a molecular structure based on carbon rings and include benzene, toluene and xylene. PAHs occur naturally in crude oil and are produced as part of the refining process. Polycyclic aromatic hydrocarbons contribute significantly to particulate emissions and are associated with causing cancer and birth defects. Studies investigating the anaerobic biodegradation of petroleum hydrocarbons (octane, decane, diodecane, benzene, toluene, ethylbenzene and xylenes (BETX) in various sediments, (Phelps, Craig et al. 1998), reports that in the environment, PAHs are among the most persistent of the hydrocarbons. In tests for toxicity/teratogenicity in embryonic inland silversides, *Menidia beryllina*, PAHs caused significant embryo

G62-1 Comment noted.

toxic or teratogenic responses, (Middaugh et al. 1991) Other diesel fuel components are listed below.

Sulphur – is present to a greater or lesser extent in all crude oils. Sulphur in diesel fuel tends to produce emissions in the form of particulates which have a tendency to produce acidic by-products.

Benzene – is the simplest aromatic compound and is a know carcinogen.

Olefins – are created during the refinery process and the combustion of fuel. Olefins contribute toxic pollutants.

Diesel Exhaust – Toxic particulate emission from the combustion of diesel fuel can contribute particulate matter as a form of localized air pollution. (EPA, 1995). Laboratory tests have shown diesel exhaust to be toxic, mutagenic, and carcinogenic,(NIOSH 1988; California EPA, 1994; EPA, 1940). Diesel exhaust is a complex mixture of combustion products of diesel fuel, dependent upon the type of engine, operating conditions, lubricating oil, additives emission control system, and the composition of the fuel used, (IARC,1989). Exhaustive studies link diesel exhaust and mutations in chromosomes and damage to DNA, (Mauderly, J.L.1992; Dawson, et. al 1998).

Forty-two substances were listed in diesel exhaust by California EPA as *Toxic Air* Some, but not all, of these toxins are listed here: arsenic, benzene, mercury compounds, cadmium, chlorine, chlorobenzene, chromium compounds, colbalt compounds, cyanide compounds, dioxins and dibenzofurans, ethyl benzene, formaldehyde, phenol, toluene, xylenes, (California EPA, 1994). Many of these substances that are constituents of diesel exhaust are harmful to humans, animals and organisms. Toluene, lead, cadmium and mercury are known to cause birth defects and reproductive problems,(Rosenstock, L and Cullen, M, 1994). Dioxins are endocrine disrupters, interfering with the hormone system and are toxic to the immune and reproduction system, (Bimbaum, L. 1995).

Creosote and Wood Preservatives:-Railroad ties in the early 1900's were treated with zinc chloride, mercury chloride, or creosote. It is not known how recently the Tilcon railroad tracks have been replaced, nor if ties they purchased were treated with new wood preservatives such as pentachlorophenol, arsenic compounds or copper naphthenate. Most railroad lines were treated primarily with creosote since the turn of the century therefore the following will include information on the toxicity of creosote.

Although creosote treated wood is meant to last for approximately 50 years, it is degraded by microbes in a process called biotransformation . This is the primary process by which creosote constituents are degraded in soils, surface waters, and groundwater. Creosote is a oil-type wood preservative. It is made from coal

tar and contains a chemically complex mixture of organic molecules containing some 300 organic constituents, most of which are polycyclic aromatic hydrocarbons (PAHs).

Creosote constituents may be slowly released from the surface of treated wood products by oil exudation, and leaching by rain water,(Leach and Weinert 1976) Constituents of creosote such as phenols can leach into ground water and creosote has been detected in groundwater samples collected at 25 of the 59 NPL sites and in surface water samples collected at 9 of the 59 sites, HazDAT2000). Coal tar creosote may be released to soils as a result of bleeding of the product from treated timber. Rain water may also wash the soluble components directly from the surface of treated timber and into the soil, (Henningsson 1983). Compounds initially released to the atmosphere may undergo atmospheric deposition and reach surface water directly or through runoff carrying soil-bound compounds.

In an investigation of coal-tar contaminated surface sediments, PAHs were observed to have moved 400 meters in groundwater from buried subsurface coal tar: persistence of the PAHs, naphthalene in particular, was partially attributed to anoxic conditions, (Madsen et al. 1996). Additionally, sediment-bound creosote components may be released over time.

Limited uptake of some creosote constituents has been detected in plants exposed to creosote-treated wood in nearby soil. In addition, voles, crickets, snails, pill bugs and worms have exhibited the capacity to assimilate radio-labeled creosote components in terrestrial microscosm studies. The greatest amount of creosote components were found to bioaccumulate in the vole. (Gile, et al. 1982). Bioaccumulation has been found in fish and aquatic organisms, indicating that bioaccumulation may be an important in the fate of some components of coal tar creosote.

In Conclusion.

Islander East has proposed a pipeline beside the Tilcon railroad track in Branford. Connecticut. This railroad track, in many cases, is a raised bed that has been in existence for nearly 100 years. The diesel fuels, and localized particulate materials from the diesel exhaust and the heavy wood preservatives that have been used on the railroad ties for nearly 100 years creates a high probability that perhaps PAHs, heavy metals, dioxins, and other toxic materials may be imbedded within the soil within the vicinity of the railroad tracks. Contaminated sediments can have direct toxic effects on aquatic life, such as the development of cancerous tumors in fish exposed to polycyclic aromatic hydrocarbons (PAHs) in sediments, The bioaccumulation of toxic contaminants in the food chain can also pose a risk to humans, wildlife, and aquatic organisms.
G62-2 This area needs to have stringent, EPA guidelines soil testing before Islander East is given permission to dig 7 foot deep trenches of possibly contaminated soil

3

G62-2 If contaminated soils are encountered during construction, the applicant may need to remove the contaminated materials to an approved disposal site if it cannot be used to backfill the trench. Islander East has prepared an Unanticipated Contamination Encounter Procedure to respond to any contaminants found. See section 3.8.3.2.

G62-2 near wetlands and wells. If in fact, this soil has contaminates then this would create additional mitigation measures to insure that wetlands and wells are not contaminated. In addition, a location that should be tested for PAHs and heavy metals is where the HDD enters in near-shore waters and could possibly spread

G62-3 contaminants into Long Island Sound where the lower food chain of invertebrates may be affected and possibly bioaccumulate in the higher food chain including those of us who eat fish and shellfish.

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G62-3 Sections 3.3.3.2 and 3.4.1.2 of the FEIS have been updated concerning resuspension and bioaccumulation of contaminants, respectively.

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Very truly yours,

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May 19, 2002

The Honorable Magalie Roman Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E
Washington, D.C 20426

RE: Islander East Pipeline Project
Draft Environmental Impact Statement/ FERC/ - 0143D March

Islander East Pipeline Company, L.L.C
Docket No. CP01-384-000

Algonquin Gas Transmission Company
Docket No. CP01-387-000

Dear Secretary Salas:

The following text was prepared for presentation at the Public Hearing on the DEIS for the Islander East Pipeline at Branford High School two weeks ago.

It has been almost a year since we first heard about the proposed Islander East natural gas pipeline. We have examined the myriad detailed submissions by an incredible array of very well qualified presenters. These submissions and testimony in numerous public hearings have exposed widespread concerns about this proposed pipeline -- shell fishermen and professional environmentalists fear the devastation of the shellfish beds – some of New England and the country's finest. Mr. Nargi tells us that the pipeline will destroy his septic system leaving him with no readily feasible alternative. Mr. Ghiroli's ability to continue to operate his small screening business may be severely limited. The Wightwood School has significant and well founded trepidation about a 24" high pressure gas pipeline running just a few yards from its playground. The Wetlands commission is outraged that the regulations and protective measures it has fought for so long can just be ignored and summarily dismissed. The Branford Land Trust is very angry and rightly so – this proposal *takes* dedicated conservation land.

G63-1 The DEIS we have been presented with, however, in many cases addresses these issues incredibly superficially or by simply discounting negative impacts. FERC and it's environmental consultants have essentially ignored the testimony presented to it. The DEIS reports in its Conclusions and Recommendations, that the Islander East Pipeline project would result in limited adverse environmental impacts despite the data and testimony from scientists, businesses, town officials, citizens, and the Branford Land Trust. This DEIS is basically an uncritical acceptance of the Islander East position without any serious review of the overwhelming evidence of serious adverse impact and inadequate mitigation which has been provided by numerous qualified authorities and concerned parties.

G63-2 For example, the Branford Land Trust has consistently pointed out that size is a critical factor in the habitat value of its open space. Branford is a small and densely populated town, and the Land Trust has worked hard to acquire and maintain an open space system. Many of our properties are small, but provide that important link between open spaces. The impact of a strip 30-50 feet wide is greater when the impacted property is already small or narrow, as is the case of the Anderson-Wilcox and Gould properties. These preserves are already highly sensitive because of their relative scarcity and small size. When they are invaded and further fragmented by development of any kind their habitat value is greatly reduced.

G63-3 The DEIS maintains on 3-59 that overall impact on wildlife would be temporary and not significant because of the short duration and availability of undisturbed habitat nearby. This is clearly not the case for these two Land Trust properties.

G63-4 Similarly the DEIS' softball recommendation that Islander East inspect the effected properties in the case of Mr. Nargi and Mr. Ghiroli (p.3-89) to design a site specific plan or revised construction plans really does not adequately deal with their very real concerns. In the case of the Wightwood school (3-10) it does not address the issues at all. Many of the recommendations are glittering generalities which will not have the desired affect of satisfactorily addressing negative impacts.

G63-5 The DEIS also dismisses specific recommendations without due consideration, for example, the Pine Orchard alternative designed to avoid the Land Trust's dedicated conservation Goss property. The chart on p. 4-37 and the text on 4-35 suggest the Pine Orchard route is inferior because it is 2 miles longer, crosses two waterbodies and requires more permanent and construction right of way.
Note, 1. that the difference in not 2 miles, but .2 mile, a significant difference,
2. that following the currently favored alternative route which passes through the Goss Pond one waterbody will be crossed. However a closer look at the Pine Orchard alterenative, reveals that the two Pine Orchard waterbodies which would be crossed are artificial golf course water hazards in a completely artificial environment. They are not quality aquatic habitat at all. In contrast the Goss property pond attracts heron and egrets, is full of dragon flies and fringed in part by native marsh mallow and is canopied by woods.

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G63-1 Comment noted.

G63-2 See responses to comment letter G61 and sections 3.8.3.1 and 3.8.3.2 for updated information about the Branford Land Trust.

G63-3 Project-wide impacts on wildlife would be temporary. Islander East has developed a site-specific construction and restoration plan for construction through the Branford Land Trust properties that reduces impacts. (See section 3.8.3.2 for additional information.) Reduced right-of-way clearing, particularly reduced forest clearing, would decrease the long-term impacts of the project in this area, thereby decreasing impacts on wildlife whose habitat would be disturbed by construction.

G63-4 Thank you for your comments. Section 3.8.2.2 of the FEIS has been modified with updated information about the Ghiroli property. The pipeline would be located on the opposite side of the railroad tracks from the school. See sections 3.8.2.2 and 4.4.

G63-5 The text has been changed in the FEIS to indicate the 0.2 mile difference in length. As stated in the EIS, the probability of the HDD on the Pine Orchard Variation being successful here than at the proposed location due to engineering constraints. Since we believe that the success of the HDD is critical to the protection of the shoreline and near shore habitat, we believe that the drill

G63-5 3. The Pine Orchard alternative may use slightly more temporary and permanent right of way, but uses significantly less natural habitat and forested land. Please consider that an open golf course can be repaired fully in a season or two. It takes decades – generations - for forest land to recover.

