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March 30, 2009

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

VIA ELECTRONIC FILING

RE: Project No. 12611-003 – New York, Roosevelt Island Tidal Energy Project
Request for Additional Information on Draft Pilot License Application

Dear Secretary Bose:

Enclosed please find the additional information requested in Schedule A, "Request for Additional Information on Draft Pilot License Application," of your letter dated January 27, 2009. As outlined in your letter, this information is being provided in lieu of a technical conference and prior to the conclusion of the pre-filing process to support FERC staff's analysis of potential effects of the proposed Roosevelt Island Tidal Energy Project (P-12611-003), for which Verdant Power filed a draft application for a pilot license on November 25, 2008. As was also outlined in your letter, the information requested in items 4, 5, 6, and 7 of Schedule A will be filed with Verdant Power's final license application. Also, certain responses to this additional information request contain Critical Energy Infrastructure Information (CEII) and have been filed with FERC as such, as well as provided to select agencies.

The additional information enclosed here required consultation with various entities. A record of consultation with these entities is included in this filing, as well as descriptions of how Verdant Power has addressed any comments and recommendations made by agencies consulted.

As required, this filing is being made within 60 days from the date of your January 27, 2009 letter. Additionally, copies of this filing have been provided to each agency and other entities consulted, as well as to all parties on our distribution list.

If you or any FERC staff have questions, please do not hesitate to contact me. Thank you for your time and consideration.

Very truly yours,

Ronald F. Smith
Chief Executive Officer

Enclosures: Verdant Power Response to Request for Additional Information on Draft Pilot License Application
March 30, 2009 Distribution List – VP Response to FERC AIR

cc: March 30, 2009 Distribution List – VP Response to FERC AIR

ROOSEVELT ISLAND TIDAL ENERGY PROJECT
P-12611-003

VERDANT POWER RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION ON DRAFT PILOT LICENSE APPLICATION

March 2009

Submitted by:

Verdant Power, LLC
The Octagon
888 Main Street, Suite 1
New York, NY 10044

Publication of Notice

1. Page C-1 of the draft application notes that a notice of the draft application, and request for waiver and process plan was published in a daily or weekly newspaper in each county in which the project would be located. Please provide documentation of this newspaper notice.

Response:

Please see Appendix A for documentation of newspaper notices.

Project Description

2(a). Page A-5 identifies the major components of the proposed turbine units, briefly describes the field array of 30 units, and references the exhibit G project boundary map. Neither the project description nor exhibit G notes the total number of acres the project would occupy within the project boundary including the transmission line(s). Please provide this information in exhibit A.

Response:

On page 8 of Volume 2 Initial Statement of the Draft License Application Verdant modifies the table as follows.

Table A-a. Lands of the United States affected (as shown of Exhibit G)

	(Name)	(Acres)
(i) National Forest	None	Not Applicable (N/A)
(ii) Indian Reservation	None	N/A
(iii) Public Lands under the Jurisdiction of New York State	NY Department of State - for all underwater facilities	18.84 (includes underwater cables from turbines to shoreline vaults)
(iv) Other	Roosevelt Island Operating Company (RIOC)	
	Shoreline Cable Vaults (5)	0.006 Acres (240 sq ft)
	Control Room	0.004 Acres (160 sq ft)
	Underground transmission lines (2)	1.01 Acres
(v) Total U.S. Lands		19.91 Acres

At page A-5 (Volume 2) Verdant adds the following statement:

The RITE pilot project of 30 KHPS turbines would encompass a project boundary of approximately 19.91 acres, which includes 18.84 acres of underwater land lease and 1.02 acres of shoreline right of way for the Control Room, Cable Vaults and two underground transmission lines.

Project Description

2(b). Page A-13 describes the proposed 480-kV electrical cables from each of the 30 turbine units. Please provide the length and voltage capacity of the underwater electrical cables connecting the turbine units on each tri-frame mount to the five shoreline switchgear vaults, and the transmission lines from the switchgear vaults to the point of interconnection with the regional grid (i.e., Con-Ed, MTA).

Response:

As discussed on page A-13 of the Draft License Application, Verdant plans for the individual turbine cables to be 3-conductor #4 AWG as used in the RITE 6-Pack pilot project, but with enhanced mechanical protection. The 30 cables planned (one for each KHPS) are 480VAC and rated for 600VAC.

Based on the layout plan shown in Exhibit F-1, the individual turbine cable lengths from the turbine-generator to the respective vaults range from 233 to 322 feet, with an average of 282 feet.

The current plan for interconnection assumes that the main Verdant bus lines connecting the three northern vaults (C, D, E) to Vault B will likely operate at 4kV or an intermediate voltage as determined by ConEd. The bus from Vault A can operate at the main bus voltage, or at 480VAC, since it will carry the output of only four turbines to Vault B.

For the MTA interconnection, the cable connecting the two-turbine output from Vault A (southernmost) to the MTA load is a similar, but using #1 AWG conductor cable in order to handle the current from two turbines and to minimize voltage drop from the length of the run. These will be operated at 480VAC and rated for 600VAC. The interconnection point for these 2 KHPS turbines would be at vault A and the MTA would install and operate an estimated 3,600 to 4200 ft direct power cable to the MTA Roosevelt Island F train subway station -- route still under discussion, but likely along the riverside steam tunnel ROW.

The main interconnect line for the balance of the KHPS turbines (28) is planned from the Verdant bus at Vault B to a Con Ed interconnection station, will be approximately 700 feet long, and will be 4kV cable rated at 6kV. These details are currently being discussed with ConEd personnel.

Project Operation

3. Page A-19, section 3.0 describing project operation contains no discussion of your plans for operating the existing 6 test turbine units, a schedule for repair of broken rotor blades, or removal of the 6 test units. As such, we are unclear of your intentions to fix, operate, or remove the test turbine units. Please provide a discussion of your plan for the test units that include an implementation schedule.

Response:

The 6-unit RITE demonstration project (described in Volume 2 Appendix A) was deemed completed in December 2008. Two KHPS units operated in September - October 2008 with Generation 5 blades and hubs, which were new designs retrofitted to the Gen4 nacelles. The operation of these rotors was successful and thus the demonstration proved the ongoing design.

During this transition period between the end of the demonstration and any granting of the FERC license, Verdant is planning the following activities:

Plans are currently underway to remove the remaining 4 KHPS machines (2 were removed in September 2008) and also retire the fixed-frame hydroacoustic sensors in June 2009. This removal plan is currently under review by the agencies.

The RITE demonstration project operated under a joint NYSDEC/USACE permit that expires May 5, 2009. During this transition period from the end of the RITE demonstration to the proposed installation of a full field buildout (predicated on receiving a FERC project license and other permits, as well as project financing), Verdant is requesting a 3-year extension of the permit to allow for ongoing in-water operations. The need for this extension of the permit is justified by the following activities:

- Continuation of water velocity data collection using Acoustic Doppler Current Profilers (ADCPs) and velocimeters ADVs (April 09- through FERC license)
- Ongoing Vessel-based Aimable Mount for Sonar (VAMS) and stationary netting to complete the requirements of the FMPP (May-June 2009)
- Limited ongoing fixed hydroacoustic data collection (questionable viability but deemed a reference), now through equipment
- Planning for a potential in-water test under the DOE Advanced Water Power Program grant. (2010-2011)

Concurrent with the filing of the Final License Application, Verdant intends to file a 401 Clean water permit application for the full RITE 30 KHPS buildout.

However, given the current need for ongoing water access and the timing uncertainties associated with the FERC and 401 processes, Verdant feels that this transition extension is necessary to continue the development of the project. Both the NYSDEC and USACE as well as other federal agencies are being consulted on this request.

As Outlined by FERC, Additional Information Requests # 4, 5, 6 and 7 will be provided by Verdant Power in its Final License Application.

Water Resources

8(a). Page E-45, figure 5.3.2.1-2 shows the location of primary and secondary NOAA tidal current stations in the vicinity of the RITE Project. There is no explanation of the difference between a NOAA primary and secondary tidal station. In addition, of the four NOAA tidal stations mentioned in the text as being used for tidal current prediction at the RITE Project site, only two, the Battery and Hells Gate stations are shown on the map. In order to fully understand the tidal regime at the project site, it is important to understand the locations of all of the tidal stations used for tidal current predictions. With numerous NOAA secondary tidal stations labeled on the map within close proximity to the project site, staff need to understand how these stations have been, or will be, used in monitoring tidal currents and tidal ranges at the project. Please clarify the difference between a NOAA primary tidal station and a NOAA secondary tidal station, as well as any significance of the NOAA secondary stations shown in the figure but not noted as being used for tidal current prediction at the project site. Please also clearly label the locations of the other two tidal stations used for tidal current prediction at the project site, Kings Point and 39th Street, and note whether they are primary or secondary stations.

Response:

In assessing the tidal resources for energy production, there are two types of NOAA tidal stations that are relevant: Primary and Secondary Stations. Primary stations have been operating for at least 18.6 years, the length of the lunar cycle, and operate continuously into the future. The goal of a primary station is to obtain highly accurate water level or water current data in a specific locality. Primary stations are considered control tide stations and are sited to provide datum control for national applications. There are two NOAA Primary Stations in the vicinity of the RITE project site: at The Battery located at the southern tip of Manhattan Island and at Kings Point located in the Long Island Sound. Only the Battery station is shown on Figure 5.3.2.1-2 since the Kings Point station is too far north and east of the RITE site to be displayed on the map without losing necessary detail.

Because the RITE Project is located between these two Primary Stations in the East River, Verdant Power has used the data to determine the project, in general, has a mean tidal range between 4.5 and 7.2 feet. Verdant Power has used this data from these Primary Stations only to determine this general range of mean tidal ranges for the RITE Project, as the stations are too far from the project to use for accurate current predictions.

The DLA (pg.E-43) should be amended to read:

> "The mean tide range at The Battery is reported as 4.5 feet (NOAA), and represents the difference between mean high water and mean low water. The mean tide range for the station at Kings Point is reported as 7.2 feet within Long Island Sound (NOAA, 2003c). ***This information is only a generalization for the RITE project, since the primary stations are located too far away from the actual RITE site to be meaningful.***

Secondary stations are those which have operated for less than 18.6 years and oftentimes for less than a month. Their primary role is to provide data metrics in bays and estuaries where the primary station isn't enough to determine local tidal effects. Secondary station data are not usually sufficient to precisely determine tidal currents but can be reduced by comparison to monthly means of a primary station to obtain satisfactory predictions.

The DLA (pg.E-43) should be amended to read:

> Two secondary tidal current charts are used for tidal current prediction at the RITE site. These are located at the NOAA Hell Gate tidal current prediction station north of the site and *at the 39th Street tidal prediction station.* In addition, Verdant has maintained a permanent velocity reference instrument (an ADCP) at the RITE demonstration site since December 2006. These tidal gages are shown on Figure 5.3.2.1-2 in relation to the RITE project boundary." ***[Emphasis added]***

The reference to the 39th street station is a typographic error and should read "59th Street," as it refers to the NOAA East River Secondary Station located near the 59th street Bridge. NOAA operates three Secondary Stations in the West channel of the East River (75th Street, 67th Street and 63rd Street), a Secondary Station at 31st Street station toward the south of Manhattan, one at Hell Gate in the northern part of the East River and one Secondary Station in the East Channel of the East River (East River Station, located near 59th street).

Only the Hell Gate and East River Secondary Stations were used by Verdant Power for harmonic tidal predictions at the RITE Project. The other Secondary Stations were included in the figure simply for reference.

It should be noted that neither the Primary or Secondary NOAA stations provide the level of detail necessary to design and operate a demonstration, pilot or commercial tidal project; and instrumentation *within* the field array itself is

necessary. Toward this end, Verdant has maintained an Acoustic Doppler Current Profiler (ADCP) in the pilot field, and will continue to take water velocity measurements using this tool for the duration of the operation.

References:

National Ocean Service, Tide and Current Glossary, NOAA National Ocean Service, Silver Spring, MD, January 2000.

National Ocean Service, Tidal Datums and Their Applications, NOAA Technical Report NOS CO-OPS 1, Center For Operational Oceanographic Products and Services, Silver Spring, MD, 2000.