4. The point here is that this alternative has not been given careful, serious consideration.

G63-6 The notion and preference for reducing the need to establish new utility rights of way (ES-4) is a sound one. Please look, however, at the picture of the Tilcon track on the front of the DEIS. It is a narrow, passage, with the trees forming a shaded canopy with wetlands and woods, hardly your typical industrial right of way. The permanent right of way to be established here is of quite different character. Gone will be the canopy of trees that shade the wetlands running alongside the tracks, and the recreation trails will run along the edge of a mowed utility right of way.

Then, why do this?

G63-7 Long Island needs natural gas? That is a legitimate question. However, consider that on Dec. 7, the day before the PDD for this Islander East pipeline was granted, the application for the Cross Bay pipeline was withdrawn from FERC's consideration because Cross Bay believed the market was just not there. We have heard stories of natural gas burning pool heaters being offered by the applicant to potential clients on Long Island. Has real need been established?

We also see numerous other cross Long Island Sound projects being proposed simultaneously. We note that with commendable caution, the Connecticut State Legislature has just unanimously passed a moratorium on these proposals until their economic, environmental and social impacts can be evaluated as a unit.

G63-8 We are asked on p. ES-3 to comment on the system alternatives offered in the appendices. Our comment is that we urge you on behalf of the people of Connecticut to consider these alternatives. The Iroquois proposal or the one-pipe proposal, for example, appears to adequately expand supplies when they are needed without a completely new cross sound route.

We think it has been well demonstrated both in the numerous public hearings and in formal submissions to FERC that the proposed route for the Islander East pipeline is not a good one. We need to hear more about how much need for natural gas actually currently exits on Long Island and what system or systems of the several proposed most adequately address those needs with the lowest possible environmental and social costs and consequences for Connecticut.

And not insignificantly we believe as members of a global community we also need to be considering long term goals and costs. We need to be thinking about greater conservation and less dependence on fossil fuels and more reliance on renewable energy sources. We need to think before we act. We ask that FERC honor the Connecticut

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G63-5 should occur in the location that has the greatest potential for success (i.e., the proposed route Tilcon location).

G63-6 Comment noted. See responses to comment letter G3.

G63-7 The Commission issued a PD for this project on December 19, 2001, indicating its determination that the project was in the public convenience and necessity. (See section 1.1 of the FEIS.)

G63-8 Alternatives considered are presented in section 4 of the FEIS.

moratorium and think carefully about needs and costs. Many of us might look on this particular proposal much differently if we thought the issues here were actually driven by public interest. Let's make this a carefully considered decision, one based on real need and real cost rather than a race to the money by the energy giants.

Sincerely,

Harry V. Merrick and Joan P.S. Merrick

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May 19, 2002

Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426
Attention: Magalie R. Salas, Secretary

Re: OEP/DEER/Gas Branch 2
Islander East Pipeline Company, L.L.C. Docket No. CP01-384-000
Algonquin Gas Transmission Company Docket No. CP-01-387-000

Dear Ms. Salas:

Attached please find a copy of Save the Sound's comments on the Draft Environmental Impact Statement for the Islander East Pipeline Project.

Respectfully submitted,

Leah Lopez
Staff Attorney
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20 Marshall Street
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(203) 354-0036

Cc : Service List

May 19, 2002

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First ST., N.E., Room 1A
Washington, D.C. 20426

Re: OEP/DEER/Gas Branch 2
Islander East Pipeline Company, L.L.C. Docket No. CP01-384-000
Algonquin Gas Transmission Company Docket No. CP-01-387-000

Dear Ms. Salas:

Save the Sound, Inc., ("STS") is a 30-year-old, bi-state, non-profit membership organization dedicated to the restoration, protection and appreciation of Long Island Sound and its watershed through education, research and advocacy. We are based in South Norwalk, Connecticut with offices in Glen Cove, New York and Groton, Connecticut. Save the Sound was made an intervenor to the Federal Energy Regulatory Commission (hereinafter "FERC") and to the Connecticut Siting Council (hereinafter "CSC") proceedings.

G64-1 STS remains unconvinced, despite the conclusion of the DEIS, that this particular project will result in *limited* adverse environmental impacts. Quite the contrary, after reviewing the DEIS we are know even *more* concerned with the extent and duration of the adverse impacts that construction of this project will undoubtedly have.

Based on the information presented by all interested parties to this project, Save the Sound is concerned that this project will result in a prolonged negative impact on water quality, wetlands, aquatic habitat, shellfish and other marine life. Before beginning with comments on mitigation of impacts, we would like to note for the record that we oppose the construction of the Islander East Pipeline project. The impacts that this pipeline, taken by itself and taken in conjunction with other Long Island Sound crossings, will be far reaching and potentially devastating. Furthermore, while we will not be commenting on the possible destruction to the Branford Land Trust, we would like it known that we oppose such an intrusion. The idea of a preserve is to provide individuals with avenues to protect land from development. It is

G64-1 Comments noted.

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G64-1 terribly disheartening to discover that a for-profit company can step in and have its way with the very property those giving individuals sought to safeguard. The original owners of the land forsook profit and gain in order to provide for the greater public good. If companies are able usurp such properties, how would any citizen be able to believe that a Land Trust can protect the land they so generously give?

The Fish and Wildlife Act of 1956 and The Fishery Conservation Zone Transition Act

STS would ask that the FERC, while continuing the EIS procedure as well as during the decision phase, be mindful of the following policies as found in the two statues above.

In the Fish and Wildlife Act of 1956, Congress declared it to be the policy of the country that the "fish, shellfish, and wildlife resources of the Nation make a material contribution to our national economy and food supply, as well as a material contribution to the health, recreation, and well-being of our citizens; that such resources are a living, renewable form of national wealth that is capable of being maintained and greatly increased with proper management, but equally capable of destruction if neglected or unwisely exploited." 16 U.S.C. ch.9 § 742a.

Under the Fishery Conservation Zone Transition Act Congress found and declared:

> (1) The fish off the coasts of the United States, the highly migratory species of the high seas, the species which dwell on or in the Continental Shelf appertaining to the United States, and the anadromous species which spawn in United States rivers or estuaries, constitute valuable and renewable natural resources. These fishery resources contribute to the food supply, economy, and health of the Nation and provide recreational opportunities; and (2) Certain stocks of fish have declined to the point where their survival is threatened, and other stocks of fish have been so substantially reduced in number that they could become similarly threatened. . .

16 U.S.C. ch.38 § 1801 (a).

Congress went on to state that it was both the "direct and indirect habitat losses which have resulted in a diminished capacity to support existing fishing levels" while also establishing that "one of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats." Id. In concluding those findings, Congress stated that "habitat considerations should receive increased attention for the conservation and management of fishery resources of the United States." The Act later declares it to be the purpose of Congress to:

> (1) take immediate action to conserve and manage the fishery resources found off the coasts of the United States, and the anadromous species and Continental Shelf fishery resources of the United States. . .and (7) promote the protection of essential fish habitat in the review of projects conducted under Federal permits,

licenses, or other authorities that affect or have the potential to affect such habitat.

Id. at (b).

Alternatives

G64-2 While there is not enough information to comment thoroughly on the ONE PIPE and ELI SYSTEM ALTERNATIVES, we believe they are both ideas worthy of more in-depth study. Specifically, in order for STS to have meaningful comments with regard to these system alternatives, we would need to know what marine resources would be impacted (including square footage of shellfish beds), what method of installation would most likely be used, length of construction time, mitigation/restoration initiatives, etc. However, both alternatives involve a significantly reduced imprint as can be judged by the comparison of miles impacted by each project.

Concrete Coating on the Lay Barge

G64-3 From both the Application and the DEIS, we have been unable to ascertain what types of spill measures will be employed on the lay barge. As we understand it, pipes will be coated with concrete prior to installation. If any of this coating will be done while on the Sound, we would request that a containment plan be produced and reviewed.

Anchor Holes Caused by the Barge

G64-4 Some of the most significant destruction will be the 2628 anchor holes placed in the floor of the Sound as a way to steady the two barges used to prepare, lay and install this pipeline. According to the DEIS each of these holes will measure approximately 20' wide by 8' deep. Unlike the installation of the pipeline, there is no excavation of sediment prior to the placement of each anchor. Each of the anchors will be dropped into place resulting in both the compression and uncontrolled dispersion of sediments. Once each anchor is lifted, a hole will exist with no plan to fill the resulting void. "Time will heal" is the current approach to remedy the situation. Unfortunately, the same method was used for similar anchor holes in the Iroquois project, however, 10 years later the cratered scars still remain. Such a significant change in the nature of the seafloor decreases the stabilization required for recovery

Mid-Line buoys

G64-5 If mid-line buoys do indeed cut the destruction in half, we agree with the FERC's conclusion that mid-line buoys must be used. However, we would request specific information on how such buoys reduce the damage and a resource reference for further investigation.

Wetlands

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G64-2 Section 4.2 has been modified to include this information.

G64-3 Offshore spills and concrete coating are addressed in section 3.3.3.2 of the FEIS.

G64-4 An updated discussion of impacts from anchor scars is presented in section 3.4.1.2 of the FEIS.

G64-5 See response to comment 39 in letter S1.

G64-6 Over 50,000 acres of tidal wetlands once existed around the Sound, however, due to dredging, filling, development, mosquito ditching, and invasive species there has been an average 35% loss with higher losses in urban areas: Bronx (98%), Fairfield County (57%). Because of this loss only about 20,000 acres remain around LIS today with ongoing threats such as water quality degradation; tidal restrictions (e.g. tide gates, road crossings); residential, commercial, and industrial development; dredging; and invasive species like Phragmites and Purple Loosestrife. We would request at least a one for one *creation* mitigation plan be in place for any impacted wetlands; in those areas where re-vegetation is allowed to take its natural course, a monitoring and action plan must be designed to ensure that invasive species do not overrun growth.

Lobster and Flounder Migration

G64-7 STS would request that you mandate and include sediment dispersion information based on the full burial of the proposed pipeline. Despite information provided in the DEIS on migration and the partial /non burial of the pipeline, we maintain that an impediment running north/south in Long Island Sound will hinder species migrating east/west, especially lobsters who walk, not swim. We would also ask that the FERC do further research into the migration habits of lobster, flounder and other marine life in the pipeline vicinity. The information included in the DEIS is both outdated and incorrect.

Contaminated Sediment

G64-8 Information raised at the North Branford public hearing conducted by the Siting Council, as well as the Branford hearing conducted by the FERC, indicated there are contaminated sediments at the Rivessi property that could be disturbed by the construction of this project. While we do not have any further information on this matter, it is our understanding that the CTDEP has been looking into this for some time. We would request this information be reviewed and analyzed in the next EIS draft. An unintended release of such contaminants could prove hazardous to the Sound and to the water supply of those in the vicinity.

Blasting

G64-9 We have grave concerns over potential blasting, especially in the Sound. Despite the claim that blasting is not likely and will only be used if necessary, we would request that a thorough blasting mitigation plan be in place and reviewed prior to the FEIS.

Major Storm Event and Sedimentation

G64-10 STS would ask that the EIS require and analyze a contingency plan for backfilling should the sediment mounds (resulting from the trenching activities) be insufficient for trench filling. Particularly, should a major storm event or unanticipated currents disperse those sediments, resulting in an uncovered pipeline, what plan would be implemented to ensure that the pipeline will be thoroughly covered?