Water Resources

8(b). Page E-61 states that the ebb portion of the pre-deployment hydrodynamic survey was shortened due to time constraints, resulting in limited data collection beyond the locations of turbines 1 and 2 in the RITE 6-pack. In order to adequately interpret the results of the hydrodynamic survey, staff need to understand the reason behind the time constraints in conducting the ebb survey that resulted in unequal ebb and flood tide data sets. Please provide further explanation regarding the time constraints in conducting the ebb survey.

Response:

Verdant notes that this section of the Draft License Application was quoted directly from the 60 Day Monitoring Report (p. 4-2 and 4-3) concerning the pre-deployment mobile hydrodynamic survey completed by its consultants, DTA, during November 2005. It is likely that equipment issues and daylight foreshortened the period of collection; though the protocol called for covering all predetermined transects.

Water Resources

8(c). Page E-61 notes that, although the rotor centerline of the existing 6-pack array is located approximately 13 feet below mean lower low water (MLLW), the pre-deployment survey data was not extracted at 13 feet below MLLW, but rather 10 feet below MLLW. In order to adequately interpret the results of the hydrodynamic survey it is important to understand the reason why the pre-deployment data was not extracted at a depth of 13 feet below MLLW to coincide with the centerline of the rotor and the depth of extraction for the post-deployment survey. Please provide further explanation of why the pre-deployment survey data was extracted at 10 feet below MLLW.

Response:

The plots shown on pages E-62 to E 66 of the Draft License Application were for pre deployment data (November 2005) and taken directly from a provisional post-deployment report completed by Verdant Power consultants DTA in 2007. While Verdant acknowledges that for direct comparison of pre- and post conditions, data should be taken at comparable depth elevations (13 feet at turbine hub height); and the visual graphics should be at the same color scale. We will attempt to refine this data representation for the Final License Application, however, a visual comparison notes a similar order of magnitude change as predicted in the ID model results over the field.

Water Resources

8(d). Page E-73 states that the proposed 30-turbine field would only reduce the natural energy flux of the east channel by 2 percent according to the results of the macroscale hydrodynamic modeling. Also stated is that the 2-percent loss is well below the suggested maximum loss of 10 percent referenced in Bryden et al. (2004). In order to understand the potential impact of the project on the hydrodynamics of the east channel, please clarify the resource protection bases that Bryden's suggested maximum reduction of 10 percent in natural channel energy flux are based on.

Response:

Practical limits on the total energy flux that can be removed from a riverine or tidal water body have not been determined experimentally. All prior references for such a limit are based on a scientific rule of thumb. Estimates of such a limit have been given in a number of scientific reports and reference materials. The Electric Power Research Institute (EPRI) has conducted a number of feasibility studies across North America. The citation for this extraction limit was provided in the report: EPRI North American Tidal In Stream Power Feasibility Demonstration Project; EPRI – TP – 001 NA Rev 3 by George Hagerman, Brian Polagye, Roger Bedard and Mirko Previsic; September 29, 2006. Pg 32-33:. Quoting from this report ***[emphasis added]:***

> "In contrast to atmospheric flows, tidal stream flows are constrained between the seabed and sea surface, in depths that are usually less than 100 m. Tidal stream energy is therefore more spatially constrained, and withdrawal of excessive amounts could reduce natural circulation to the point that significant environmental effects occur. Based on the limited modeling done to date, a blanket average kinetic energy extraction of 15% was been selected as the level of extraction which will not result in significant alteration to the estuary circulation.
>
> Only a few studies have been published that address this subject. In a review of tidal stream resource assessments for the Carbon Trust, Black & Veatch Consulting, Ltd., has adopted a 20% "Significant Impact Factor" as the percentage of the total available resource that can be extracted without significant environmental effect (Reference 11). ***The justification for this selection is not given.***
>
> Early numerical modeling by Ian Bryden and his colleagues led them to suggest 10% as a "rule of thumb" conservative estimate of the extractable resource in a simple channel (Reference 12). This was based on the application of open-channel flow theory to simulate a tidal channel connecting two unconstrained bodies of water (as between two islands, for example). The tidal loch filling or emptying decreases when the channel is

blocked by a row of turbines. In this particular case, the authors suggest that up to 30% of the natural flux may be extractable. ***In reviewing these results, EPRI has used 15% as the environmental extraction limit.*** "

Verdant, in making the comparison statement in the Draft Licenses Application, considered the rules of thumb as noted in the Carbon Trust; EPRI and Bryden references; focusing specifically on the mathematics of the work of Bryden that clearly determines that with extraction as high as 25% of the available, the resulting reduction in flow speed is at or below the limits of measurement. Bryden et al further conclude that moderate levels of energy extraction, < 10%, are unlikely to cause any environmentally threatening changes. Further, they conclude that the extraction of <10% of the kinetic energy flux is "totally dwarfed" by the hourly, diurnal, and monthly velocity variations in a tidal system.

The following conclusions help explain these assumptions. While the Bryden work from 2004 represents the earliest results and conclusions, subsequent work in 2007 improves these assumptions:

1) From 2004 – Bryden, Grinsted, Melville:
   "This analysis is not sufficiently detailed to suggest limits to the extraction of energy from a channel; it should be noted that extraction of 10% of the energy in the undisturbed channel causes a speed reduction of less than 3%. If 20% of the undisturbed energy flux is extracted, the flow speed is reduced by approximately 6%. The authors suggest that 10% could be considered a 'rule of thumb' limit to environmentally acceptable energy extraction in this case.
2) From 2007 – Bryden, Couch, Owen, Melville
   "Use of the one-dimensional flow model … in the channel illustrated, 25 per cent of the kinetic flux could be extracted with less than 7 per cent reduction in the flow speed. This is close to the limits of effective measurement in the marine environment. Would such a reduction in flow speed cause unsuspected and detrimental changes? If the tidal currents were constant, this might be rationally argued. As discussed … however, the tides are themselves highly variable in time and the 7 per cent variation caused by exploitation would be totally dwarfed by speed variations on an hourly, diurnal, and monthly time scale, so sensible levels of energy extraction are unlikely to cause any environmentally threatening channel scale effects resulting from large scale flow modification."

Water Resources

8(e). Page E-78, figure 5.3.2.3-1 shows the location of the video surveys used to locate and collect fine sediments. The numeric values on the x-axis, y-axis, labels, and legend are illegible, as are the notes below the map. It is also not clear what the values associated with the axes and color legend represent. In order to adequately interpret the results of the sediment survey, please provide a clearer copy of the figure with the axes and legend appropriately labeled.

Response:

Verdant acknowledges that Figure 5.3.2.3-1, "Location of video surveys" on page E-78 lacks visual clarity, particularly in the printed document.

Verdant has made the following changes and resubmit the Figure as attached:

- Removed numeric values on x- and y- axes (used solely for GIS mapping)
- Clarified color legend labels
- Added RITE Pilot Project boundary indications

This revised version of Figure 5.3.2.3-1 can be found in Appendix B.

Water Resources

8(f). Page E-80 notes that NYSDEC classifies the East River as Saline Class I from river mile 0 to 14.5 and Saline Class SB from river mile 14.5 to 17.0. The RITE Project field is noted as being located at approximately river mile 14.5. In order to adequately assess any impacts that the proposed project may have on water quality, please clarify the classification that NYSDEC has assigned to the proposed location of the RITE field and the associated water quality standards that apply to the proposed project.

Response:

Verdant contacted the NYSDEC regarding the classification of the segment of the East River at the RITE Project. Any reference to milepoint 14.5 or 17.0 from previous reports seems to be erroneous. NYSDEC clarified that from the Battery to Hells Gate , the East river is is Class I and not SB. The regulations (found at: http://www.dec.ny.gov/regs/4541.html#17494) in Table 1 890.6 provide a concise description, as follows: ***[emphasis added]***

*890.6 Table I

"Table I provides the Classifications and Standards of Quality and Purity Assigned to Fresh Surface Waters and Tidal Salt Waters, Including Certain Tidal Waters of The Interstate Sanitation District Within Designated Drainage Basins of New York Bay, Raritan Bay and a Portion of the Atlantic Ocean, Including the Subbasins of Arthur Kill, Kill Van Kull, the Harlem River and the Lower East River, Bronx, Kings, New York, Queens, Richmond and Westchester Counties, New York

The Roosevelt Island Bridge is located within the milepoint 0.3 - 10.1 (item #53 in part 890). Stony Point is at mp 10.1, therefore it appears that this reach is in Class I waters of the East River."

Fisheries Resources

9(a). Pages E-94 and E-107 state that stationary netting was planned to be conducted and completed in December 2008. Please provide an update on the status of the stationary netting and a report on the results.

Response:

As part of the Fish Movement and Protection Plan (FMPP Rev 7.5) Verdant committed to conduct stationary netting – to observe any injury/mortality of fish from operating KHPS and to determine species groundtruthing of fixed and mobile VAMS DIDSON/SBT hydroacoustics. This activity was planned for the December 2008, in conjunction with operating KHPS turbines from deployment #3. Unfortunately the Verdant KHPS machines ceased operating and rotating in November 2008; and the stationary netting was deferred, by consensus of the agencies on Dec 3, 2008, to the Spring of 2009. Verdant intends to conduct this work in May – June 2009 and will submit the report as part of the Final License application.

Fisheries Resources

9(b). Page E-100 states that all of the data collected in the fixed hydroacoustic study are provisional since a full quality assurance/quality control (QA/QC) protocol for the fixed hydroacoustics was never executed. In order to adequately assess the results of the fixed hydroacoustic study, please provide further explanation for why a QA/QC protocol was never executed.

Response:

The review process of Quality Assurance (QA) for fixed hydroacoustic data involved several separate validation functions as outlined on page 2-30 and 2-31 of the 60-day monitoring report. Some of these QA functions, which were established by the SBT vendor, Biosonics, were completed, though others were not, as outlined below:

- QA of event files -- A process to convert from reports from Provisional to Accepted status based on Alert/Alarm data. This function was completed and Accepted event reports were posted by Biosonics and used by Verdant in analyzing the data.
- Data processing software -- Was written by Biosonics and consisted of complex algorithms established as of May 29, 2007. These algorithms were used through the course of the data processing through December 2008. However, since no KHPS units were operating for the majority of the period between July 2007 and December 2008, and the data results were consistent with calibrated data, the algorithms were not updated as outlined by the QA process.
- Validation of analysis parameters – Was conducted by Biosonics during the period April - May 2007 and reported to the agencies in a June 2007 workshop.
- Periodic review of the analysis parameters -- Was recommended to be conducted for formal QA review. However, no KHPS turbines were operating from July 2007 to September 2008 (as was intended) and the data was reporting automatically and appeared to be consistent with May 2007 validation. Additionally, as of January 2008, Biosonics assured Verdant that the data processing of daily event reports was valid for the valid transducers

Therefore, while some QA functions had been completed, Verdant proposed to resource agencies that the study results be officially termed provisional from a scientific method viewpoint.

Fisheries Resources

9(c). Page E-101 notes that the fixed hydroacoustic study showed that fish identified near the RITE 6-pack array were predominately small, defined as showing a less than a -30 decibel (dB) signal. In order to adequately interpret the results of the hydroacoustic study, please define the size range of fish (length in inches) associated with a hydroacoustic reading of less than -30 dB.

Response:

The table below, based on Love, 1977,, defines the size range of fish (in inches and centimeters) associated with hydroacoustic readings of less than -30 dB.

This relationship is repeated below:

Table 5.3.3.2-a. Relationship between fish length and target strength

Length (in)	Length (cm)	Target Strength (dB)
1.97	5	-53.70
	15	-44.15
	25	-39.72
11.8	30	-38.13
	40	-35.64
17.7	45	-34.61
	60	-32.11
	70	-30.77
29.37	75	-30.18

Fisheries Resources

9(d). Page E-102, figure 5.3.3.2-1 shows daily fish events recorded in the hydroacoustic study. In order to more easily differentiate between the frames and event readings and adequately interpret the monthly/seasonal patterns, please provide a larger version of the graph, possibly even splitting the 2007 and 2008 results into two different figures.

Response:

Provided below are the modifications to the figure as requested – including an increase in font size, font weight, and overall figure size. Further, the data has been extended to include the completion of 2008. As such, the data is plotted from 6/1/07 to 12/31/08.

Please see the following 4 figures in Appendix B.

1) Revised Figure 5.3.3.2-1 RITE Hydroacoustics: June 2007 – December 2008 – all targets.

2) Figure 5.3.3.2-a RITE Hydroacoustics 2007: 6/1/07 to 12/31/07

3) Figure 5.3.3.2-b RITE Hydroacoustics 2008: 1/1/08 to 5/31/08

4) Figure 5.3.3.2-c RITE Hydroacoustics 2008 6/1/08 to 12/31/08

Fisheries Resources

9(e). Page E-110 notes that due to technical difficulties during the execution of the pre-deployment noise survey, discovered later in 2007, accurate readings for the pre-deployment period are not available for comparison. In order to adequately assess the results of the underwater noise survey, please provide further explanation of the technical difficulties that precluded the collection of accurate readings for the pre-deployment portion of the survey.

Response:

Both the pre - (July 2006) and post - (May 2007) deployment underwater noise studies were conducted by our consultant DTA. On pages 7-8 of the report "Draft Post Noise Rpt_073107.doc", prepared for Verdant Power by Devine Tarbell and Associates, Inc. (DTA). October 2007, DTA explains as follow:

> "[The predeployment data] however, have been re-analyzed since post deployment data were collected and the recorded and previously reported values were found to be artificially low. A subsequent laboratory evaluation of the noise collection hardware and software was conducted by the manufacturer. No anomalies were found. ***A poor wire contact*** has been identified as the most plausible reason for the observed results.
>
> The usefulness of this data is limited. Increasing the recordings to expected levels can be achieved by amplification procedures, though this ultimately reduces data confidence. Instead, an alternate approach was adapted for the comparison of turbine noise to background levels. Post deployment data from far field measurements without turbine noise describe typical background noise levels in the East River at various points throughout the channel. These data are equally effective at describing the noise generated by boats, industry, subways and bridges."

Fisheries Resources

9(f). Page E-114 states that surrogate audiograms were used in the underwater noise survey analysis if audiograms did not exist for all expected fish species. In order to adequately interpret the results of the underwater noise survey, please provide further explanation on how you determined the appropriate surrogate audiogram for each fish species.

Response:

Verdant's consultant DTA provide Verdant with the audiogram analysis as reported on pages 5-7 of the report "Draft Post Noise Rpt_073107.doc", prepared for Verdant Power by Devine Tarbell and Associates, Inc. (DTA). October 2007, DTA explains:

> "Hearing threshold data (audiograms) are not available for all fish species known to inhabit, migrate or otherwise use the East River at some point in their life cycle. To date approximately 100 audiograms exist for the some 27,000 or more extant species documented to date (Popper & Hastings 2005). Of the threshold data that does exist, substantial variability in derivation (behavioral, Auditory Brainstem Response (ABR)), noise type (white noise vs. pure tones, sound pressure vs. particle motion), life stage tested and accuracy (small sample size) exists between fish curve data thereby limiting their comparative applicability to each other, and other studies (Mann Pers. Comm, Higgs Pers. Comm). When applicable, representative surrogate curves were used for species without audiogram data. It is cautioned that significant variability between closely related species hearing abilities may exist and thus results are only to be used as potential impact indicators."

Table 5.3.3.3-a. East River fish species audiograms

Specialist						
Species		**Order**	**Audiogram**	**Surrogate**	**Source**	**Derivation**
American Shad	*Alosa sapidissima*	Clupeiformes	Y		Mann, D.A 1997	Behavioral
Alewife	*Alosa pseudoharengus*	Clupeiformes	N	American Shad	Mann, D.A 1997	Behavioral
Atlantic Menhaden	*Brevoortia tyrannus*	Clupeiformes	N	Gulf Menhaden (*Brevoortia patronus)*	Mann et. al. 2001	ABR
Blueback Herring	*Alosa aestivalis*	Clupeiformes	N	American Shad	Mann, D.A 1997	Behavioral
Generalist						
Species		**Order**	**Audiogram**	**Surrogate**	**Source**	**Derivation**
Bay Anchovy	*Anchoa mitchilli*	Clupeiformes	Y		Mann et. al. 2001	ABR
Winter Flounder	*Pseudopleuronectes americanus*	Pleuronectiformes	N	Common Dab (*Limanda limanda L*)	Nedwell 2004	HR Conditioning
Summer Flounder	*Paralichthys dentatus*	Pleuronectiformes	N	Plaice (*Pleruonectes platessa*)	Popper & Hastings 2005	HR Conditioning
Striped Bass	*Morone saxatilis*	Perciformes	N	Euro. Sea Bass (*Dicentrarchus labrax)*	Nedwell 2004	ABR
Tautog	*Tautoga onitis*	Perciformes	Y		Nedwell 2004	HR Conditioning
Atlantic Silverside	*Menidia menidia*	Atheriniformes	N		Data not published (Pers. Comm Popper, 2007)	
American Eel	*Anguilla rostrata*	Anguilliformes	N	European Eel (*Anguilla anguilla)*	H. Jerko, 1989	HR Conditioning
Atlantic Tomcod	*Microgadus tomcod*	Gadiformes	N		Data not available (Pers. Comm. Popper, 2007)	
Shortnose Sturgeon	*Acipenser brevirostrum*	Acipenseriformes	N	Lake Sturgeon (*Acipenser fulvescens)*	Lovell et al. 2005	ABR/Particle Vel.
Atlantic sturgeon	*Acipenser oxyrhynchus*	Acipenseriformes	N	Lake Sturgeon (*Acipenser fulvescens)*	Lovell et al. 2005	ABR/Particle Vel.

Avian Species

10(a). Page E-134 notes that gulls were not recorded as part of the bird observation study. According to the January 25, 2007 teleconference summary (page 4) it was noted that evaluation of gull activity may indicate project effects on small fish. Further, page E-131 indicates that agencies identified gulls as a dominant avian species that may use the East River for feeding or nesting. Please explain why gulls were not included in the bird observation study.

Response:

Gull species were not included in the bird observation study because the study was developed, in conjunction with agencies and stakeholders, to focus on impacts to diving species of birds. Gulls are not diving birds; although they are known to congregate when surface food is present. While it is recognized that gull activity could be an indicator of KHPS induced fish injury or mortality, specific observation was not recommended by the agencies during study plan development.

However, from the bird observation study data and transient Verdant personnel observations in the East River over the last 3 years, it is evident that gull feeding patterns have been unchanged as a result of the RITE demonstration turbines in the water, either operational or not. The protocol for bird observation specifically included instruction t to note anything “unusual” (from any species of birds, recreation, etc) occurring above or around the RITE demonstration field. Logs from these observations note no entries of changes to species or gull populations, or their activity. Anecdotal evidence by observers note that the observed feeding patterns of gulls in and around the RITE demonstration project has been limited to on- or near-shore wading, specifically for crabs found in the rip rap at the waters edge.

Avian Species

10(b). Page E-138, Table 5.3.4.1-2 summarizing the bird observation study, Figure 5.3.4.1-3 illustrating bird distribution from observations, and Table 5.3.4.1-3 listing species common to the New York region observed near the RITE demonstration project have conflicting data. In Table 5.3.4.1-2, it is unclear if the data represented in the column labeled "Canada Geese Total" is the total number of geese observed or if the data represents "flying geese" observed as indicated in Figure 5.3.4.1-3. Further, Post-D1 data listed in Table 5.3.4.1-2 should also be included in Figure 5.3.1.1-3. Table 5.3.4.1-3 notes that diving ducks were observed; however, diving ducks are not represented in Table 5.3.4.1-2 or Figure 5.3.4.1-3 nor is the species of the diving ducks indicated. All avian species observed and data recorded should be presented in these tables and figures for consistency, comparison, and evaluation purposes.

Response:

Verdant notes that on page E-138, Table 5.3.4.1-2, the "Canada Geese Total" is exactly equal to the total number of flying geese as shown in Figure 5.3.4.1-3 and the discrepancy was a typographic error on the table. These labels have been modified to match. Post deployment 1 (D1) data was removed from the data set because the number of hours observed were not equivalent to the other observations. The removal was missed in the table and has now been modified.

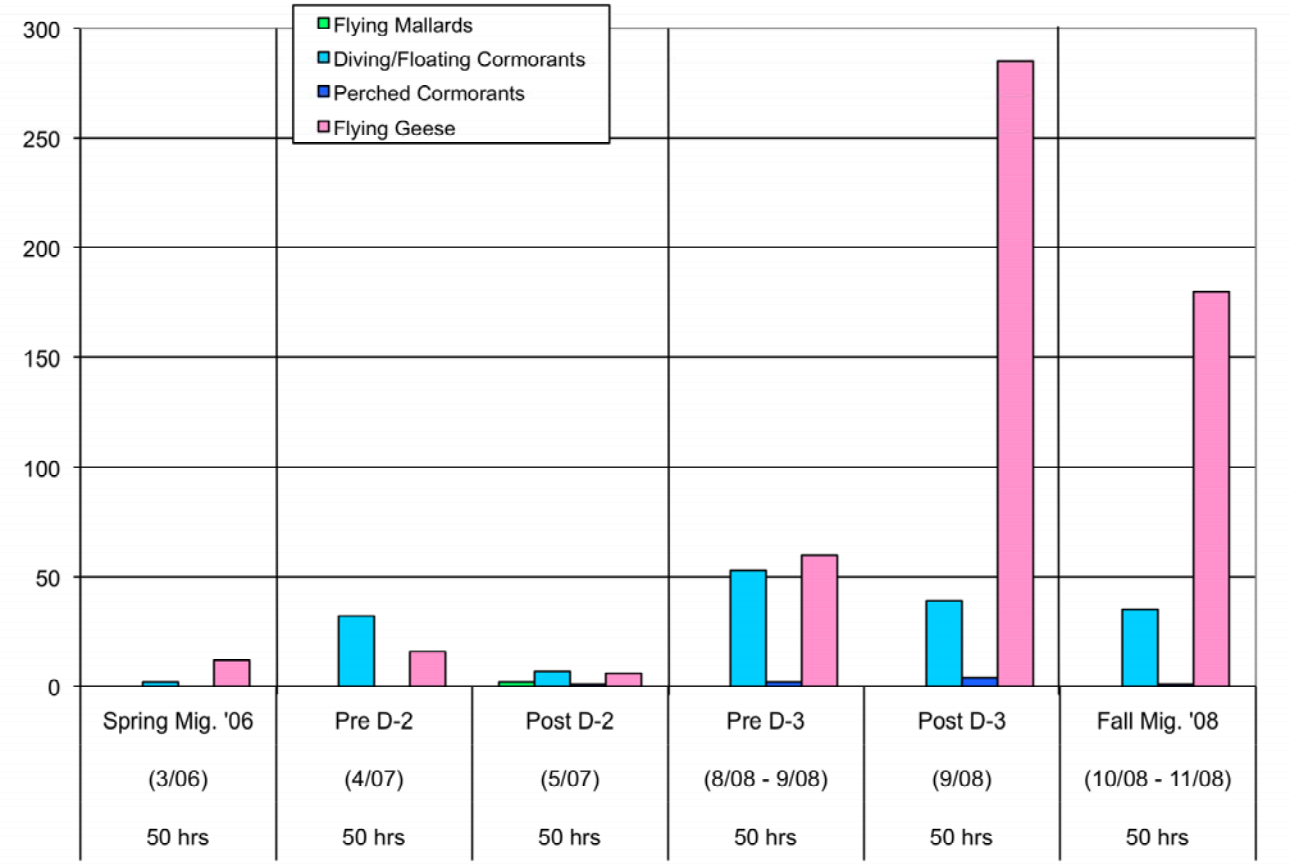
The diving ducks observed were mallard ducks and have been added to Table 5.3.4.1-2 and Figure 5.3.4.1-2. The species is now also listed in Figure 5.3.4.1-3. Figures 5.3.4.1-a and 5.3.4.1-b show the RITE Demonstration Project bird data by month, unlike the figures in the Draft License Application. Figure 5.3.4.1-b has normalized data over 5 hours for direct comparison between months.