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G64-6 There would be no net loss of wetlands as a result of pipeline construction. Wetlands restoration would be monitored for at least 3 years or until adequately restored. If restoration is not successful, the applicants would need to develop site-specific plans for problem areas. (See section 3.7.2.)

Also, see response to comment 31 in letter S1 that addresses invasive species.

G64-7 Sediment dispersion modeling has been conducted for the Islander East proposed pipeline route and has been incorporated into section 3.4.1.2 of the FEIS. Islander East has proposed to completely bury the majority of the pipeline crossing the Long Island Sound, which would minimize and avoid interrupting fish and shellfish migrations.

G64-8 The known extent of the contamination near the Rivezzi property is discussed in section 3.3.1.1 of the FEIS. The potential for pipeline construction to impact contamination present in the area near the Rivezzi property is discussed in section 3.3.1.2. There is no known sediment contamination is this area; the contamination is present in the groundwater.

G64-9 Since issuance of the DEIS, Islander East has conducted site-specific investigations of the offshore areas previously suspected of having shallow bedrock. These investigations reveal that blasting should not be necessary. Sections 3.1.1.2 and 3.3.3.2 of the FEIS have been updated to reflect this.

Other Sources of Pollution

G64-11 STS finds the comparison of this project's environmental impacts to water quality and land use practices of past, present and future, a very odd argument for advancing the finding that construction, operation and maintenance will pose only limited environmental harm. If projects ranging from septic system replacement to bridge building used this reasoning, the concept of environmental protection would be lost in its entirety. Virtually every project conceivable can compact a series of environmental variables and make the appearance its portion of environmental degradation appear meaningless. The State of Connecticut has gone to great lengths to reduce its impact on the Sound. From TMDLs and credit incentives for nitrogen reduction to wetland conservation boards, the goal of protecting and restoring Long Island Sound is a step by step process. Any project, especially those of the magnitude of this and other utility crossings, should not be taken as lightly as this DEIS appears to take them.

G64-12 Additionally, the Marine Resources Section of the DEIS compares the sediment suspension of this project with commercial fishing. We believe that this is akin to comparing apples to oranges. Fishing is a water dependant way of life that lends significant support to the economy in both CT & NY, gas pipelines are not. This pipeline's sediment disturbance should be compared with other pipeline sediment disturbances, such as the disturbance caused by the Iroquois Pipeline project.

Conclusion

Eventually, the continued exploitation of Long Island Sound's resources will become irreversible.

Thank you for your consideration of our comments.

Sincerely,

Leah Lopez
Staff Attorney
Save the Sound, Inc.
20 Marshall Street
South Norwalk, CT 06854
(203) 354-0036

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G64-10 The pipeline would be covered by the subsea plow (see section 3.3.3.2 of the FEIS).

G64-11 Comment noted.

G64-12 We are unable to find a section specifically entitled Marine Resources, nor are we able to find the referenced comparison.

Dr. Jerry C. Shaw
188 Thimble Islands Road
Branford, CT 06405
May 19, 2002

Honorable Magalie Roman Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 2042

Re: Supplemental Comments on the Islander East Draft Environmental Impact Statement
Dockets CP01-384, CP01-387

Dear Secretary Salas and Commission Members:

Please accept this SUPPLEMENT to my analysis of the Draft Environmental Impact Statement (DEIS) previously submitted on May 11, 2002 for the proposed gas transmission pipeline described in the application by Islander East, LLC.

In addition to my observations on the deficiencies of the DEIS previously noted in my May 11th submissions to this docket, I have the following observations.

Additional Comments on the Islander East Draft Environmental Impact Statement

G65-1

1) **Table 3.3.1-2 of the DEIS fails to list or otherwise identify a DNAPL contaminated site along Foxon and Cedar Lake roads in North Branford, and a PCE plume area downgradient of a contaminated site in the vicinity of Cedar Lake, an area near the proposed pipeline path.** Exhibit 8 of the North Branford Town protests of November 21, 2001, and recorded in the RIMS database on December 3, 2001, states that a Connecticut DEP environmental analyst, Jonathan Goldman, sent the owner of the Revezzi property at 1289 Foxon Road, a communication, including a report by RIZZO Associates (a Tetra Tech affiliate), which states that this groundwater contamination is not subject to remediation. Mr. Goldman expressed concern over blasting Islander East may conduct in installing the pipeline crosses the Revezzi property. DNAPL are dense non-aqueous phase liquids, which are known carcinogens, and are often found around gas stations and dry cleaning establishments. A comprehensive description of the issues in remediation and treatment of DNAPL contaminated soils entitled, Dense Non-Aqueous Phase Liquids (DNAPLs): Review of Emerging Characterization and Remediation Technologies, prepared by Interstate Technology and Regulatory Cooperation Work Group DNAPLs/Chemical Oxidation Work Team can be found on the Internet at: http://www.itrcweb.org/DNAPL-1.pdf.

G65-1 The DNAPL contaminated site mentioned is identified in table 3.3.1-3 of the EIS as the Hartt property.

G65-2 **It is of concern that any disruption of the soils and highly fractured bedrock in this area, which includes a total of four properties, could release DNAPL contaminates into the aquifer, further contaminating the area. Of particular concern are the high concentrations of tetrachloroethene (PCE), which has been found in the ground water in several places by East Shore Health. Cedar Lake overflow connects to a Branford town water supply, according to testimony given by North Branford residents. Attachment A contains a memo dated June 1, 1990 documenting the site investigation by the Connecticut DEP.**

G65-3 **2) The DEIS fails to specify measures or requirements to test soils potentially disrupted by the Islander East Pipeline installation near the Branford Steam Railway (BSR) on the proposed TILCON property ROW. Polycyclic Aeromatic Hdrocarbons (PAHs) are highly carcinogenic, some are hydrophobic, aren't dispersed by water and may sit in pockets in bedrock, and are a major component of creosote, and diesel fuel, both to be found along railway rights-of-way. Additionally, heavy metals, including mercury may have leached from nearly 100 year old railroad ties.** In a Canadian Environmental Protection Act Priority Substances List Assessment Report, entitled Polycyclic Aromatic Hydrocarbons (See http://www.hc-sc.gc.ca/hecs-sesc/exsd/cepa/polycyclic_aromatic_hydrocarbons.pdf), I submit the following excerpt from page 36 of the report:

The highest concentrations of PAHs in the water column were reported by Wan (1993) in drainage ditches along railway lines (total PAHs of 5356 µg/L) and utility rights-of-way (total PAHs of 23 µg/L), where PAHs were released from utility poles or railway ties treated with creosote. Based on limited sampling, median concentrations in railway ditches with poles (Table 4)were close to or greater than the effects thresholds recorded for aquatic biota (Table 7) for eight ofthe PAHs selected for this assessment: acenaphthene, fluorene, phenanthrene, anthracene, pyrene,fluoranthene, benzo[a]anthracene, and benzo[a]pyrene. Mean concentrations in utility right-of-wayditches (Table 4) were close to or greater than the effects thresholds recorded for aquatic biota(Table 7) for three of the PAHs selected for this assessment: phenanthrene, anthracene, and pyrene.No data were identified that would allow the estimation of effects to biota in receiving waters.

Therefore, based on concentrations of PAHs recorded in surface water in Canada and on laboratory-derived toxic effects thresholds, PAHs in ambient water likely do not directly affect aquatic biota, while PAHs in railway and utility ditches could adversely affect biota.

G65-4 **The Islander East pipeline proposed BSR collocation path crosses several wetland areas. The disruption of the soils in and around these crossings may release PAHs and heavy metal contaminated soils, further damaging our environment. I submit that there is more than adequate evidence to support a full characterization of the existing soils surrounding the BSR ROW before construction begins in order to determine mitigation methodologies.**

Sincerely,

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G65-2 Section 3.3.1.2 of the FEIS has been updated to address impacts to groundwater contamination is this area from pipeline construction.

G65-3 Section 3.8.3.2 has been revised to discuss the Branford Steam Railroad. Islander East has provided an Unexpected Contamination Encounter Procedure that is discussed in section 3.8.3.2.

G65-4 See response to comment number 3. Islander East's ESC Plan would be implemented to minimize erosion or soil movement from the right-of-way.

(signed)

Dr. Jerry C. Shaw, Ph.D
Attachments

Attachment A. June 1, 1990 Connecticut DEP report on the Revezzi property and other properties along Foxon and Cedar Lake roads in North Branford.

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The remainder of the comment, a report regarding groundwater contamination area of Cedar Road, North Branford, CT, was an attachment that was reviewed and can be found at: http://www.ferc.gov/ferris.htm DOC 2278844.

Dr. James F. Tait
147 Thimble Islands Rd
Branford, CT 06405
May 19, 2002

Magalie Roman Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE, Room 1A
Washington, DC 20426

Re: Commentary on the Draft Environmental Impact Statement on the natural gas pipeline facilities proposed by Islander East Pipeline Company and Algonquin Gas Transmission Company: Dockets CP01-384-000 and CP01-387-000.

Dear Secretary Salas and Commission Members,

I am an assistant professor of oceanography and environmental Earth Sciences at Southern Connecticut State University. For the past five years, I have been studying Connecticut's coastline and in particular its tidal marshes. I have some observations about the Tilcon Marsh (adjacent to the Tilcon barge loading facilities at Branford) and about the D.E.I.S.'s characterization of this marsh including projected impacts due to pipeline construction.

This marsh is a significantly stressed environment exhibiting numerous signs of deterioration.

G66-1 Section 3.7 (Wetlands), sub-section 3.7.1(Existing Environment) of the D.E.I.S. states "Near the Connecticut-Long Island shoreline, the pipeline corridor is adjacent to a portion of the saltmarsh. This emergent wetland is dominated by common reed along the wetland edges and saltmeadow cordgrass and smooth cordgrass dominate the interior". I assume because of the term "Connecticut-Long Island Shoreline" that this statement is intended to apply to salt marshes in Connecticut and in New York, grouping them as one. It is the only statement I can find that appears to describe the Tilcon marsh. The problem with this statement is that it is merely a generic description of almost any New England saltmarsh. Unfortunately, this is a completely inadequate description. It makes one wonder if a site visit was performed at all.

G66-2 This particular marsh appears to be undergoing significant environmental stress and is showing signs of incipient degradation throughout. Among the easily observable types of deterioration are:

- Vegetation Loss
- Soil Erosion
- Bank Erosion
- Dissection of the Marsh Surface
- Numerous Areas of Standing Water (pannes)

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G66-1 Islander East's wetland delineation report is based on a site-specific survey of the salt marsh adjacent to the Branford Steam Railroad. The report indicates that this wetland is dominated by *Phragmites australis*, *Spartina alternifolia* and *Spartina patens*. Other species such as *Solidago patula* and *Agrostis alba* were documented at the site but were found in low percent dominance (*i.e.,* 1-2 percent). Therefore, the description of the salt marsh wetland vegetation is correct as is.

G66-2 The Tilcon salt marsh is located adjacent to the proposed construction corridor, but would not be affected by construction of the Islander East Pipeline Project. This marsh at its closest point is approximately 50 feet from the proposed route. However, the raised Branford Steam Railroad bed is located between the proposed route (on the west side of the railroad) and the Tilcon marsh (on the east side of the railroad). The raised railroad therefore forms a barrier that would prevent the potential release of water and sediments into the Tilcon marsh as a result of construction activities. The integrity of this barrier is evidenced by the lack of brackish water movement from the marsh through the railroad bed as supported by the presence a freshwater pond on the proposed route side (*i.e.,* west side) of the railroad. Section 3.7.2 of the FEIS has been revised to include this discussion.