Table 5.3.4.1-2. (revised) RITE Project – Bird Observation Study; Data 2006-2008

			Double Crested Cormorants			Canada Geese	Mallard Ducks
Birding History	**Days**	**Hours**	**Flying**	**Dive/Float**	**Perched**	**Flying**	**Flying**
Spring Migration–2006	**5**	**50**	**3**	**2**	**0**	**12**	**0**
Pre-D2 – 2007- April	**5**	**50**	**83**	**32**	**0**	**16**	**0**
Post-D2 – 2007- May	**5**	**50**	**81**	**7**	**1**	**7**	**2**
Pre-D3 – 2008 -Aug	**7**	**50**	**105**	**53**	**2**	**60**	**0**
Post-D3 – 2008 -Sept	**6**	**50**	**138**	**39**	**4**	**285**	**0**
Fall Migration - 2008[1]	**4**	**40**	**74**	**32**	**1**	**180**	**0**

[1] Data presented represents data collection through November 1, 2008. Verdant is collecting fall

Figure 5.3.4.1-3. (revised) Bird distribution from observations.



bird observation through December 2008 and will augment this section in the Final License application.

Figure 5.3.4.1-a: RITE Demonstration Bird Data by month

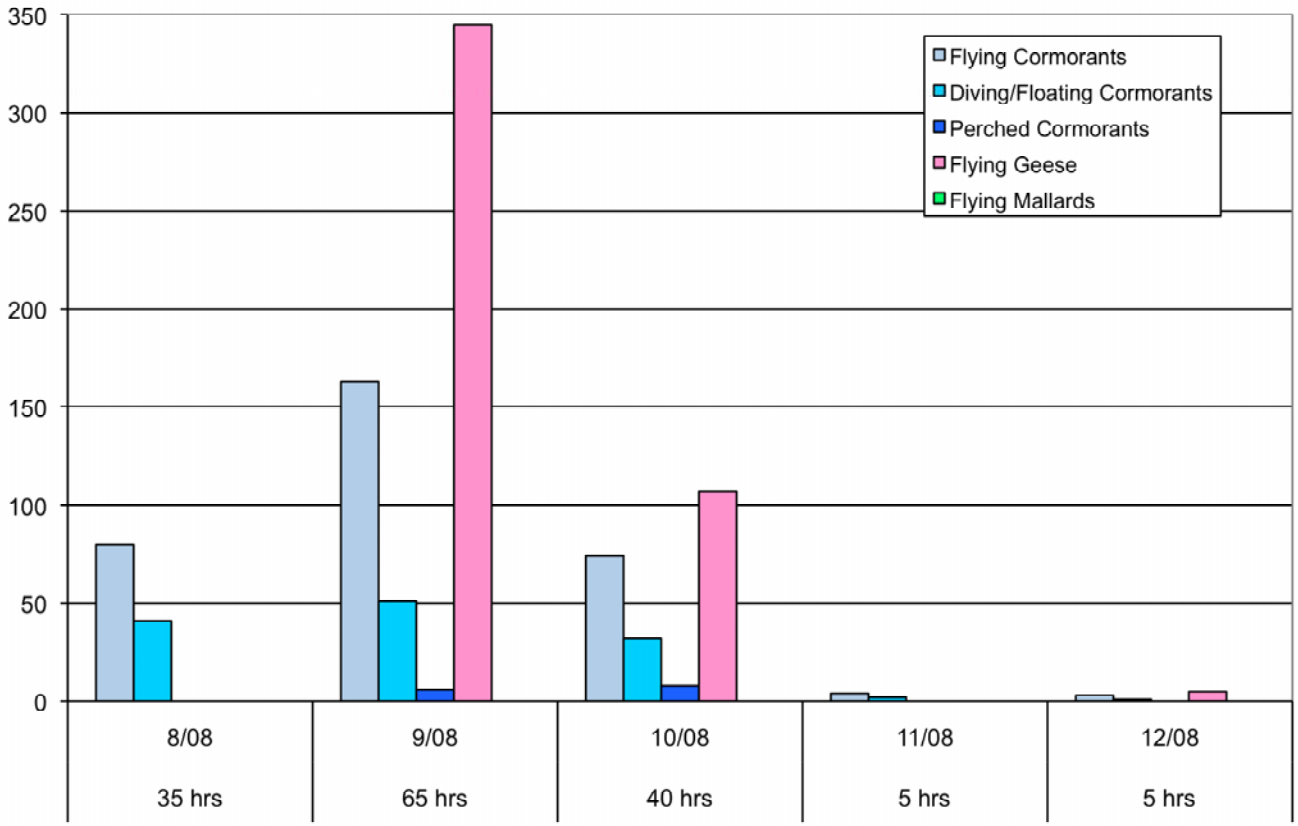


Figure 5.3.4.1-b: RITE Demonstration Project bird data by month normalized over 5 hours

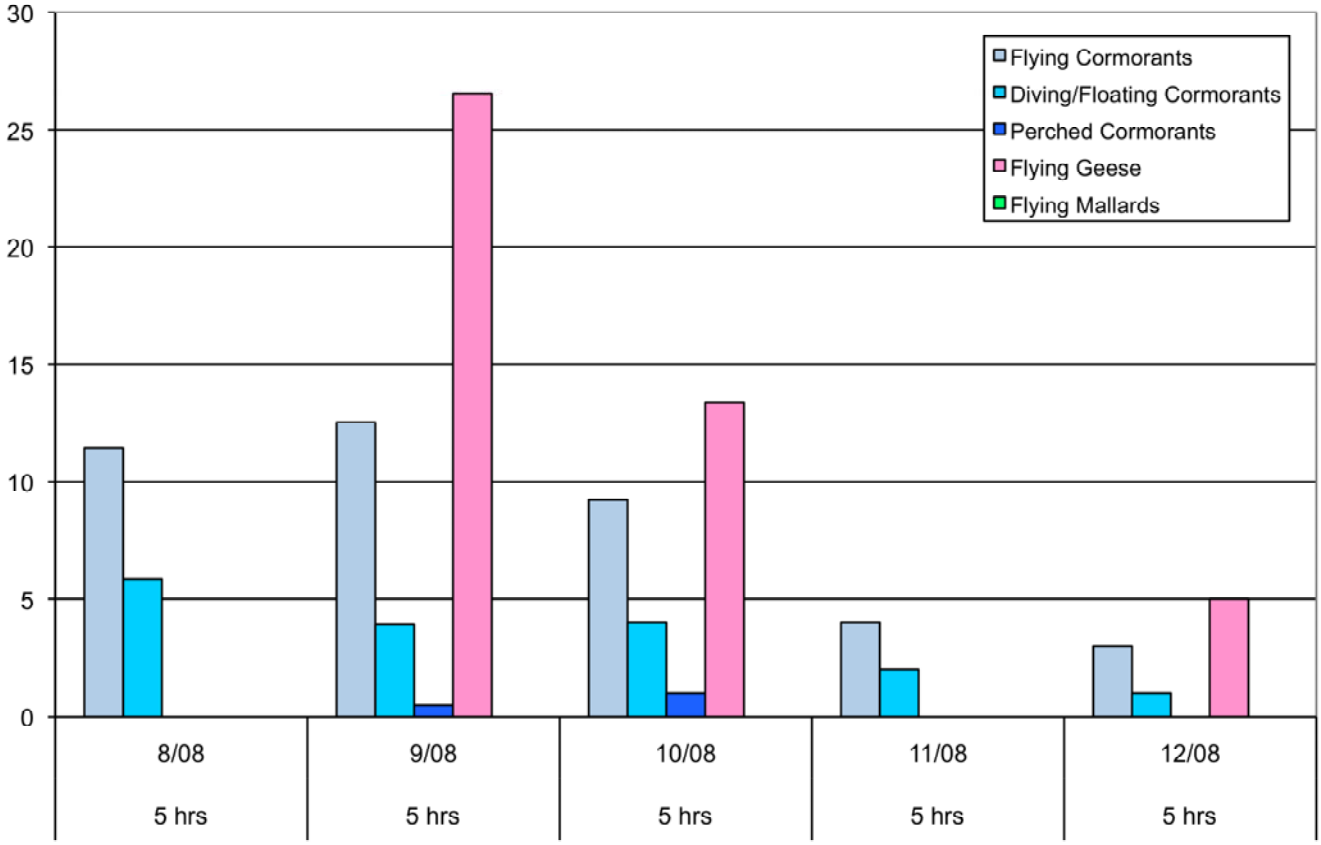


Table 5.3.4.1-3 (revised) Species common to the New York region – observations near the RITE Demonstration Project.

Species	Resident	Spring Migration	Fall Migration	Observed at RITE
Double Crested Cormorant (Phalacrocorax auritus)	**Yes**	**No**	**No**	**Yes**
Diving Ducks (Mallards)	**No**	**March to Mid May**	**November**	**2 sightings total – NOT DIVING**
Tern species (Sterna hirundo, Sforsteri, S nilotica) .	**No**	**Late April to Early May**	**September**	**Not Observed**
Brown Pelican (Pelecanus occidentalis)	**No**	**Not Known**	**October**	**Not Observed**
Loons (Gavia spp.),	**No**	**March**	**November to Mid December**	**Not Observed**
Gannets (Morus bassanus),	**No**	**March**	**November to Mid December**	**Not Observed**
Scaup (Aythya spp.), and ring-necked ducks (Aythya collaris)	**No**	**March to April**	**November to Mid December**	**Not Observed**
Canada Geese	**No**	**March to May**	**October**	**Yes- flying**

Recreational Resources

11(a). Pages E-161-162 identify Hallets Cove as a recreational access site, under the jurisdiction of New York City Parks, that is located 200 meters from the proposed pilot project and directly across the east channel. It is not clear, in the affected environment section, whether or not the water access point at Hallets Cove includes cartop boat access, however, page E-165 notes that kayakers use the Hallets Cove beach and water access, and also notes that a storage facility for kayaks and canoes is proposed near Hallets Cove. In order to adequately characterize existing and future recreational use in the vicinity of the proposed pilot project, please consult with New York City Parks and characterize recreational use, including an estimate of the number and type of recreation users, at Hallets Cove.

Response:

Verdant sent a consultation request letter to Nate Grove of New York City Parks on February 11, 2009, in order to characterize recreational use in the vicinity of the RITE Project. Mr. Grove is familiar with the RITE Project and has participated in Verdant's Recreational Resource Study Group meetings in the past.

Verdant maintained email and phone correspondence with Mr. Grove as follow up to this letter. During this correspondence, Mr. Grove stated that Hallets Cove is a natural water access point, with parking and a beach but without an actual boat ramp for cars, therefore kayakers carry kayaks into the water. In the future there may be storage for kayaks at Hallets Cove, but there is no official date to build this storage space at this time. Mr. Grove stated that a kayak storage facility could lead to more kayakers at Hallets Cove in the future.

Mr. Grove directed Verdant to the NYC website, where there is a watertrail map that includes Hallets Cove, but had no information about the number of canoeists and kayakers that use Hallets Cove. Mr. Grove stated that Verdant should contact the Long Island City Community Boathouse and the Manhattan Island Foundation to further characterize the recreational use in the project region. Mr. Grove also asked Verdant to contact Joshua Laird in the Commissioner's Office of New York City Parks to obtain an official letter of consultation regarding the recreational use of the East River in the vicinity of the RITE Project. Verdant contacted Mr. Laird, who said he would send this letter with the requested information. Verdant Power has not received this letter as of this filing. Dated copies of correspondence with New York City Parks can be found in Appendix C.

As directed by Mr. Grove, Verdant contacted Morty Berger, founder of the Manhattan Island Foundation, to characterize recreational use in the vicinity of the RITE Project. The Manhattan Island Foundation sponsors swims around the New York City region. According to the Manhattan Island Foundation's website there

are no swims that go into the east channel of the East River and Mr. Berger did not mention any future use of the east channel of the East River by the Manhattan Island Foundation. He said he would also discuss this issue with his colleague, Carter Craft, and get back to Verdant. Verdant has not received further correspondence from Mr. Berger as of this filing. Dated copies of correspondence with the Manhattan Island Foundation can be found in Appendix C.

Verdant sent email messages to the Long Island City Community Boathouse (general mailbox and mailbox of founder Erik Baard) as directed by Mr. Grove, of NYC Parks, but has not received a response as of this filing. Erik Baard participated in Verdant's Recreational Resource meetings in 2007. Dated copies of correspondence to the Long Island City Community Boathouse can be found in Appendix C.

Recreational Resources

11(b). Page E-166 states that the proposed pilot project does not encroach on areas used by recreational boaters, nor restrict activities, particularly in regards to those using the nearby Hallets Cove. However, page E-166 also notes that kayakers using the Hallets Cove beach and water access may cross the channel to Roosevelt Island during the Long Island City (LIC) Community Boathouse's Paddle Days (Sundays 1 pm-5 pm). Because the project's exclusion zone is directly across the river from the beach, it seems likely that kayakers will need to redirect their routes north, towards the northern tip of the island, or almost a kilometer south in order to paddle along the shore (and out of the way of any boat traffic). Please address the effects of the project on the kayakers' recreational experience. In addition, describe the visual impacts of the proposed buoy system on kayakers and those using the Hallets Cove beach.

Response:

During the RITE Recreational Resource Study Group meeting in February 2007 it was stated that kayakers tend to hug the Queens side of the river and only "sometimes" cross the river to Roosevelt Island. As the RITE exclusion zone does not impact the Queens-side shoreline of the river, kayakers will still be able to hug that shoreline as it was stated they tend to do. For those periodic occasions when kayakers wanted to cross over to Roosevelt Island from Hallets Cove, they would still be able to do so directly from Hallets Cove. This is because, although the RITE project boundary extends close to the northern tip of Roosevelt Island and thus lies directly across from Hallets Cove, the turbine field (and exclusion zone) will end at the "bulge" of Roosevelt Island, which is actually south of Hallets Cove. Please see Exhibit F for the proposed turbine array and exclusion zone. Therefore a direct line for channel crossing will be available to kayakers at Hallets Cove.

Kayakers will also be able to cross the channel at a point south of the exclusion zone. For this, kayakers would hug the Queen's shoreline for approximately three fifths of a kilometer until they could cross the channel to Roosevelt Island near the Roosevelt Island Bridge.

Additionally, Verdant sent an email notification about the RITE Project with a link to download the Draft License Application to all who participated in the Recreational Resource Study Group and received no correspondence in return suggesting recreational use would be impacted negatively.

Verdant also attempted to collect more details about kayakers in the East River and in the vicinity of the RITE Project by contacting the Long Island City (LIC) Community Boathouse, though it had not received return correspondence as of this

filing.

As for visual impacts of the proposed buoy system on kayakers using the Hallets Cove beach, from Hallets Cove kayakers would be able to see approximately 1 of the 6 buoys required by the US Coast Guard for the RITE Project. The buoys would be white, a color which blends into the skyline, especially at a distance. At night, the buoy would appear lighted and stand about 3 feet above the waters surface, appearing very similar to a boat's light in the distance.

Recreational Resources

11(c). Page E-161, figure 5.3.6.1-1 shows recreational resources within the project area. The application notes that the LIC Community Boathouse is the closest boathouse to the project site, located about 560 meters away. In order to better understand effects of the project on boaters using this site, please identify the location of LIC Community Boat house on figure 5.3.6.1-1. If any boathouses maintained by the community kayak groups listed on page E-159 are within the scope of this map, please identify them as well.

Response:

Figure 5.3.6.1-1 in the Draft License Application had two "Water Access Points" labeled. The southern "Water Access Point" is the Long Island City Community Boathouse. The updated figure below contains this information. There are no other boathouses within the scope of the map. The revised version of the map can be found in Appendix B.

Navigation

12(a). Page E-169 states that the west channel of the East River is a commercial navigation channel and the passage along the channel known as Hell Gate is designated as the federal navigation channel. In figure 5.3.7.1-1 on page E-171, it appears that the area within the Coastguard Security Zone is labeled (shaded in white) as a federal navigation channel. Please clarify, within the text and clearly depicted on page E-171 (figure) where the federal navigation channel is located.

Response:
Verdant acknowledges that Figure 5.3.7.1 -1 on page E-171 reproduced poorly on both the electronic and printed version. We apologize for the confusion. We have revised the figure to more clearly indicate:

- The Federal Navigation Channel as grey hatching
- The U.S. Coast Guard Security Zone – previously shaded in white, is now shaded in red; and
- The NOAA Safety Zone, from navigation charts outlined in purple.

The Federal Navigation Channel does not overlap with the later two exclusion zones.

Verdant's project boundary for the Preliminary Permit for the West Channel field (Gray shading) does encroach on the Federal navigation Channel. We have made it clear in discussions with the US Coast Guard and the Harbor Operations committee that the preliminary permit boundary is necessarily larger for environmental and resource assessment study purposes than a planned Verdant engineered tidal energy project. These discussions are ongoing. The revised version of the map can be found in Appendix B.

Navigation

12(b). Page E-178 states that there would be some increased risk of navigation safety concerns during deployment and maintenance activities, but that these risks would be minimized through close coordination with the U.S. Coast Guard for all in-water activities. In order for us to analyze the effects of deployment and maintenance activities, please describe the activities surrounding deployment and maintenance (i.e., how long barges or other boats and equipment will be deployed to install each unit, the location of the barges and operations in regards to traffic through the east channel, a description of anticipated maintenance activities and their schedule), and how navigation and safety may be affected by these activities.

Response:
On page E-178; Verdant acknowledged that there was "***some increased risk*** of navigation safety concerns during deployment and maintenance activities" ***[emphasis added.]*** We mention this only because once the KHPS machines are installed – and Public Aids to navigation (PATONs) (buoys) are installed -- there is significantly lower surface risk. During the short construction period large surface vessels are present, though they are extremely well marked and a "Notice to Mariners' is issued, however this is an increased risk to navigation safety.

The following are planned activities surrounding deployment and maintenance as currently envisioned; although this construction sequence continues to evolve with Verdant's in-water experience and discussions with marine contractors.

<u>Triframe preparation:</u>
The tri-frame turbine mounting arrangement is designed specifically to minimize the time-on-site of deployment/retrieval vessels. Without the need to drill and set large, individual monopiles, it is anticipated that the in-water preparation time will be drastically reduced from one week per turbine to one to two days per trifame (3 turbines). At this writing we anticipate that the first on-site activity will be diver installation preparation work performed to anchor the turbine "tri-frames" to the river bottom. As the divers can only work during slack tides, one or more slack tides per tri-frame may be necessary to complete the task. One slack tide's usable duration for safe diving ranges from 45 minutes to 1 hour and 10 minutes depending on specific date. The vessel for this operation will likely be a work spud barge with sufficient space for personnel, tooling and life support equipment. A 80' by 40' barge is anticipated. Work performed will be installing anchors on the river bottom to later attach and secure the turbine tri-frame. Early estimates for on-site duration are 2-6 hours, assuming a maximum of four slack tides per set of tri-frame anchors will be needed. The dive vessel will be located within the requested turbine array area of 165' width referencing 12(b), E-176. Typically, during the RITE demonstration, the slacks used were during or near daylight, with

two slacks usually used per day, and three and four slacks on relatively rare occasion.

All work vessels are normally within the requested turbine array area during work, and outside it only during transit to and from the site. Only if a jack-up barge is used will it stay on site during non-slack periods. In such case, the barge is extremely well seen by mariners and well lit at night.

Triframe/KHPS Turbine installation

The turbine tri-frame installation will require loading of a tri-frame from staging area, yet to be determined, onto a crane barge and transit to the site by one or two tugs. At the pilot site location, the tri-frame will be lowered from the barge and placed in location during a slack tide. Divers will be in water as the turbine frame is submerged and will deploy from same work barge or a separate vessel if safety requires. Once the tri-frame is in place, the securing of the tri-frame will involve a least two divers. The power cables will remain coiled on the work barge as the tri-frame is lowered in to place. With anchors already in place as described above, the entire three-turbine frame should be installed in a single slack, with a contingent slack for further fastening. The rotors will not be released until the tri-frame anchoring is complete.

Cable Installation, Commissioning and PATON installation

For the field of 30; we anticipate that the power cable will be laid by a support vessel for 6 turbines; (2 triframes) connected to a Vault during a subsequent slack tide for efficiency. At some point, after the cable is laid by the small vessel, divers from shore will walk and check the cable length and weight the cable. Only after all the turbines are secured, cabling connected, and divers safety assured, will the turbines be released to rotate and officially commissioned in turn. As successfully implemented during the RITE Demonstration as any work vessels which were effectively serving as PATONs depart the site, the deployment of the USCG-approved PATONs system will be installed protecting the turbine array and providing navigation safety in the East Channel.

Through 3-years of observation, and the fact that that the west channel serves as the main federal navigation channel, there is little traffic in the East Channel, and this little traffic consists mostly of small recreational boats. Under conditions of high traffic, or larger commercial traffic due to the US Coast Guard enforced closing of the West Chanel, turbine deployment and maintenance operations can be coordinated as necessary.

At this time, Verdant anticipates maintenance operations to be of a similar – but shortened timeframe, since turbine replacement will be ‘retrieve and replace’; we do not plan any turbine servicing to be “on-water.” We anticipate similar periods

of work vessels onsite for turbine or frame removal and replacement. The retrieval process will require a two or three slack diver preparation operation for the cable and turbine securing; followed by a one or two slack frame and/or turbine lifting operation. Turbine and/or frame replacement will follow the next slack with cables secured and KHPS re-commissioned. This construction and maintenance sequence is currently under continual improvement review and consideration based on the next iteration of the KHPS technology (Gen 5) and other in-water demonstration projects being conducted by Verdant.

Navigation

12(c). Page E-174 states that Verdant formed a Navigation and Security workgroup to discuss the project proposal. This group included the U.S. Coast Guard, Keyspan, Sandy Hook Pilots, Moran Towing, NYC Planning, Hudson River Coalition, Maritime Association, and other navigational stakeholders. Page E-177 states that Verdant believes the pilot project proposal and plans are consistent with the concerns of this workgroup and has confined the RITE East Channel buildout project boundary to the proposed area under the general advice of the U.S. Coast Guard in March 2007.

However, six entities filed comments on the draft application with concerns regarding restrictions to commercial navigation (primarily tug boats and barges). All six oppose channel restrictions in the west channel. Donjon Marine Company, Inc., in a letter filed January 13, 2009, opposes any restriction to the current channel limits within the project area because of anticipated difficulties with navigation and threats to safety. It is not clear whether this opposition is in regards to the proposed east channel pilot project, or a potential future proposal in the west channel. In addition, the United Marine Division of the International Longshoremen's Association, in a letter filed January 12, 2009, states that it is less concerned with navigational restrictions in the east channel as compared to its strong opposition to development in the west channel; however, it states that restrictions in the east channel still warrant further consideration. The United Marine Division therefore requests a tug-and-barge industry meeting to allow for more discussion.

Although Verdant included a large group of stakeholders in the Navigation and Security study group (see January 22 and March 1, 2007 meeting summaries, Volume I), it appears that certain tug boat and barge operators may not have participated. Please consult with the United Marine Division, the Donjon Marine Company, and the US Coast Guard, and provide additional discussion that addresses any previously unforeseen concerns about the project's effects on commercial navigation in the east channel.

Response:
As a result of the January 2009 comments, Verdant participated in a US Coast Guard Harbor Operations Committee meeting on January 21, 2009 to present an update about the proposed pilot project in the east channel of the East River and to clarify the pilot's distinction from the proposed development in the west channel of the East River, for which FERC recently granted a preliminary permit. At this meeting it was clearly stated that the near-term focus was the approval of the East Channel Pilot location and that Verdant's proposal for the West Channel would be

further developed and presented later in 2009 to the Harbor Operations Committee.

To specifically address and clarify DonJon Marine Company, Inc. and United Marine Division International Longshoremen's Association, Local 333's concerns, on February 11th, 2009, Verdant sent a letter suggesting that a meeting be held at Verdant Power office to further discuss navigation in the east channel of the East River. The letter was sent to the following parties:

- Chief Waterways Oversight Branch, USCG
- Waterways Management Coordinator, USCG
- DonJon Marine Company, Inc.
- United Marine Division International Longshoremen's Association, Local 333

After phone conversations about Verdant's proposed meeting, United Marine Division, Local 333 decided that it would send a letter to FERC stating that it had no objections to the RITE Project in the East Channel but that it would want to be part of discussions about the project in the west channel. The letter to this effect was sent to FERC on March 5, 2009 and posted to the RITE project docket on March 19, 2009. DonJon Marine was not able to attend Verdant's proposed meeting and representatives from the company stated it would rather send correspondence to FERC to clarify its comments on the project in lieu of attending a meeting. This correspondence had not be received by Verdant or posted on the FERC docket as of this filing. Because both entities mentioned in Additional Information Request 12c declined attendance at the proposed meeting and instead opted for other courses of action, the suggested meeting was cancelled.