G66-2 In other words, this is an environment at risk. I am sure that the secretary and the commissioners are well aware of the ecological and other values of tidal wetlands so I won't belabor them. Under the Site-specific Wetland Impacts heading of sub-section 3.7.2 (Environmental Consequences), the D.E.I.S. states: "Salt marsh habitat is found adjacent to the pipeline corridor in Connecticut and would not be directly impacted by construction or operation". This is a rash statement considering that there is no evidence in the report that the "at-risk" condition of this marsh has been recognized. It appears that the underlying assumption is that pipeline construction and operation will not impact the wetland because the plan is to construct the pipeline along the edge of the wetland rather than directly through the wetland. I know of very few scientists who would endorse this type of thinking.

G66-3 Although it is not clear to me at this point in time exactly how the pipeline might impact this wetland (e.g., toxins from track bed mobilized by soil disturbance), I do know that in order to make such an assessment, one would need to know the following things about the wetland:

- Specific Stressor Mechanisms
- Modalities and Rates of Marsh Degradation
- Projected Changes of the First Two in Space and Time

A particular concern of the secretary and the commissioners should be that if pipeline construction proceeds without this level of understanding, there will be no way to determine what role the pipeline has played or not played in subsequent deterioration of the marsh.

G66-4 The commission should understand that tidal wetlands are a defining part of Connecticut's natural heritage. In the past, over 30% of the coastal wetlands have been lost due to poor land use management and lack of understanding of the value of these wetlands. Wetland preservation has become a paramount issue in recent years. Building a pipeline without proper evaluation of its potential impacts on an "at-risk" wetland is a bad idea because a) ecology is a complicated thing and there is a real potential the pipeline will seriously impact the marsh in unexpected ways and b) the marsh made degrade due to causes unrelated to the pipeline and there will be no way to demonstrate that such degradation was not the fault, in part or in full, of the pipeline.

Connecticut's coastal wetlands are coming increasingly under the influence of accelerated sea level rise and signs of marsh drowning are appearing in many locations along the coast.

The average rate of sea level rise in the sound calculated over the last century is 2.5 mm/yr. During the last decade, however, the rate of sea level rise has accelerated to approximately 8 mm/yr. This is faster than the measured vertical accretion rates for most of Connecticut's coastal marshes. Symptoms of marsh drowning include the replacement of high marsh grasses by low marsh grasses as well as all of the

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G66-3 Comment noted. However, because the proposed pipeline route avoids the Tilcon salt marsh, the pipeline would not directly impact the marsh. Additionally, because the raised Branford Steam Railroad bed forms a barrier between the proposed pipeline and the Tilcon marsh, the shallow surface excavations and potential erosion and sedimentation associated with pipeline construction would not indirectly impact the marsh. Finally, as stated in Section 3.7.2 of the DEIS, we believe that Islander East has minimized wetland impacts through the siting of the proposed route and the proposed use of its ESC Plan and other impact mitigation measures to avoid or minimize potential impacts on wetlands. Specifically, the use of erosion control and post-construction restoration measures in construction work areas would reduce the stress on wetlands directly impacted by construction, as well as those adjacent to the construction area that may be indirectly impacted. Implementation of these measures would reduce the threat of wetland degradation during and after construction by controlling sedimentation, decreasing turbidity, preserving the soil profile, and restoring pre-construction contours, hydrology, and vegetation. Given the low probability of potential project impact on the Tilcon marsh, we do not believe a detailed evaluation of specific stressor mechanisms, modalities and rates of marsh degradation, and project related changes in these factors in space and time, is warranted.

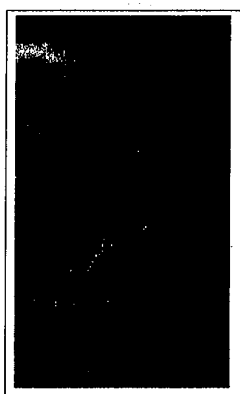
G66-4 geomorphic changes (such as vegetation loss, soil and bank erosion, or marsh surface dissection) mentioned above. A research team from the University of Maryland and N.O.A.A. recently published observations (in EOS) of marsh drowning based on remote sensing for Chesapeake and Delaware Bays. One of the study's more significant findings is that marsh degradation lags about five years behind the onset of the stresses responsible for that degradation. Put another way, Connecticut's tidal marshes may continue to degrade significantly over the next five years even if sea level rise decelerates or stops altogether.

Considering the value of this resource, the wisest course may be to place a moratorium on any unnecessary disturbance of these marshes.

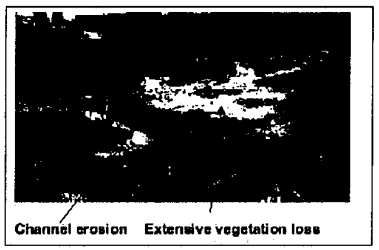
Sincerely,

Dr. James Tail
Department of Earth Sciences
Southern Connecticut State Univeristy
New Haven, CT 06515

Appendix: Photos of Tilcon Marsh, Branford, CT showing ecosystem stresses.



Channelization and marsh surface dissection



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G66-4 Thank you for your comment.

CT STOP THE PIPELINE POST OFFICE BOX 578 BRANFORD CT 06405

May 20, 2002

The Honorable Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Re: Islander East Pipeline Company, L.L.C.
Dooket Numbers: CP01-384-000 and CP01-387-000

Dear Ms. Salas:

The following comments address concerns, inaccuracies and further studies raised by the DEIS. I hope that these are helpful to you. Thank you very much for the opportunity to comment on the DEIS.

The comments on the DEIS will be organized according to section.

1.2 PURPOSE AND SCOPE OF THIS STATEMENT

Islander East has not provided the full scoping of the environmental impacts of the proposal to either the FERC or the Connecticut Siting Council.

G67-1 From the precedent agreements that Islander East obtained as support for their project, we can deduce that additional projects are necessary in order for Islander East to fulfill their contractual obligations. However, these additional projects have not yet been applied for by Islander East. This does not allow the DEIS or the FERC to be able to fully evaluate the environmental impacts of this project.

G67-2 In the following table from Exhibit G of Islander East's June 15, 2001 application to FERC, both minimum and maximum Dekatherm (Dth) expectations are provided based on the precedent agreements with AES Calverton, ANP Brookhaven, KEDLI and KEDNY. It is assumed that Islander East will be contractually obligated to meet these maximum and minimum capacity guarantees. These estimates were used by the FERC to determine that there is a demonstrable need and contributed to the December 2001 Preliminary Determination by the Commission.

As can be seen in the table, Islander East plans to transport 260,000 Dth on a firm basis and 25,000 Dth on an interruptible basis for a total of 285,000 Dth. According to this, Islander East lists a maximum Daily Transportation Quantity of 300,000 Dth in November 2004. If this is accurate, then Islander East will exceed their capacity of 285,000 Dth. Even if only the minimum capacity estimates are met in November 2004 (280,000 Dth,) then by November 2005, the minimum Daily Transportation Quantity will be 317,500 Dth; even this will far exceed 285,000 Dth of capacity. Islander East will need to increase capacity as soon as

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G67-1 The proposed AES and Brookhaven energy plants would not come under FERC's jurisdictional review. However, they have been evaluated to the extent possible within the context of this EIS.

G67-2 Your comment will be addressed in the Commission's order in this proceeding since it relates to contract obligations.

G67-2 November 2004 but no later than November 2005, according to the data provided in the June 2001 application to FERC.

Customer	Maximum Daily Transportation Quantity (in Dth per day)					
	11/1/03	11/1/04	11/1/05	11/1/06	11/1/07	11/1/08
ANP Brookhaven	90,000	90,000	90,000	90,000	90,000	90,000
AES Calverton	60,000	60,000	60,000	60,000	60,000	60,000
KeySpan Long Island (maximum)	60,500	82,500	112,750	134,750	162,250	162,250
KeySpan Long Island (minimum)	60,500	71,500	92,000	114,000	138,000	162,250
KeySpan New York (maximum)	49,500	67,500	92,250	110,250	132,750	132,750
KeySpan New York (minimum)	49,500	58,500	75,500	93,000	112,000	132,750
Maximum MDTQ	260,000	300,000	355,000	395,000	445,000	445,000
Minimum MDTQ	260,000	280,000	317,500	357,000	400,000	445,000

The pipeline industry has the capability of increasing capacity by either adding compression or by adding more pipe through looping or installing a larger diameter pipe.

With the current pipe technology that Islander East has, Islander East cannot increase capacity by adding compression: the thickness of the pipe precludes that as an option.

G67-3 Therefore, in order to increase capacity, Islander East will need to do looping or replace pipe by November 2005. This looping/pipe replacement will have to occur along the entire Cheshire through Branford route, not just in North Branford and Branford as in the June 2001 application.

The laying of new pipe or looping through Cheshire and North Haven will add significantly to the overall environmental impact, especially since the route is near the Cheshire watershed. In the current application, Islander East is only requesting to retest pipe in this 13.3 mile section from Cheshire to North Haven and to replace anomalous areas where the pipe is too thin to withstand the pressure increase that Algonquin/Islander East requires.

According to local engineers, this section of pipe predates DOT safety regulations and was never designed for the increased pressure Islander East is plans to use for this project. Moreover, this area of pipe will experience a pressure drop of over 19 PSI per mile -- this is unsatisfactory by engineering standards and will likely have to be upgraded regardless of

2

G67-3 Islander East expects that its maximum daily quantity for each of the first six years of operation will be settled as the specific needs of its customers and the markets served by Islander East are determined. As these markets rationalize in the ensuing years, Islander East anticipates that it would expand its capacity to the extent the market requires by installing compression and/or minor pipeline looping. If Algonquin needs to loop its system as you speculate, it would need to file an application with the Commission seeking approval to do so.

Algonquin has certified that it will design, install, inspect, test, construct, operate and maintain these uprated facilities in accordance with federal safety standards and plans for maintenance and inspection. To date, there is nothing in the record to show that the proposed project will either degrade Algonquin's ability to meet its existing shippers contractual delivery pressures services or prevent Algonquin from providing the proposed new service in an unsafe manner. Although the peak day gas velocities and pressure drop per mile on the proposed uprated C-System may be higher than the existing peak day conditions, Algonquin states that these new operating conditions are acceptable. Based upon Algonquin's statements in the record, we believe that Algonquin will continue to safely operate and maintain the condition of its pipeline facilities, including the C-System, in accordance with DOT regulations.

G67-3 volumes and capacity growth. Also, the velocities in this section exceed 45 MPH; this is an engineering concern as well.

G67-4 Finally, because this section of pipe is older, there is increased danger of corrosion in the pipe wall and at the welds. Also, since this area of the pipe was never designed for these pressures, there are some valid safety issues, including the thinness of the pipe walls. Islander East will very likely need to upgrade this by laying new pipe soon after coming on line regardless of any future anticipated increase in capacity. In addition, because of the thickness of the pipe, the Islander East pipeline will be more susceptible to accidental or purposeful damage by earthmoving equipment or terrorist activities. Iroquois uses a thicker grade of pipe because of the higher operating pressures as required by safety provisions of the DOT.