Bird Monitoring Plan

13(a). Section 2.3, page 17 of the bird monitoring plan notes that fall migration of multiple avian species may peak in September, October, and November through mid- December. However, Table 2.3-1 listing proposed bird monitoring periods indicates monitoring will be conducted only during October and November. Please include in your bird monitoring plan observation days in September through December to adequately record avian presence and use in and around the project area.

Response:

The bird monitoring plan proposed on pages 17-18 of the RITE Proposed Monitoring Plans has a typo in Table 2.3-1 and should be summed up as the following:

- Intense post 30- field deployment observation; and
- A total of 8 days, 4 in the Spring (2 days per month April/May) and 4 in the Fall (2 days per month October/November) of observation of the operating Pilot field.

Verdant proposes to add 2 observation days in September, monitoring a total of 10 days, 4 total days in the spring and 6 total days on the fall. No monitoring is propose din December due to the limited number of birds observed in December during the RITE Demonstration project (see Figures 5.3.4.1-a and 5.3.4.1-b in Additional Information Request Response 10b).

Due to the highly variable nature of bird migration and transit, Verdant does not see the value of additional observation of migration patterns – as it directly relates to the operation of a field of KHPS turbines. However, Verdant is open to different monitoring only if it is observed in the first observation that avian reaction to the 30 KHPS turbine field is different than that observed during the demonstration.

Bird Monitoring Plan

13(b). Figure 5.3.4.1-2 on page E-136 showing the bird observation study viewshed, only covers the southern ¼ portion of the project boundary. Bird observations should be conducted for the entire area within the project boundary. The bird monitoring plan has no discussion of proposed locations for future bird observations. Please revise the bird monitoring plan to include locations and methods for monitoring the entire project boundary within the observation area.

Response:

As noted on page 18 of Verdant Proposed Monitoring Plans, it is proposed that two birders will likely be needed to cover the full 30 KHPS turbine field. One birder will be stationed at the "bulge" of Roosevelt Island and one birder will be stationed at the southern end of the turbine field. This would allow complete coverage of the project area. The Figure 2.3-a shows the viewshed that will be covered by birding during the RITE Project. Figure 2.3-a can be found in Appendix B.

Verdant cautions that the view north of the actual developed RITE KHPS boundary is complicated due to the influence of Hallets Cove (and presence of human feeding and activity due to a park/ shoreline landing) and at the confluence of the east and west channels at the northern tip of Roosevelt Island. The focus of the Bird observation is to observe on flood and ebb any increased activity due to the presence of the pilot, and will have to be careful to exclude other human activities.

Project Economics

14. Page E-199 lists estimated component and construction costs and page E-200 notes estimated annual operation and maintenance costs excluding the cost to implement post-licensing environmental monitoring and public safeguard plans. In order to complete the complete the economic analysis of the proposed project, please provide: (1) - the estimated annual cost to implement proposed monitoring and safeguard plans; and (2) - the regional value of alternative power in 2009$/megawatt-hour.

Response:

(1) The estimated annual cost to implement proposed monitoring and safeguard plans: $390,000/year

The estimated annual cost to implement the proposed monitoring and safeguard plans for the RITE East Channel Pilot is $390,000/year, and requires a one-time capital cost of $330,000 for initial installation. This figure is broken down into further detail, including capital costs, annual costs and overall costs for the life of the pilot, in Volume 2 of the Draft License Application, "Roosevelt Island Tidal Energy Project Proposed Monitoring Plans," (immediately following Exhibit G), page 2, Table 1-1, Summary of RITE East Channel Proposed Monitoring Plans.

(2) The regional value of alternative power in 2009$/megawatt-hour:

The value of alternative power in the New York City region varies by the type of alternative power being provided. Verdant Power has estimated the value of the tidal power that would be generated at the RITE East Channel Pilot by taking the following specific value components into account:

Table 5.3.11.2-a. Values of alternative energy in NYC

Source	Amount
New York City Wholesale Price of Electricity (Average for Week of 2/15/09, $ .0549/kWh)[2]	$ 54.90/MWh
Renewable Energy Certificate	$ 82.50/MWh
Total	**$ 137.40/MWh**

[2] New York Independent System Operator (NYISO) Wholesale Electric Market Report Week ending Saturday, 21 February 2009. Pricing for Wholesale Electricity. These prices are for the Day-ahead Market, which covers approximately 95% of the NYISO's wholesale electricity market.

For the "Renewable Energy Certificate" figure included in this estimate, Verdant Power has used a blended amount based on the average values of renewable energy certificates provided to Tier 1 and Tier 2 participants in New York State's Renewable Portfolio Standard (RPS) program ($15/MWh and $150/MWh respectively[3]). While "tidal turbines" are currently categorized as a Tier 1 generation type in New York State, Verdant Power feels that a case could be made that the small installation size of the East Channel Pilot (1 MW) could qualify it for Tier 2 support, which is intended for "facilities that are not economically competitive with Main Tier technologies." Tier 2 generation types currently include small wind turbines and solar photovoltaics, among other sources. Verdant Power will work with the New York State Energy Research and Development Authority (NYSERDA), which administers the NYS RPS program, as well as the New York Public Service Commission, to determine the appropriate role for the RITE East Channel Pilot in the NYS RPS program.

Additionally, any economic analysis of the RITE East Channel Pilot must take into account that the KHPS technology and the RITE project are unprecedented and thus the capital costs associated with this preliminary installation are not indicative of future and larger-scale installations and projects. The capital costs included in the Verdant Power Draft License application are premised on the RITE project being the world's first installation, thus benefiting from few economies of scale. In addition there are significant fixed costs, regardless of the relatively small size of the installation, for the groundbreaking environmental, regulatory and manufacturing technology advances required by the project. In fact, the permitting and environmental costs associated with the RITE Project have far exceeded the fabrication and installation costs of the underlying system.

In order to help manage these early project capital costs, Verdant Power has been working to build a coalition of public and private partners to participate in a capital buy-down subsidy.

The Company will also seek to take part in the tax credit/cash grant programs included in the recently-signed Economic Stimulus package, which allow for up to 30% of marine energy project costs to be recouped if specific installation and service deadlines are met. Currently, the RITE Project is on track to meet these installation and service deadlines.

[3] Estimated Value of Compliance REC Markets Through 2010, New York; *Emerging Markets for Renewable Energy Certificates*, National Renewable Energy Laboratory; January 2005

Supporting Design Assessment

15. Page A-4 notes that the turbines will be anchored to the riverbed via a tri-frame support base using a gravity-based method without the need for drilling into the riverbed. Page 9 of the supporting design assessment notes that resistance to translational loads will be further provided by pinning to the river bottom, as required. We are unclear on the method you propose to use to anchor the tri-frame supports. Therefore, please provide a detailed description of the material and method proposed to anchor each tri-frame support to the riverbed. If the frame supports would rely only on the mass of the footings on the riverbed, a sliding stability analysis should be included in the supporting design assessment in addition to an overturning analysis that considers ice and debris loading. Finally, you must provide exhibit F drawings that clearly show the details of any proposed anchoring system or pinning to the river bottom.

Response:

Located in CEII Protected Responses.

Exhibit G Drawing

16. The exhibit G drawing shows the location of proposed project facilities including 10 tri-frames, 5 shoreline switchgear vaults, and the control room enclosed within a project boundary. The exhibit G also labels three New York State Plane reference points. However, the exhibit G drawing does not show and label: (1) all project underwater electrical cables connecting the tri-frames with the switchgear vaults; (2) transmission line(s) to the point of interconnection with the regional grid within the project boundary; and (3) be stamped by a registered land surveyor.

Response:

Verdant attaches in Appendix B as supplemental information an updated sketch Exhibit G which shows:

1) the project underwater electrical cables
2) the project proposed underground transmission interconnections.

This sketch supplements the Exhibit G. Verdant will provide a revised Exhibit G with the filing of the Final License Application. A stamped registered land survey wil be conducted as part of the post license requirements .

Public Safety Plan - Emergency Shutdown Plan

17(a). The public safety plan notes that project shut down would involve deploying slings to stop the rotor blades within 24-hours during slack tide, and in case of a real-time emergency, deploying large fishing nets to foul and stop the rotor blades. The plan also notes that the details of the plan and the procedures used for deploying slings and nets would be the subject of a post license plan. In order to better understand the process for implementing the public safety plan now, please describe: (1) how the project will be monitored to determine if there is an emergency; (2) procedures that will be taken during an emergency; (3) procedures for reporting the emergency to local, state, and federal agencies; (4) a plan for annually testing of emergency equipment; and (5) a plan for annually coordinating with response agencies. Because this plan is an expansion of safeguard requirements that Verdant developed and enforced for nearly two years during the course of the RITE (6-unit) demonstration project, the plan should describe any emergency situations that occurred during the demonstration and how they were reported and addressed.

Response

Located in CEII Protected Responses.

Public Safety Plan - Emergency Shutdown Plan

17(b). The public safety plan notes that daytime 7-day video surveillance would cover 100% of the (above-water) pilot project field, but would only be used for after-the-fact observations. Real-time monitoring of an emergency would be confined to an alarming of individual turbine operation through a remote data acquisition system. The plan notes that "a multiple unit failure alarm would indicate a potential developing failure or emergency - warranting dispatch of the project technicians to the site." Please clarify whether any conceivable emergency, such as impacts from water craft, people, or wildlife on just one turbine, would cause the multiple unit alarm to activate. Also, what would be the response time of a technician to verify a problem when an alarm activates? Will cameras be remotely accessed to verify if a water craft, person, or wildlife caused a disruption to the turbine?

Response:

Located in CEII Protected Responses.

Removal and Site Restoration Plan

18. The removal and site restoration plan notes that complete project removal and site restoration would take 4 to 6 months to complete. In order to better understand the details for implementing the plan, please describe the steps and procedures that would be used to remove all land-based electrical cables and transmission line(s), and provisions to monitor any potential effects of sediment during project removal activities.

Response:

As described in AIR 2a and 2b and noted on Exhibit G-1A (Sketch) the land-based electrical cables and underground transmission lines associated with the RITE project are minimal and are located in an urban setting. Should the Commission order the removal of the pilot project, the land based electrical cables (located in the existing steam tunnel) extending from the 5 Vaults to the Control Room and the interconnection to the underground transmission at Vault B would be electrically disconnected and likely abandoned in-place; as a common procedure for underground construction. Should the cables require removal; no land-based sediment disruption is anticipated since all surrounding area is riprap; concrete or macadam.

Navigation Safety Plan

19. During the RITE (6-unit) demonstration project, the exclusion zone was monitored by daytime 7-day surveillance video. The proposed navigation safety plan notes that video surveillance recorded an instance of a high-speed encroachment by a private motor craft, which caused one of the buoys to break loose. In order to better understand the effects of the exclusion zone and navigational safety on boating in the east channel, please report all other instances of exclusion zone encroachment that were recorded during the demonstration project.

Response:

Located in CEII Protected Responses.

APPENDIX A:

Documentation of Newspaper Notices

New York County

downtown express

Affidavit of Publication

State of New York, County of New York.

The undersigned is the publisher of Downtown Express, a weekly newspaper published in New York, New York. A notice regarding **Verdant Power – Submittal of a Draft Pilot License Application to the FERC** (name of company) was published in said newspaper once in each week for **TWO** successive week(s), commencing on **11/21/08** and ending on **11/28/08**.

The text of the notice as published in said newspaper is as set forth below, or in the annexed exhibit. This newspaper has been designated by the Clerk of New York County for this purpose.

John W. Sutter, Publisher

By: Cynthia Soto, authorized designee of the Publisher

Subscribed and sworn to before me this

November 29, 2008.

Cheryl R. Williamson

CHERYL R. WILLIAMSON
Notary Public, State of New York
No. 01WI6200033
Qualified in Kings County
Commission Expires January 26, 2013

145 Sixth Avenue, New York, N.Y. 10013 - (212) 229-1890

downtown express November 21 - 27, 2008

Verdant Power, through its affiliate East River Tidal Company LLC, hereby gives notice of its submittal of a Draft Pilot License Application on or about November 25, 2008 to the Federal Energy Regulatory Commission (FERC). This Draft Pilot License Application is to commercially develop a 1 MW hydrokinetic pilot project in a phased approach to developing the Roosevelt Island Tidal Energy (RITE) Project (FERC No. 12611). The RITE Project is located in the East River in New York, NY and is comprised of axial-flow turbines installed underwater to generate clean renewable energy from tidal currents.