G67-5 Thus, the area from Cheshire to North Haven will require looping or the installation of new pipe with additional future increases in capacity. Moreover, even without any future increase in capacity, Islander East may still have to lay new pipe or loop for safety/engineering reasons because of the increase in pressure that this project requires.

G67-6 As an example of alternative engineering designs, consider Iroquois' upland line. This pipe has a considerably thicker wall – often considered impenetrable by normal standards – and it is wrapped in concrete. In addition, where Iroquois crosses under railroads etc., even thicker pipe is used.

G67-7 In addition, the Islander East proposal supplies gas to Long Island at 366 PSI. Please note that the Iroquois proposal supplies gas to Long Island at 700 PSI. The two power plants that Islander East has precedent agreements cannot operate at a continuous gas supply of only 366 PSI; power plants require the flexibility to produce electricity at different rates throughout a 24 hour period, depending on demand. Both power plants will likely require a higher level of PSI, maybe even 550 to 600 PSI, for at least several hours per day.

G67-8 Nevertheless, this means that in order for Islander East to meet their contractual obligations, compressor stations will need to be built either on Long Island at each power station or here in Connecticut. Perhaps the compressor stations will be part of the proposals for the power stations. However, these compressor stations still need to be reflected in the environmental scoping for the Islander East project. The FERC should be obligated to include this in the overall environmental scoping for this project. At the very least the question of a new compressor station on the Connecticut side of LIS must be clarified.

In sum:

1. Islander East will need to do looping or lay new pipe by as early as November 2004 and as late as November 2005 in order to meet their market predictions and contractual obligations.

2. The looping in the North Haven through Branford section should be included in the current EIS. The looping should be done when the new pipe is first laid in order to minimize further environmental degradation i.e. the construction right of way will have just started to grow back when it will have to be cleared again.

3

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G67-4 Although the existing Algonquin pipeline may have been installed prior to the currently effective regulations in 49 CFR 190 - 195, Algonquin is obliged to abide by the current regulations when it plans to change the operating conditions of older pipelines such as when it plans to increase the maximum operating pressure. That is why it would need to conduct hydrostatic testing of the older pipeline to determine if it would be safe to operate at the proposed pressure. It is possible that sections of the older pipeline may fail hydrostatic testing at the higher operating pressure. If that happens, sections of the older Algonquin pipeline would need to be replaced. However, it is expected that replacement of the older pipeline with newer pipeline could be accomplished in the same right-of-way foot print as was used to install the older pipeline, or with minimal additional new land disturbance for workspace.

As stated in section 3.12.2, pipeline operators are required to participate in "One Call" public utility programs. Contractors and individuals are required to contact these programs to locate buried utilities prior to earthmoving activities. Older pipelines as well as new pipeline locations are in these programs. Pipelines of various diameters and pipe wall thicknesses are protected by these programs.

We do not believe that the Islander East pipeline would be subject to any greater risk from outside forces or terrorists than any other pipeline.

3. In the area of the 13.3 mile Cheshire to North Haven section, Islander East may need to lay new pipe and/or do looping because of new engineering and safety issues created as a result of the construction of Islander East and the greater pressures that this project requires compared with what the original Algonquin system was designed for.

4. Additional compression will need to be created for the two power plants Islander East proposes to serve – either at the site of the power plant or in Connecticut. This is an impact that needs to be included in the Full Environmental Impact Statement; otherwise this is a misapplication of the "four factor test."

5. Since it takes at least 18 months for an application to be processed and construction to occur, and since we are now 18 months away from November 2004, where are Islander East's application for looping/pipe replacement and additional compression? These applications to both the CT Siting Council and FERC should be part of the current application and part of the DEIS so that the full environmental impact can be assessed by both the CSC and the FERC.

The FERC must require that Islander East disclose any plans now to do looping/lay new pipe along the Cheshire to North Haven section and to include this as part of the scooping for this project. Islander East must also disclose if their project will require an additional compressor station in Connecticut on order to service either/both of the two power plants, AES Calverton and Brookhaven.

3.0 ENVIRONMENTAL ANALYSIS

3.1.3.1 Existing Environment – Faults and Earthquakes

G67-9 This is also addressed in section 5.1, page 5-1. Although the pipeline itself "is proposed to be built in an area that is not highly seismically active" and the DEIS believes that "the seismic risk for this project is minimal", **the area around Branford is actually quite seismically active.**

Varekamp, Thomas, and Thompson (2000) reported on the presence of an active fault line running between the Farm River in Branford and Kelsey Island. Their studies, including radiocarbon dating and sediment analysis, showed a historic pattern of upwelling in the Kelsey Island marsh followed by substantial (average magnitude 4-5) earthquakes. The earthquakes have occurred about every 200 years over the past 1,200 years. The last significant earthquake to occur in the area took place in 1791, a little over 200 years ago and registered a magnitude 4.4 on the Richter scale. Varekamp, et al.'s (2000) study indicates that, at the present time, the Kelsey Island marsh is once again undergoing upwelling. Therefore, the potential for seismic activity in the area is significant, especially if blasting is to take place.

It should also be noted that during the 1791 earthquake fish were reported as leaping out of the water "in every direction as far as the eye could reach" by a sea captain whose boat was moored off Clinton, CT. Additionally, since the Eastern Border Fault runs beneath the Sound in the vicinity of Branford, the potential for pipeline rupture during an earthquake exists.

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G67-5 See comment responses 3 and 4.

G67-6 Comment noted.

G67-7 Islander East has proposed facilities with pressure rates required to meet the contractual agreements with its customers.

G67-8 See response to comment 7. Any facilities proposed by the owners of the power generating facilities would be outside of FERC's jurisdiction. These facilities would be permitted by the appropriate state agencies.

G67-9 We believe that the potential for seismic activity and its potential effects on the pipeline are adequately addressed in sections 3.1.3.1 and 3.1.3.2 of the FEIS. We do not believe that blasting associated with pipeline construction could induce seismic activity.

Further study of the potential for seismic activity is indicated.

3.2 SOILS

G67-10 **The soil and groundwater adjacent to the Tilcon Railroad need to be tested for petroleum and heavy metals contamination, especially in wetlands and at the HDD entry point.**

Zinc, mercury chloride, creosote and other potentially toxic materials have been used to treat railroad ties. These materials can leach out of the ties and into the surrounding soil and then into groundwater.

The Tilcon RR was first laid in 1905, prior to regulations regarding these contaminants.

There is concern that the digging of six foot trenches in potentially contaminated soil order to lay the pipeline can unearth these contaminants. This is a particular concern along wetlands, stream crossings and the near shore LIS area. In addition, if soil adjacent to the entry point of the HDD contains contaminants, this could further contaminate LIS when the HDD exits in LIS.

The potential for contaminated soil/groundwater requires testing by an objective third party, not a consultant paid by Islander East.

If contaminated soil/groundwater is identified then Islander East should have the sole responsibility to pay all of the costs for cleanup and mitigation regardless of whether the contaminants are on public or private property.

3.3 WATER RESOURCES

3.3.1 Groundwater

According to the DEP, in the area of the Hartt property at MP 5.5 a tertachloroethene (PCE) plume exists on the bedrock aquifer; a letter dated October 22, 2001 from Jonathon Goldman of the DEP states "any blasting that occurs within the area of the contaminant plume can have a direct effect on the contaminant migration in the bedrock aquifer."

G67-11 Additional testing to determine whether bedrock exists along this route is indicated. Testing should be done at intervals not greater than 25 feet apart in order to best map the potential for bedrock. No blasting should be allowed to take place in this area.

Testing for bedrock should be done by an objective third party, not a consultant paid by Islander East.

3.3.3 Long Island Sound and 3.4.1 Fisheries Resources

G67-10 See response 2 in letter G62.

G67-11 This issue is discussed in section 3.3.1 of the FEIS.

These two areas will be covered together because of their strong interrelationship.

G67-12 **The DEIS does not address the geochemistry of Long Island Sound (LIS). Any trenching/plowing activities will significantly negatively impact the local LIS geochemistry. This will harm local benthic communities.**

In Section 3.3.3.2 Environmental Consequences, the DEIS identifies the most significant impacts to Long Island Sound (LIS) water quality in the area of the pipeline comes from sediment resuspension and redeposition from trenching and burial of the pipeline, release of HDD fluids, underwater blasting, accidental fuel spillages, and discharges of hydrostatic test water.

G67-13 The DEIS fails to consider the major impact that trenching/plowing will have on the release of contaminants from the sediments of LIS.

For Long Island Sound, there exists an additional important structuring feature on the benthos in addition to those (e.g. sediment characteristics, geomorphology, and hydrodyamics) mentioned by Zajac, et al. (2000). This -- one of the most important structuring feature for soft-sediment communities, especially for temperate urban estuaries like Long Island Sound -- is the geochemical state of the sediments and the water column. Numerous papers have been written stressing the relationship between benthic community types and the geochemistry of an area (Rhoads & Germano, Cuomo,) yet little to no geochemistry has been addressed within the DEIS or the Preliminary Sediment Study conducted by Islander East's consultant, Frank Bohlen, PhD, specifically as it relates to the cycling of organic matter, the development of hypoxic and anoxic sediment pore water and bottom water conditions, its influence on macrobenthic community development, and its relationship to the release of sediment contaminants under changing redox conditions.

Any trenching/plowing activities will release heavy metals and other toxic contaminants (sulfides and ammonia) into the water column; this significant process is not addressed.

The DEIS fails to consider the major impact that trenching/plowing will have on the release of contaminants, including heavy metals, from the sediments of LIS.

In much of central and western LIS, the organic rich and fine-grained sediment tend to anoxic and hypoxic pore water conditions; these conditions can begin at the LIS floor to 10 cm below the surface (personal communication Cuomo.) Under anoxic conditions, the majority of metals and other contaminants remain bound to particles and are unavailable (Khalid, et al, 1978). When trenching/plowing occurs, the anoxic sediments will come into contact with oxygenated water and result in a release of the bound heavy metals and other contaminants into the water column where they will become biologically available (Khalid, et al., 1978).

G67-14 These heavy metals have the potential to bioaccumulate in the tissues of the polychaete worms and other small infauna living within these sedimentary pits. These organisms, in turn, are fed upon by demersal fish, such as flounder, which further bioaccumulate the heavy metals and continue to move them up the food chain, potentially reaching humans.

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G67-12 Sections 3.3.3.2 and 3.4.1.2 of the FEIS have been updated to address the impacts the project would have on the geochemistry of Long Island Sound and the benthic community. Also, section 3.4.1.2 of the FEIS has been revised to include a discussion of the formation of depressions that may accumulate organic material resulting in a decrease in water quality.

G67-13 Sections 3.3.3.2 and 3.4.1.2 of the FEIS have been updated with information from the sediment dispersion modeling, including a discussion of release of contaminants.

G67-14 Section 3.4.1.2 has been revised to include a discussion on the potential for disturbed contaminated sediments to be introduced into the food chain.

G67-14 Furthermore, accompanying the release of metals and other contaminants from organic-rich sediments into the water column will be a release of several reduced chemical species, including hydrogen sulfide, ammonia, and methane.

Sulfides are known to be toxic to most organisms at varying concentrations.

Ammonia has been shown to cause deleterious effects in lobsters at even very low concentrations in the marine environment (McLeese, 1970.)

Sediment resuspension will also lower the level to which PAR (photosynthetically active radiation) can penetrate. Sediment resuspension will also cause problems, such as clogging, for filter-feeding organisms like oysters and other bivalves.

Further study of the geochemistry of LIS is required and a mitigation plan is necessry.

G67-15 **The release of bentonite has potentially deleterious effects since even only 1 to 2 mm of clean bentonite will interfere with postlarval lobsters' ability to burrow.**

On page 3-44, HDD Fluids, in paragraph one, the DEIS states that, "approximately 1,230 cubic yards of bentonite and 760 cubic yards of native rock cuttings could be released to the Sound over the 3-month drilling period." In the following paragraph it is stated that, "these fluids are benign and do no exhibit a toxic capacity."

Lobster populations in LIS have already been significantly depleted for a variety of factors including hypoxic/anoxic conditions and disease. The release of this volume of bentonite will add further to lobster morbidity and mortality.

Atema, et al. (1982) have demonstrated that the physical effects, alone, of drilling muds are capable of interfering with postlarval lobster survival. Cuomo (personal communication), the author who conducted that part of the study, has stated that even a 1-2 mm layer of clean bentonite-barite clay was enough to impact the ability of postlarval lobsters to effectively burrow into the sediment.

Postlarval lobsters exposed to 4 mm-deep layers of the clean clay mixture had serious problems digging shelters, and a significant number of them were not able to construct adequate shelters at all. Inability to successfully burrow into the sediment and construct adequate shelters results in an increase in predation susceptibility.

Therefore, it is likely that the release of drilling fluids of any kind into the Sound can have a deleterious effects upon the one and two year classes of lobsters in the vicinity.

G67-16 Furthermore, Adams (1978) has reported that drilling fluids released at a site can be found covering sediments to a depth of 1 mm several kilometers away from the initial discharge site. This goes against the DEIS which states that drilling muds impacts to water quality would be, "short-term in nature and likely confined to a small area".

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G67-15 Section 3.4.1.2 of the FEIS has been revised to include a discussion of potential impacts associated with drilling mud release on shellfish near the HDD exit hole and accumulation of sediments in seabed depressions.

G67-16 Since issuance of the DEIS, Islander East has submitted a Directional Drilling Monitoring and Operations Program Plan that describes measures it will undertake to monitor for, and contain and remediate, planned and unplanned releases of drilling mud to the Long Island Sound. We have reviewed this plan and believe that its implementation would adequately minimize environmental impacts from releases of drilling mud. Section 3.3.3.2 of the FEIS has been updated to reflect this.

G67-17 Additionally, local hydrodynamics can result in the accumulation of drilling fluids in local depressions to depths significantly greater than 1 mm. This information has not been taken into account by Islander East and needs to be considered, especially since lobsters are a critical species in LIS at the present moment in time.

G67-18 No bentonite can be allowed to be released from the HDD; a full plan that has been tested for complete containment must be developed before any drilling can begin. An objective third party must be present at all times to monitor.

G67-19 **Late successional stage communities, especially in the deeper areas of LIS, will take as long as 10 years to recover, and even longer if conditions are not ideal.**

In the DEIS Section 3.4 Fish, Benthic Communities, and Wildlife, Sub-Section 3.4.1.2 Environmental Consequences, Page 3-50, the report states, "placement of the pipeline across the Sound would result in short-term, one-time impact to the benthic macroinvertebrate species at and near the footprint of the proposed project".

Dr. Zajac states in his report that the "macrobenthic communities along the proposed Islander East gas pipeline route in Long Island Sound were dominated by a suite of high-order or late successional stage (Stage III) species".

Many benthic species, especially the ones in the deeper parts of the Sound, belong to a community that has been defined as being a late stage community (Rhoads, 1978). Such communities develop over the course of many years and only if the conditions are right. These communities are not adapted to frequent disturbance and, as a result, are hard hit by physical disturbance.

In LIS, these communities may take anywhere from 3 to 10 years to fully establish themselves (Rhoads and Germano, 1983) under ideal conditions. If conditions are not ideal, as described below, these late stage communities may never re-establish themselves. This is a long-term not a short-term impact.

G67-20 **Barge anchoring and cable sweep impacts will form anoxic depressions that will not fill in naturally and will have long-term and possibly permanent impacts.**

The DEIS on page 3-51, paragraph 1, states that the impacts from anchoring are short-term. This is erroneous. The impacts from anchor scars are long-term and potentially permanent.

Since the anchors will not be placed in the exact same spot on every pass, there will be the creation of a significant number (2,628 according to the DEIS) of large (20' x 8.6' x 8' deep) anchor scars running parallel to the pipeline site for the width of LIS. According to the Draft Essential Fish Habitat Assessment contained within the DEIS (Page2-5), the width of the impacts from the anchor scars will extend out "approximately 2000 feet to either side" of the pipeline.

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G67-17 See response to comment 12.

G67-18 See response to comment 16.

G67-19 Section 3.4.1.2 of the FEIS has been revised to include a discussion of long-term impacts associated with pipeline construction.

G67-20 Section 3.4.1.2 of the FEIS has been revised to include a discussion of the potential long-term impacts associated with anchor scars and cable sweep.

G67-21 The anchor scars, together with the impacts of the cable sweeps, despite some mitigation by mid-line buoys, will create an area of disturbance 4000 feet wide across the seafloor along the entire 22.6 mile pipeline route. Thus, 477,312,000 square feet or 10,958 acres of LIS seafloor will be impacted by the construction of the pipeline.

G67-22 These anchor scars are physically, chemically and biologically analogous to other anthropogenically created depressions in the floor of LIS, such as borrow pits that exist in the central and western areas of LIS; both represent new depressions in the seafloor. These new depressions in the floor of LIS have the potential to alter the local hydrodynamics present in the area. For example, borrow pits are known to accumulate fine-grained sediments and organic materials (Swartz & Brinkhuis, 1978). The sediments that accumulate in borrow pits are usually more organic rich than the surrounding sediment and are typically hypoxic or anoxic; thus they attract a different type of benthic community.

The creation of a series of anoxic depressions in Branford will significantly alter the normal geochemical environment over the entire Pine Orchard-Stony Creek region, especially in the summer. Whereas areas of the Sound to the west of Branford have experienced severe seasonal oxygen depletion, Branford has not (DEP). The creation of hypoxic and potentially anoxic spots in an area not known to have them presents a significant problem that needs to be addressed. Hypoxic areas, while known to attract bottom-feeding fish because of the abundance of small polychaete worms, like Capitella, are not favored by most macrobenthic organisms, including oysters, lobsters, crabs, hard clams, razor clams, mussels, scallops, and horseshoe crabs.

Additionally, long-term exposure to hypoxia is detrimental to most finfish and their larvae. In essence, the anchor scars will create permanent degraded areas within an otherwise stable, healthy community critical to the overall functioning of the deeper parts of LIS.

G67-23 **The anchor scars, left unfilled, will become hypoxic/anoxic areas that will be colonized with organisms different from those prior to the laying of the pipeline.**

Page 3-55 of the DEIS states that, "recolonization and recruitment of shellfish would take place immediately following completion of construction". A similar statement is made on page 3-57: "Recruitment of shellfish and benthic macroinvertebrates is expected to take place immediately". While it is true that some local migration of fauna may occur from adjacent undisturbed sediments, it is highly unlikely that recruitment of the same species that existed prior to the disturbance will occur at the site unless the community was in a very early stage of development. In the deeper areas of the central basin of LIS, most of the communities are later stage.

G67-24 The statement fails to take into account the other mitigating factors that affect larval availability and recruitment, including time of year, condition of sediment, presence or absence of larval settlement cues, presence or absence of contaminants (such as bentonite), and levels of water column and sediment dissolved oxygen. Additionally, it is highly unlikely that these areas would ever recover a significant shellfish community if they remain as basins where fine-grained sediments are accumulating.

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G67-21 Islander East has estimated that the use of mid line buoys would reduce impacts to the Long Island Sound seabed by about 3,000 acres.

G67-22 See response to comment 20.

G67-23 Section 3.4.1.2 has been revised to reflect potential re-colonization rates and source of recruitment seabed is not immediate.

G67-24 Section 3.4.1.2 has been revised with additional information on potential re-colonization rates and source of recruitment.

G67-25 **Recolonization of this 4000 foot wide area will occur mainly from the water column and not from adjacent areas.** Only the extreme margins of this impacted area are likely to be recolonized by migrating benthic organisms, as the majority of the region will be affected, leaving undisturbed regions a significant distance away from the central trench.

Larval recruitment from the water column will depend on the season of the year and the presence of particular larval species. It is most likely that small polychaetes, like Capitella sp., would recruit to the area (Rhoads, McCall, & Yinst, 1978). These organisms are part of a community identified as an early colonizer and do not form a significant part of the later stage community that is normally present. The communities formed by early colonizers are vastly different in their function from later stage communities. Capitella are often used as pollution-indicator organisms as they are known to be able to tolerate extremely low levels of oxygen and can exist in the presence of hydrogen sulfide, ammonia, and other reduced end-products of organic matter decomposition.

G67-26 **The area might recover to a pre-construction profile if the anchor scar pits are filled immediately with clean fill; leaving the anchor scars unfilled will degrade the overall LIS ecosystem.**

Although it states in the DEIS, "In most areas, benthic macroinvertebrate composition would remain the same as pre-construction conditions because organisms would be recruited from adjacent areas", as stated above, this is inaccurate. While it is true that some lateral migration of benthic species from neighboring undisturbed areas occurs following a disturbance, the majority of recruitment in this particular area will most likely occur from the water column, given the broad extent of the disturbance.

If the anchor scars are not filled and are allowed to fill in "naturally", they will be filled with fine-grained sediment, will tend to become organic rich and will be colonized by species like Capitella that can tolerate hypoxic and anoxic conditions. It is unlikely that these areas will ever progress to the healthier later stage communities. This will add to the overall problem of hypoxia and anoxia that the central and western areas of LIS have been coping with and will contribute to greater finfish morbidity and mortality.

The area might recover to a pre-construction profile if the anchor scar pits are filled immediately with clean fill, such as that used to cap the Central Long Island Sound disposal site (USACE, 1990).

G67-27 In Section 3-13 Cumulative Impacts on page 3-135, Water Quality Section, the DEIS states that there is a "long-term trend of watershed and water quality degradation" ongoing in LIS. It should be noted that according to the USEPA, the water quality in LIS has undergone significant improvement over the past 10 years and is expected to continue to do so. Anthropogenic point sources of nitrogen have and are in the process of being controlled and there are a number of programs in place that are educating the public about controlling non-point source inputs of pollution to the Sound. **To suggest that the pipeline construction will be just a minor disturbance and "water quality impacts from pipeline construction**

G67-25 See response to comment 24.

G67-26 Comment noted.

G67-27 Comment noted. See response to comment 20.

would be temporary until restoration was completed" is to ignore the potential impacts from hypoxic and anoxic waters within the anchor scars.

Furthermore, anchor scars, if left unfilled, would become hot spots for heavy metals and other contaminants that will increase the risk of bioaccumulation and exposure to humans.

Fine-grained sediments, such as the kind that will tend to accumulate within the anchor scar pits, act as scavengers of heavy metals and other water-borne contaminants. Areas where they accumulate, such as anchor scars and borrow pits, tend to become localized hot spots for contaminants.

These heavy metals have the potential to bioaccumulate in the tissues of the polychaete worms and other small infauna living within these sedimentary pits. These organisms, in turn, are fed upon by demersal fish, such as flounder, which further bioaccumulate the heavy metals and continue to move them up the food chain, potentially reaching humans.