Verdant Power invites resource agencies, Indian tribes, and all members of the public to submit written comments regarding this Draft Pilot License Application to the Office of the Secretary, Federal Energy Regulatory Commission, 888 First St., NE, Washington, D.C. 20426. Comments are due 45 days after the submittal date.

A copy of the Draft Pilot License Application can be obtained at www.theriteproject.com, or at www.ferc.gov/docs-filing/elibrary.asp. The Draft Pilot License Application is also available for inspection by request at the corporate address of East River Tidal Company LLC, c/o Verdant Power Inc, 888 Main Street, New York, NY 10044, or by email request at info@verdantpower.com.

Roosevelt Island Publication

Verdant Power, through its affiliate East River Tidal Company LLC, hereby gives notice of its submittal of a Draft Pilot License Application on or about November 25, 2008 to the Federal Energy Regulatory Commission (FERC). This Draft Pilot License Application is to commercially develop a 1 MW hydrokinetic pilot project in a phased approach to developing the Roosevelt Island Tidal Energy (RITE) Project (FERC No. 12611). The RITE Project is located in the East River in New York, NY and is comprised of axial-flow turbines installed underwater to generate clean renewable energy from tidal currents.

Verdant Power invites resource agencies, Indian tribes, and all members of the public to submit written comments regarding this Draft Pilot License Application to the Office of the Secretary, Federal Energy Regulatory Commission, 888 First St., NE, Washington, D.C. 20426. Comments are due 45 days after the submittal date.

A copy of the Draft Pilot License Application can be obtained at www.theriteproject.com, or at www.ferc.gov/docs-filing/elibrary.asp. The Draft Pilot License Application is also available for inspection by request at the corporate address of East River Tidal Company LLC, c/o Verdant Power Inc, 888 Main Street, New York, NY 10044, or by email request at info@verdantpower.com.

Queens County

Queens Chronicle
Queens' Largest Weekly Community Newspaper Group

62-33 Woodhaven Boulevard
P.O. Box 74-7769
Rego Park, NY 11374-7769
(718) 205-8000 Ext 1111 • Fax: (718) 205-1957

PROOF OF PUBLICATION

PUBLIC NOTICE

STATE OF NEW YORK COUNTY OF QUEENS

Mark Weidler of The Queens Chronicle being duly sworn, says that (s)he is the publisher of the Queens Chronicle, a weekly newspaper printed every Thursday in the City of New York, County of Queens, and that the notice of which the annexed is a true copy, has been Published in said newspaper for one week commencing on November 20th,2008

Verdant Power, through its affilate East River Tidal Company LLC gives notice of submittal of a Draft Pilot License Application on November 25, 2008 to Federal Energy Regalatory Commission

INSERT DATES: Thursday, November 20th, 2008

(signed) .....

Sworn before me this 23rd **day of** December **2008.**

MICHAEL E. MONTANEZ
Notary Public, State of New York
No. 01MO6144231
Qualified in Nassau County
Commission Expires April 24, 2010

QUEENS CHRONICLE, Thursday, November 20, 2008 Page 12

Verdant Power, through its affiliate East River Tidal Company LLC, hereby gives notice of its submittal of a Draft Pilot License Application on or about November 25, 2008 to the Federal Energy Regulatory Commission (FERC). This Draft Pilot License Application is to commercially develop a 1 MW hydrokinetic pilot project in a phased approach to developing the Roosevelt Island Tidal Energy (RITE) Project (FERC No. 12611). The RITE Project is located in the East River in New York, NY and is comprised of axial-flow turbines installed underwater to generate clean renewable energy from tidal currents.

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VEPO-043936

APPENDIX B

Supplemental Figures

List of Figures

AIR	Figure	DLA Page Number	Location in AIR Response
8e	**(Revised)** Figure 5.3.2.3-1. Location of video surveys	E-78	Appendix B
9d	**(Revised)** Figure 5.3.3.2-1 RITE Hydroacoutics: June 2007-December 2008 – all targets	E-102	Appendix B
9d	Figure 5.3.3.2-a. RITE Hydroacoustics: June 2007-December 2007		Appendix B
9d	Figure 5.3.3.3-b. RITE Hydroacoustics: January 2008-May 2008		Appendix B
9d	Figure 5.3.3.3-c. RITE Hydroacoustics: June 2008-December-2008		Appendix B
10b	**(Revised)** Figure 5.3.4.1-2. Bird Distribution from observations	E-139	Text
10b	Figure 5.3.4.1-a. RITE Demonstration Project bird data by month		Text
10b	Figure 5.3.4.1-b. RITE Demonstration Project bird data by month normalized over 5 hours		Text
11c	**(Revised)** Figure 5.3.6.1-1. Recreational resources with RITE project area	E-161	Appendix B
12a	**(Revised)** Figure 5.3.7.1-1. Navigation zones near the RITE Project	E-171	Appendix B
13b	Figure 2.3-a. Bird monitoring viewshed		Appendix B
16	**(Revised)** Exhibit G-1A sketch	Exhibit G	Appendix B