G67-28 **Benthic sampling by Dr. Pellegrino was substandard and inadequate: repeated standardized sampling needs to be done.**

In the *Long Island Sound Sampling, Analysis and Study Plan* that was submitted to the Connecticut Siting Council, the methods used by Pellegrino are not consistent with the EPA Protocols for even a Tier I minimal biological assessment of marine soft-sediment communities (EPA, 2000), and certainly inadequate for a higher level of assessment of a system such as central LIS. Pellegrino used a 1.00 mm mesh screen to characterize the benthic fauna in the region of interest. Standard scientific and EPA protocols for such studies require the use of a 500 um sieve or finer in order to accurately characterize the benthos of LIS.

Zajac et al. (2000) state that, "the regional distribution of benthic communities in LIS reflect the influence of processes which shape the sedimentary environments. At the core of these dynamics is the interaction between sediment characteristics, geomorphology, and hydrodynamics and the resulting influence on the ecology of the benthic organisms via dispersal and settlement, resource availability and feeding, and modifications of local habitat conditions." The authors go on to state that, "At the present time, we have a basic understanding of the spatial distribution of soft-sediment communities in LIS and the possible range of infaunal...many portions of the LIS seafloor have been sampled only once to characterize benthic communities...therefore, it is difficult to assess their temporal dynamics. Consistent sampling over time is especially critical for detecting long-term trends and for assessing changes that may result from management activities". These statements clearly point up the inadequacy of both the DEIS and the filings with the CSC with regards to benthic community analysis and understanding.

G67-29 In addition, Zajac, et al. (2000) makes it clear that the dynamics of the marine invertebrate environment in LIS are highly complex. Changing one variable in the system will have an impact on the biota in the region. This is especially true for LIS, yet the studies provided by the consultants to Islander East and the DEIS never address this, especially when it comes to

G67-28 See response 14 letter G61.

G67-29 Comment noted. Section 3.4.1.2 of the FEIS has been revised to include a discussion of the potential long-term impacts associated with anchor scars.

the changes in the local hydrodynamic and chemical regime that will be produced by the anchor scars.

Further studies to adequately characterize the system are required.

G67-30 **Significant stores of methane gas have been identified offshore Branford in LIS.** If the pipeline route disturbs this reservoir there will be the risk of methane gas release with resultant contamination of LIS. Identification of these reservoirs needs to be addressed prior to pipeline construction. If the pipeline route does traverse these areas, a mitigation plan for containment needs to be in place.

G67-31 **The potential impact to the horseshoe crab has been ignored in the DEIS.** It should also be noted that the horseshoe crab, *Limulus polyphemus*, which the Atlantic States Marine Fisheries Commission has developed a management plan for (Schrading, et al., 1998) because of the severe decline in population numbers of this animal over the past ten years, lives in the deeper waters off of Branford and New Haven harbors.

Horseshoe crabs come ashore to mate in great numbers in late May and early June and in smaller numbers throughout the rest of the summer. These organisms play critical roles in the life histories of migrating shorebirds; their recent decline has made protecting their spawning areas of vital importance.

G67-32 **Scheduling of all LIS activities – including the exit hole of HDD and any trenching/plowing should only take place in November and December.**

LIS has many species that require special consideration, especially during vulnerable periods of spawning, larval development and migration.

For example, lobsters hatch in May through October; horseshoe crabs spawn in May and require special conditions in their nursery habitats; January to May are the spawning periods for winter flounder; February to November are the spawning months for window pane flounder. Benthic communities spawning has been earlier and earlier every spring in LIS, some as early as mid-March.

G67-33 **In sum, for all of the reasons listed above, the trenching/plowing activities in LIS will have a long term and potentially permanent effect on the LIS ecosystem and cannot be minimized as short term impacts.**

The following are recommendations that need to be included in the FEIS:

- A full and detailed geochemical analysis must be performed prior to any LIS activities. This would include but not be limited to a heavy metals and contaminant analysis with special attention to the availability and mobility of heavy metals and other contaminants in the area under both anoxic and normal dissolved oxygen conditions.
- The HDD and trenching/plowing windows must be limited to the least biologically damaging times of year: November and December.

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G67-30 Pipeline construction would affect a shallow area within the sediments of the Long Island Sound. If pockets of methane gas have developed in these shallow sediments and are disturbed by pipeline construction, the methane gas would rise through the water to the surface of the water since methane is lighter than air. Therefore, any released methane would not contaminate Long Island Sound. No plan for containment of methane gas is needed.

G67-31 Section 3.4.1.2 discusses impacts to benthic marine invertebrates. Construction of the pipeline would occur during late fall to early spring. Therefore, horseshoe crabs moving ashore in late May would not be impacted.

G67-32 We agree that pipeline construction activities should be limited to times when fishery impacts, particularly spawning activity, are not occurring and at their peak. Offshore pipeline construction would take place throughout the winter months into early spring (March) and have minimal impact on spawning winter flounder, windowpane, and horseshoe crabs. Winter flounder migrate inshore to spawn (Pereira et al. 1999). Therefore, offshore construction during winter months would have minimal impact on their spawning. Windowpane spawning begins in February or March but peaks in May, and this species are most abundant in Long Island Sound during April-June. Therefore, offshore construction, especially in waters during the winter months, would have minimal impact on spawning for these species.

G67-33
- The anchor scar pits must be filled immediately with clean fill, such as that used to cap the Central Long Island Sound disposal site (USACE, 1990).
- Impacts to horseshoe crab habitat needs to be addressed and mitigation plans designed.
- No onland or inshore clearing, construction, blasting etc. until the full HDD activity has been completed and determined to be successful. If the HDD is not successful, the project cannot continue with traditional trenching/plowing in the near shore waters of Branford.
- Further tests for methane gas must be done by the DEP OLSIP along the route of the pipeline along the floor of LIS prior to the laying of the pipeline; since methane is toxic, a plan for containing the methane gas must be developed in order to contain the methane and prevent any spills/leakages into LIS.
- Additional benthic sampling should be required in order to evaluate in a standardized way the benthic communities along the pipeline route.
- A full mitigation plan to contain all the bentonite from the HDD -- that has been tested under variable LIS conditions, including changes in salinity, temperature and weather conditions – must be submitted prior to construction.

G67-34
- Acoustic testing to determine if marine mammals will be affected must be performed by a third party prior to construction; based on that testing the filing for the appropriate permits under the Marine Mammal Protection Act must be completed.

3.52 Vegetation: Environmental Consequences

G67-35 **A plan to promote native plant conservation needs to be fully developed in order to prevent further invasive species spread.** This plan needs to be developed prior to any construction activities since there are implications for how vegetation is removed. As an example, Japanese knotweed is an especially virulent invasive species because it is capable of self-propagation from even a small cutting. Therefore, these plants, if located in the area that Islander East is clearing will need to have a specific plan for disposal in order to minimize their further invasion into natural habitat.

G67-36 In addition reseeding with native stock and returning the construction right of way to a pre-construction profile with mature plantings will need to be part of this plan.

3.6.1 Federally Listed or Proposed Endangered and Threatened Species

G67-37 The following species which may be in habitat affected by the pipeline and are federally listed but were not on the DEIS list include:
Atlantic Sturgeon, Bog Turtle, Indiana Bat, Dwarf Wedge Mussel, American Burying Beetle.

G67-38 On page 3-66, although the bald eagle does not nest near the proposed project area, **the bald eagle has been seen and photographed wintering over and roosting in the marshes adjacent to the lower Quinnipiac River, in Hamden Connecticut and on Lake Gaillard in North Branford, Connecticut.** A "Rare Bird Alert Form" of this finding is in the process of being filed with the New Haven Bird Club.

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G67-33 Comments noted.

G67-34 Islander East has contacted the National Marine Fisheries Service (NMFS) regarding the concerns over disturbance to harbor seals and grey seals in the vicinity of the Thimble Islands. The NMFS does not anticipate any significant project-related impacts to harbor seals or grey seals, and has indicated that Islander East does not need to seek authorization for a "take" of marine mammals. Islander East will continue to coordinate with NMFS on this issue.

G67-35 See response 22 letter F3.

G67-36 Islander East does not propose to revegetate with mature plantings.

G67-37 As stated in the Section 3.6 of the DEIS, Islander East has assisted the FERC in meeting Section 7 of the Endangered Species Act requirements by conducting informal consultation with the FWS and NMFS, and by reviewing endangered, threatened, and rare species databases maintained by the appropriate state Natural Heritage Program. These species were not listed as a concern by the FWS, NMFS, CTDEP, or the NYSDEC in the project area.

G67-38 In Table 3.6.1-1 of the FEIS, the bald eagle is identified as potentially occurring in the vicinity of the project area and impacts to this species are evaluated in Section 3.6 of the FEIS.

As listed species, any damage to the habitat and food sources will have an impact on these populations. For example, if there is an increase in heavy metals and other contaminants in LIS and there is bioaccumulation up the food chain, this could impact the reproduction of
G67-39 species such as birds of prey like the bald eagle. Although the piping plover nests several miles away on Falkner's Island, it forages for food within the pipeline route. Destruction of the habitat that is the source of food for the piping plover could have implications for its populations.

Further study of the impact to food sources and habitat is warranted, especially for the bald eagle and piping plover.

4.0 ALTERNATIVES

4.1 No Action Or Postponed Action Alternative

G67-40 For the record, CT Stop the Pipeline strongly prefers the second alternative as described in Section 4.1: deny the Certificate. There is no objective evidence of need, the environmental consequences are significant and many of these environmental impacts are irreversible and of high intensity.

G67-41 However, we also support the third action identified: postpone the action pending further study. This action is justified for both issues of need and environmental impact:

1. Long Island's energy needs have changed since the application was made in June 2001.

G67-42

- Cross Sound Cable is in the process of being laid across LIS (for the record, CT Stop the Pipeline is also strongly opposed to the Cross Sound Cable) – this will bring 330 megawatts of new electricity to the Long Island Energy market. The impact of the Cross Sound cable on Long Island's energy market is an area for further study.
- The energy investment market is in flux and investors are canceling or postponing projects. According to a Wall Street Journal article on May, 13, 2002, "In New York City, the financing shortage claimed three proposed plants that would have covered about half of a projected 3000 megawatt shortfall by 2005. Wall Street bankers are unapologetic. "Why should the capital markets give you money to build some power plants people may not need, or when the demand is exceedingly uncertain?" Asks Leonard Hyman, a senior advisor at CitiGroup's Salomon Smith Barney unit." This suggests that either or both of the two power plants that Islander East has precedent agreements with -- AES Calverton and Brookhaven -- may not be built. This area needs further examination.
- Long Island is looking into an offshore "experimental" wind turbine; this is an excellent option for alternative energy on Long Island and contradicts the statement in the DEIS on page 4-2, paragraph 1 that "Options for alternative energy sources such as...wind are extremely

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G67-39 See section 3.6.4 of the FEIS. The FWS has indicated that it would concur that a winter construction schedule for the Long Island Sound crossing would avoid impacts to the piping plover. We have added a recommendation that Islander East continue to consult with the FWS regarding the piping plover.

G67-40 Thank you for your comment. The commission has issued a PD for the Islander East Pipeline Project as discussed in Section 1.1 of the EIS.

G67-41 As stated in section 1.1 of the FEIS, a final action on the Certificate would not occur until after the environmental review is completed, all environmental matters have been properly addressed, and a final order is issued by the Commission.

G67-42 Approval of a Certificate by FERC, should that occur, would not constitute a mandate that a project proceed. Should economic circumstances alter the attractiveness of the project in the private sector, private entities could find it prudent not to proceed further with a project.

G67-42 limited on Long Island." It is possible that wind power could be sufficiently developed in the near future to be a substantial source of power to the Long Island energy market. The area of wind power should be an area of further study.

- One of the primary objectives of this project – to deliver increased volumes of natural gas to Long Island – is questionable since 75% of the volume is expected to be for KEDNY and the current infrastructure on Long island may not be able to transport this additional volume to KEDNY without displacing already existing volumes of natural gas. The impact of this project on the existing gas infrastructure on Long Island needs further study.
- NYISO approved Neptune which would supply up to 4700 MW of power to the Long Island area markets by as early as 2004

G67-43 2. The environmental scoping for this project requires further study, as indicated by the comments on Section 1.2. Only until the full scope and impact of this project can be adequately addressed in an EIS should any decision process ensue.

G67-44 3. The General Assembly of the State of Connecticut has passed a bill calling for a one year moratorium on all cable and pipeline crossings so that Connecticut can conduct its own study of environmental impacts. We hope that the FERC will respect this time period and use this time to further study this project as outlined above.

4.2 System Alternatives

As we have seen demonstrated in the comments on Section 3, the adverse environmental impacts of the Islander East Pipeline Project are significant, especially on the floor of LIS on both the Connecticut and New York sides. In addition, as seen in the comments on Section 1.2, the full environmental scoping for this project is incomplete because the additional 13.3 miles of looping/new pipe in the Cheshire to North Haven section that Islander East will need to do in order to meet its current contractual obligations is not included in this DEIS; the issue of additional compressor stations remains a question that requires clarification in order to determine inclusion in the full environmental scoping.

These two factors – significant, permanent environmental impacts and incomplete environmental scoping -- are major considerations in the comparisons between the different systems alternatives as described in the DEIS.

4.2.1 One-Pipe System Alternative

This alternative would transport the total volume of 435,000 Dth/day.

G67-45 Please note that the following statement at the bottom of page 4-3 in the DEIS is in error: "The only facility required for the system alternative which has not been proposed in either the ELI Extension project or Islander East Project is the 16 miles of 36 inch diameter loop in

G67-43

Thank you for your comment.

G67-44

The Commission has not yet determined its position on the Connecticut moratorium. If the Commission finds it necessary to issue an order on the merits on the proposal during the moratorium, the Commission would explain the reason for its decision in the order.

G67-45

Section 4.2 has been revised to include more information on system alternatives.

G67-45 Connecticut." This is false because Islander East will need to do 13.3 miles of looping/new pipe between Cheshire and North Haven.

Table 4.2.1-1 compares the facilities required for the One-Pipe System Alternative with the facilities required for both the ELI Extension and the Islander East projects.

G67-46 Taking into account the additional 13.3 miles of looping for Islander East changes some of the figures in the table, specifically under "looping" to 13.3 miles (still compares to 16 miles of looping for the One-Pipe.) We need the full analysis of this loop in order to make a fair comparison between the two alternatives.

G67-47 However, just by comparing the two in terms of simple mileage alone it seems that the One-Pipe Alternative is far superior to allowing both projects to be constructed.

For example:	One-Pipe	Both Projects
Mainline Pipeline Onshore	12.0 miles	34.2 miles
Mainline Pipeline Offshore – all LIS	17.1 miles	39.7 miles
Looping Connecticut	16.0 miles	13.3 miles
Total	45.1 miles	87.2 miles

Even if the 13.3 mile Looping by Islander East is excluded, the One-Pipe impacts less mileage at 45.1 miles than Both Projects at 73.9 miles.

G67-48 Furthermore, if miles are converted to acres of impacted land, a more accurate sense of the full extent of the onshore and offshore areas impacted can be seen.

For the following example, the following assumptions were made in order to make the calculations: 1. one acre = 43,560 square feet

2. Onshore Mainline Pipeline Construction both projects would impact a 75 ft wide area (50 ft for permanent ROW and 25 ft for construction ROW) – these may vary depending on the locale.

3. Offshore Mainline Pipeline Construction for both projects would impact a 4000 ft wide area – this takes into account the construction impact from both anchor scars and cable sweeps which will be a significant long-term and possibly permanent environmental impact.

G67-46 See response to comment 45.

G67-47 See response to comment 45.

G67-48 See response to comment 45.

4. Looping for both projects would impact a 50 ft wide area (25 feet for permanent ROW and 25 feet for construction ROW) – these may vary depending on the locale.

With these variables, the following comparison is provided:

	One-Pipe	Both Projects
Mainline Pipeline Onshore	109 acres	311 acres
Mainline Pipeline Offshore	8291 acres	19248.5 acres
Looping Connecticut	97 acres	80.6 acres
TOTAL	8497 acres	19640.1 acres

Clearly the environmental impact in terms of acres of land impacted by Both Projects is substantially more than the One-Pipe alternative, which would save 11,143 acres, both onshore and offshore, from being impacted.

G67-49 Furthermore, the FERC would also need to take into account the added costs of these combined two projects and recognize that the cost would be substantially higher. This cost would be passed, in part, to the LongIsland/New York ratepayers who would experience less of a rate increase by using the One-Pipe alternative.

G67-50 The added benefit of the One-pipe alternative are also as described in the DEIS with less impacts to: onshore Long Island, Long Island Sound, Connecticut shellfish beds, the Branford Land Trust and less emissions from compressor stations.

The impacts to landowners would need to be expanded to include the landowners on the Cheshire to North Haven section for Both Projects alternative.

Added benefits not described in the DEIS would include the possibility that if one or both of the power plants are built, a compressor station would NOT be necessary because the One-Pipe System could be built to be consistent with the Iroquois' current technology so that the gas could reach long Island at a PSI of 700 instead of the 366 PSI that Islander East would supply. This would result in fewer acres impacted and lower emissions as well for Long Island.

G67-51 **In sum, it is clear that the One-Pipe Alternative is far superior to Both Projects in terms of both overall project costs as well as both onshore and offshore environmental impacts.**

4.2.2 ELI System Alternative

G67-49 Ratepayer increases are beyond the scope of this document.

G67-50 See response to comment 45.

G67-51 See response to comment 45.

In the event that the Commission decides there is only enough market demand to justify one pipeline, this alternative would transport the total volume of 260,00 Dth/day.

G67-52 Please note that the following statement on page 4-13 in the DEIS requires further evaluation and may be an error: "The ELI System Alternative would require 7.0 miles of 36-inch-diameter pipeline loop between Brookfield and Sandy Hook, Connecticut."

There is engineering information that the technology of the ELI System Alternative is capable of using compression to transport the 260,000 Dth/day and therefore would NOT REQUIRE LOOPING. It is important that this be further evaluated since this bears significantly on the comparison between the two routes.

Table 4.2.2-1 compares the facilities required for the ELI System Alternative with the facilities required for the Islander East Project.

G67-53 Taking into account the additional 13.3 miles of looping for Islander East changes some of the figures in the table, specifically under "Loop" to 13.3 miles (in comparison to none or at the most 7 miles of looping for ELI.) Again, the full analysis of this loop as well as data regarding the lack of need for looping with the ELI System is required in order to make a fair comparison between the two alternatives.

G67-54 However, just by comparing the two in terms of simple mileage alone it seems that the ELI Alternative is far superior to the Islander East Project.

For example:	ELI	Islander East
Mainline Pipeline Onshore Connecticut	none	10.2 miles
Mainline Pipeline Offshore – all LIS	17.1 miles	22.6 miles
Looping Connecticut	7 miles—maybe none	13.3 miles
TOTAL	17.1 to 24.1 miles	46.1 miles
Compressor Stations	1-20,000 hp	1-10,310 hp But more needed for each power plant

Even if the 13.3 mile looping from Cheshire to North haven is eliminated, the mileage for Islander East is 32.8 miles; this is still greater than ELI by 8.7 to 15.7 miles (depending on if ELI needs to loop or not.) So the ELI project could decrease the miles impacted in comparison to Islander East by as little as 8.7 miles to as great as 29 miles.

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G67-52 We agree that there are several ways to achieve the increased capacity and have revised our discussion. We have chosen what we believe is the most environmentally benign method of designing the alternative.

G67-53 See response to comment 52.

G67-54 We agree. Based on our environmental analysis, the ELI System Alternative is environmentally preferable to the proposed route because it reduces onshore and offshore impacts, except for emissions. However, there are other policy-related considerations and/or factors that may make this alternative less desirable. Such considerations are beyond the scope of this EIS. The Commission will address these issues when it considers the entirety of Islander East's proposal.

G67-54 Furthermore, if miles are converted to acres of impacted land, an even more dramatic sense is gained of the extensive onshore and offshore areas impacted by Islander East in comparison to ELI.

For the following example, the same assumptions were made as listed for the One-Pipe Alternative

Given these variables, the following comparison of acres impacted is provided:

	ELI	Islander East
Mainline Pipeline Onshore	zero acres	92.7 acres
Mainline Pipeline Offshore	8291 acres	10597.6 acres
Looping Connecticut	zero to 42.4 acres	80.6 acres
TOTAL	8291 to 8333.4 acres	10771 acres

Clearly the environmental impact in terms of acres of land impacted by Islander East is much greater than the ELI alternative. The ELI alternative will save 2437 to 2480 acres, both onshore and offshore, from being impacted.

G67-55 Furthermore, the FERC would also need to take into account the added costs that this additional length of pipe would impose on Islander East and recognize that this additional cost would be passed, in part, to the New York/Long Island ratepayers who would pay less with the ELI alternative.

G67-56 The added benefit of the ELI Alternative would also be as described in the DEIS with less impacts to: onshore Long Island, Long Island Sound, Connecticut shellfish beds, the Branford Land Trust.

G67-57 The issue of less emissions from compressor stations, as stated on page 4-18 would need further study since the Islander East Project would need additional compression for the two power plants since Islander East can deliver only 366 PSI.

G67-58 The impacts to landowners would need to be further studied to include the impact to landowners on the Cheshire to North Haven section of the Islander East proposal.

G67-59 The fact that Long Island Sound alone would be significantly less impacted by the ELI System Alternative should be enough to weigh strongly in favor of the ELI System Alternative. **LIS would have 5.5 miles – 2307 less acres – impacted with ELI than with**

G67-55 See response to comment 49.

G67-56 See response to comment 54.

G67-57 Section 4.2 of the FEIS has been revised to include additional information on the additional compression and location of compressor stations required for the ELI System Alternative.

G67-58 See response to comment 57.

G67-59 Section 4.2 of the FEIS has been revised with additional information on offshore impacts of the ELI System Alternative.

G67-59 **Islander East.** This would mean less sedimentation, less turbidity, less mobilization of heavy metals and contaminants, less anchor scars, less cable sweeps and less morbidity/mortality for infauna. Moreover, significantly less shellfish beds that are actively cultivated would b impacted by ELI.

G67-60 **In sum, depending on the energy needs on Long Island, either the One-Pipe or the ELI Alternative are each far superior to Islander East in terms of less environmental impact both onshore and offshore.**

Again, thank you very much for the opportunity to comment on the DEIS. Please do not hesitate to contact me for further information or questions regarding my comments. I can most easily be reached by phone at my office: 203-772-2090 or by writing to the following address.

Sincerely yours,

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G67-60 See response to comments 45 and 54.