List of Tables

Figure 5.3.2.3-1. Location of video surveys

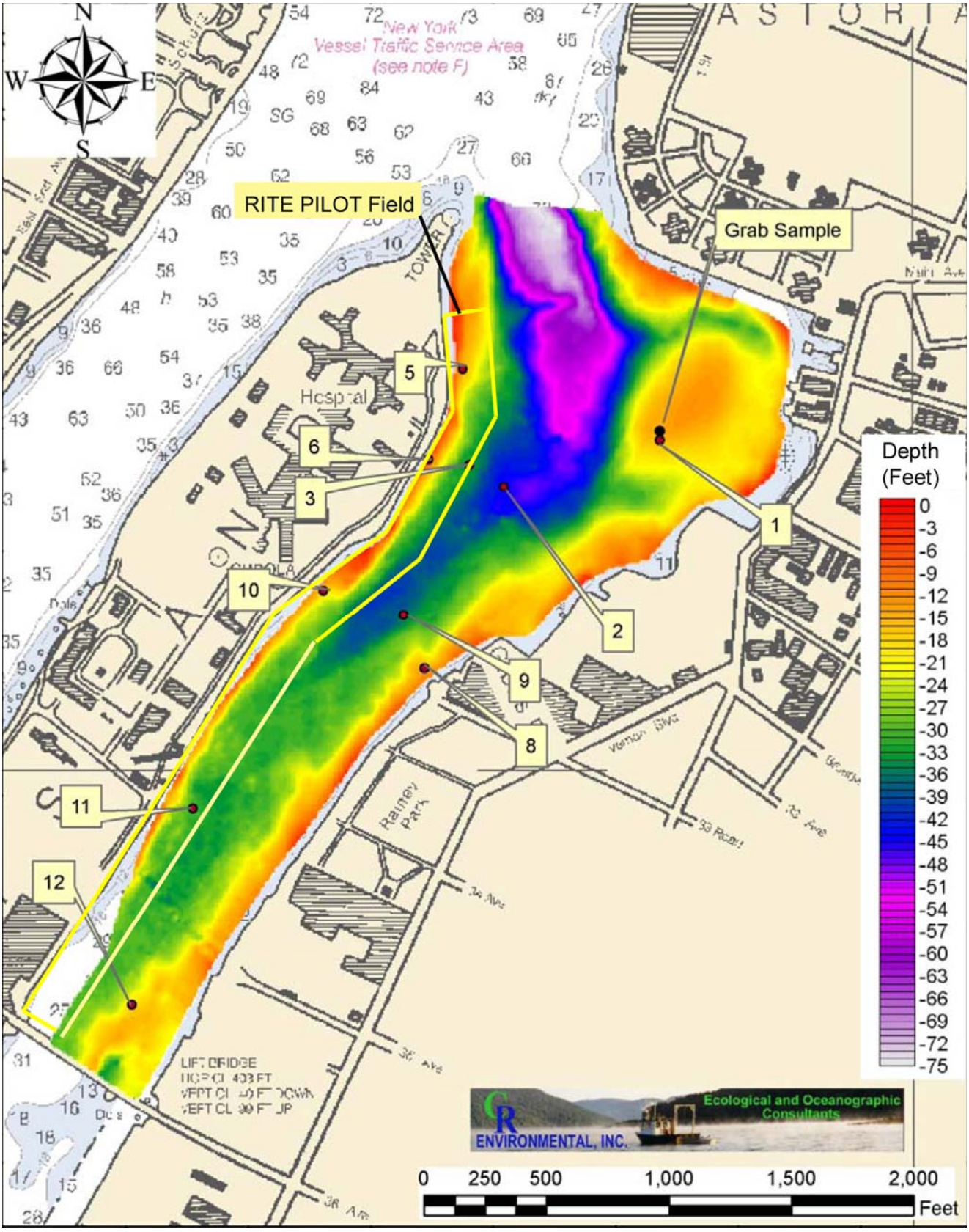


Figure 5.3.3.2-1 RITE Hydroacoutics: June 2007-December 2008 – all targets

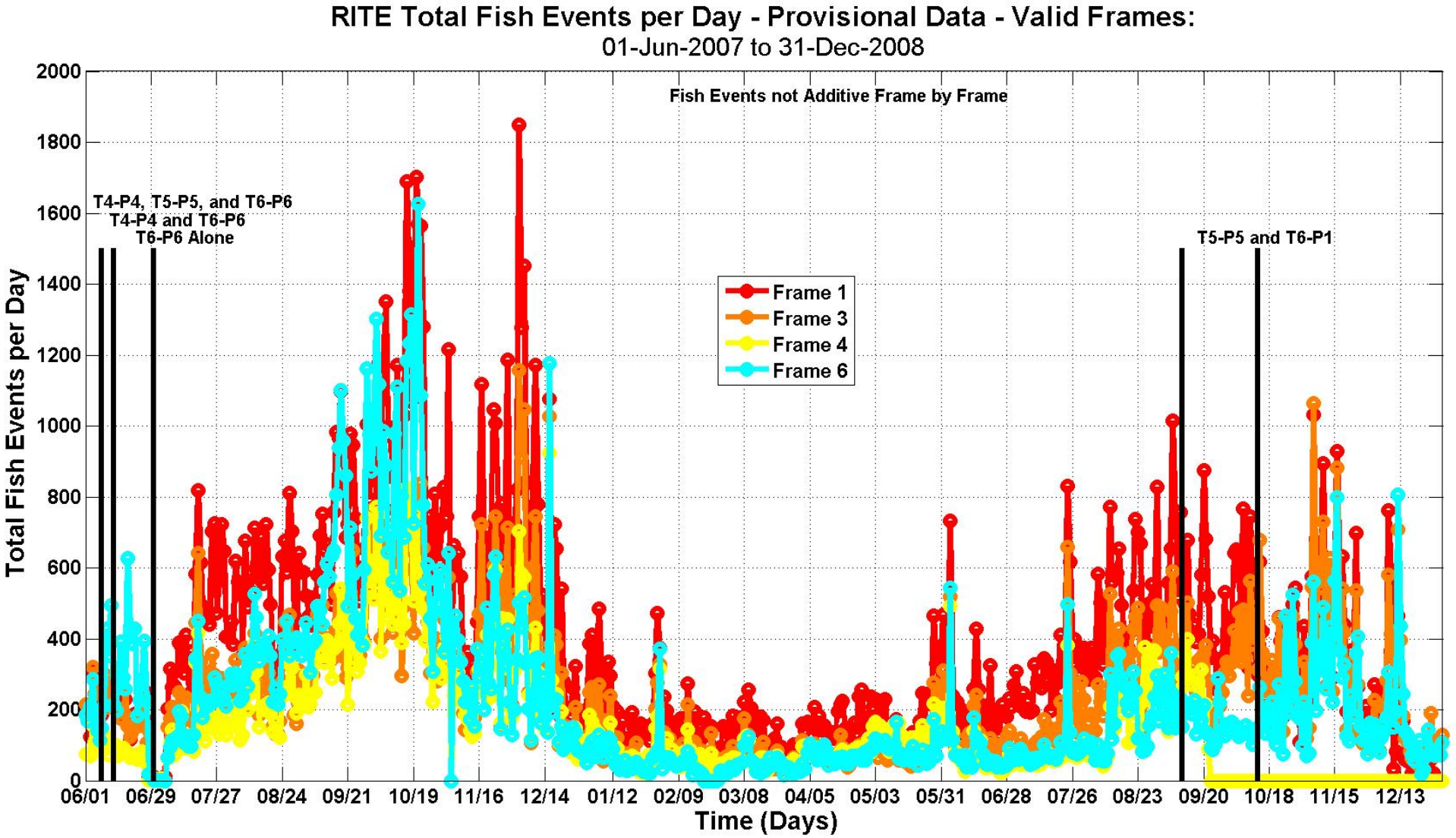


Figure 5.3.3.2-a. RITE Hydroacoustics: June 2007-December 2007

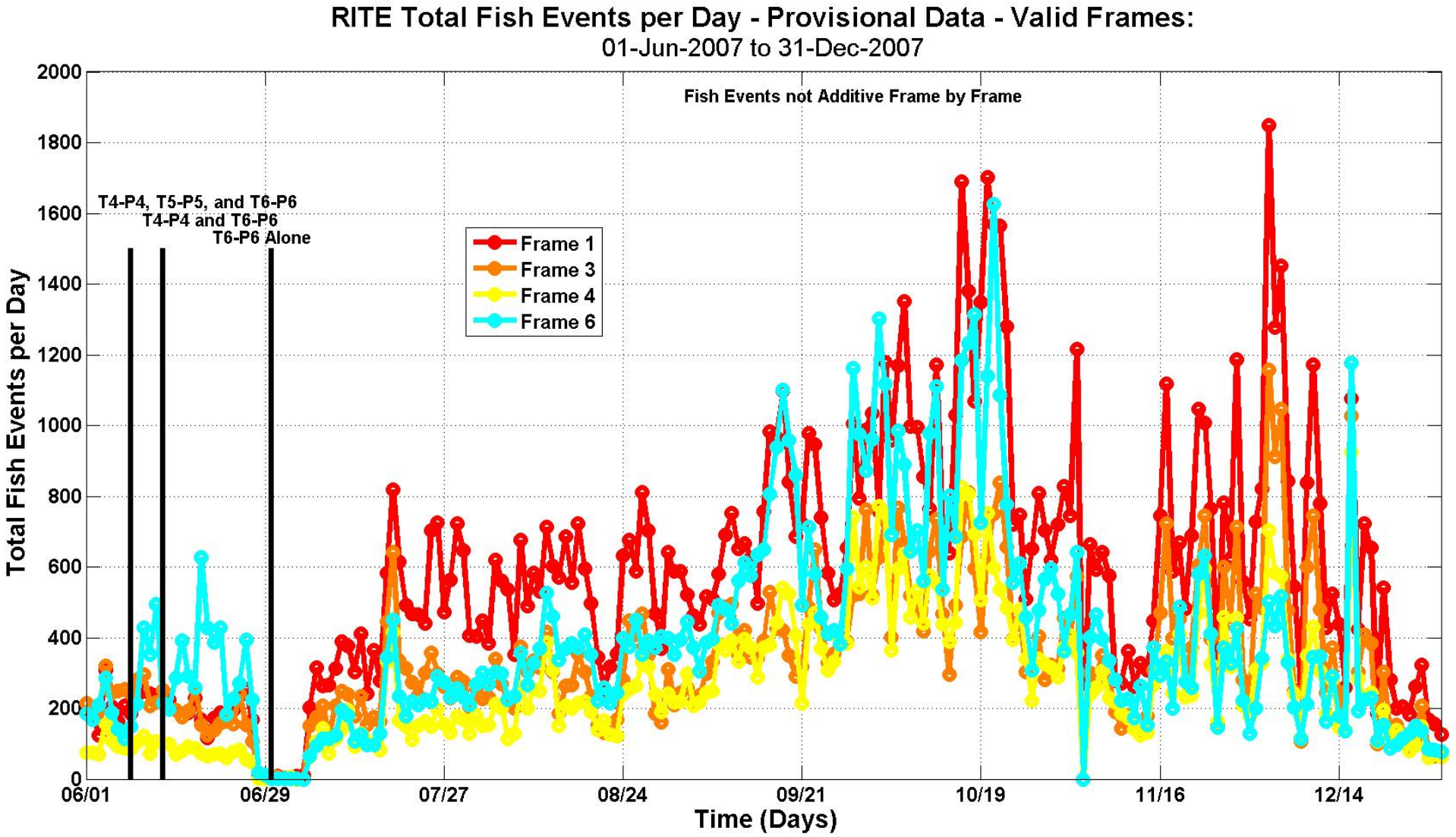


Figure 5.3.3.3-b. RITE Hydroacoustics: January 2008-May 2008

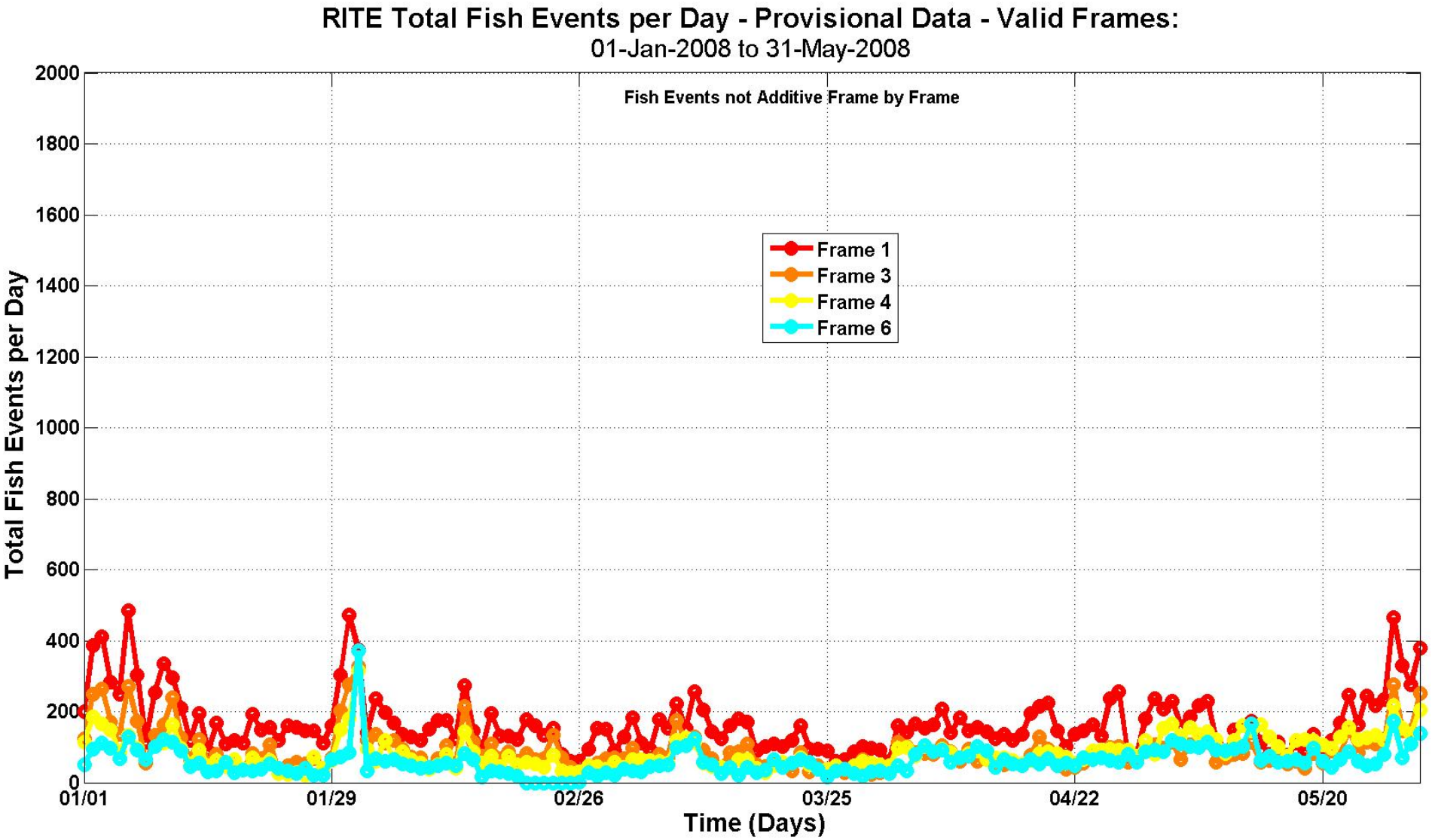


Figure 5.3.3.3-c. RITE Hydroacoustics: June 2008-December-2008

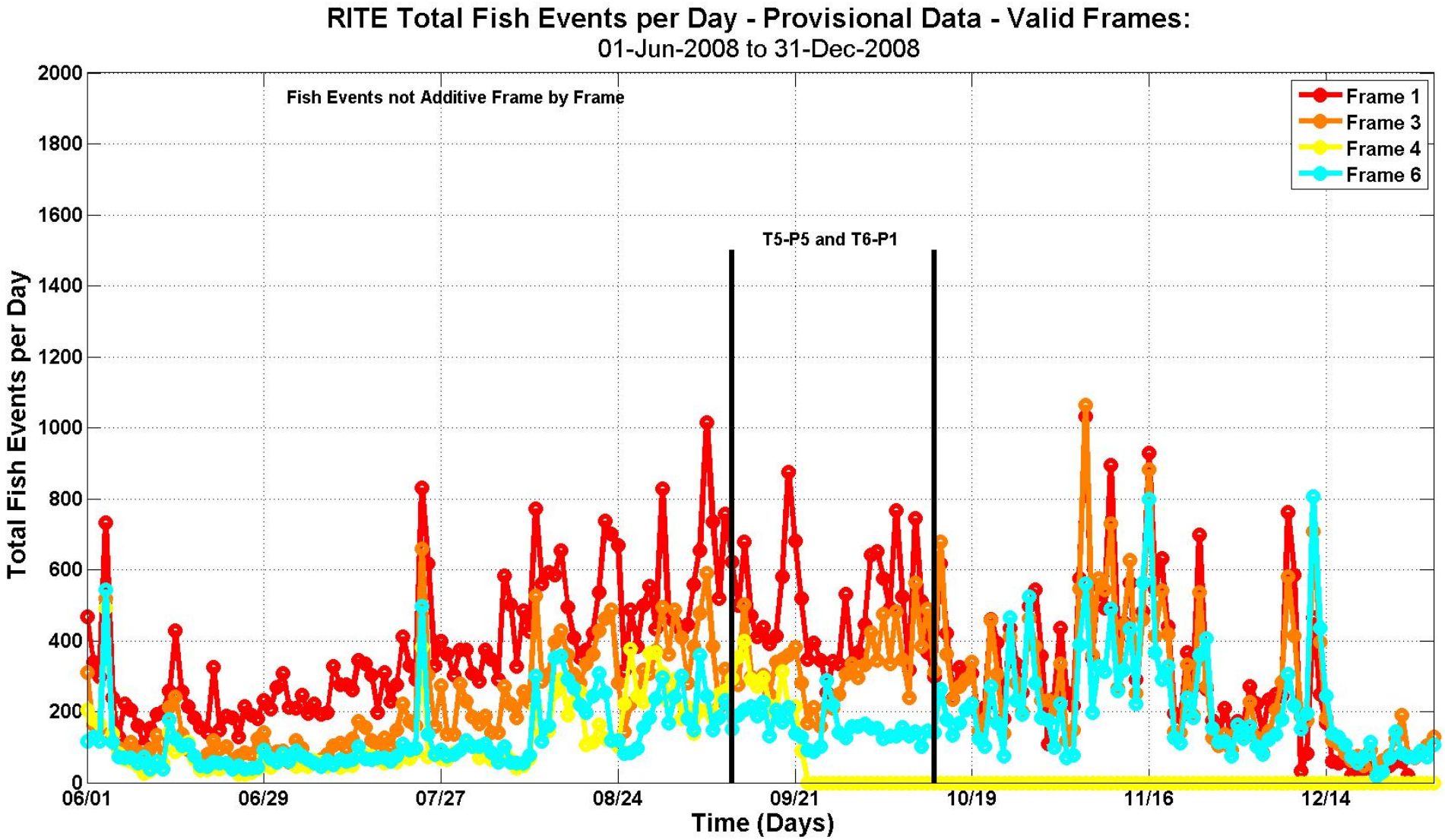


Figure 5.3.6.1-1. Recreational resources with RITE project area

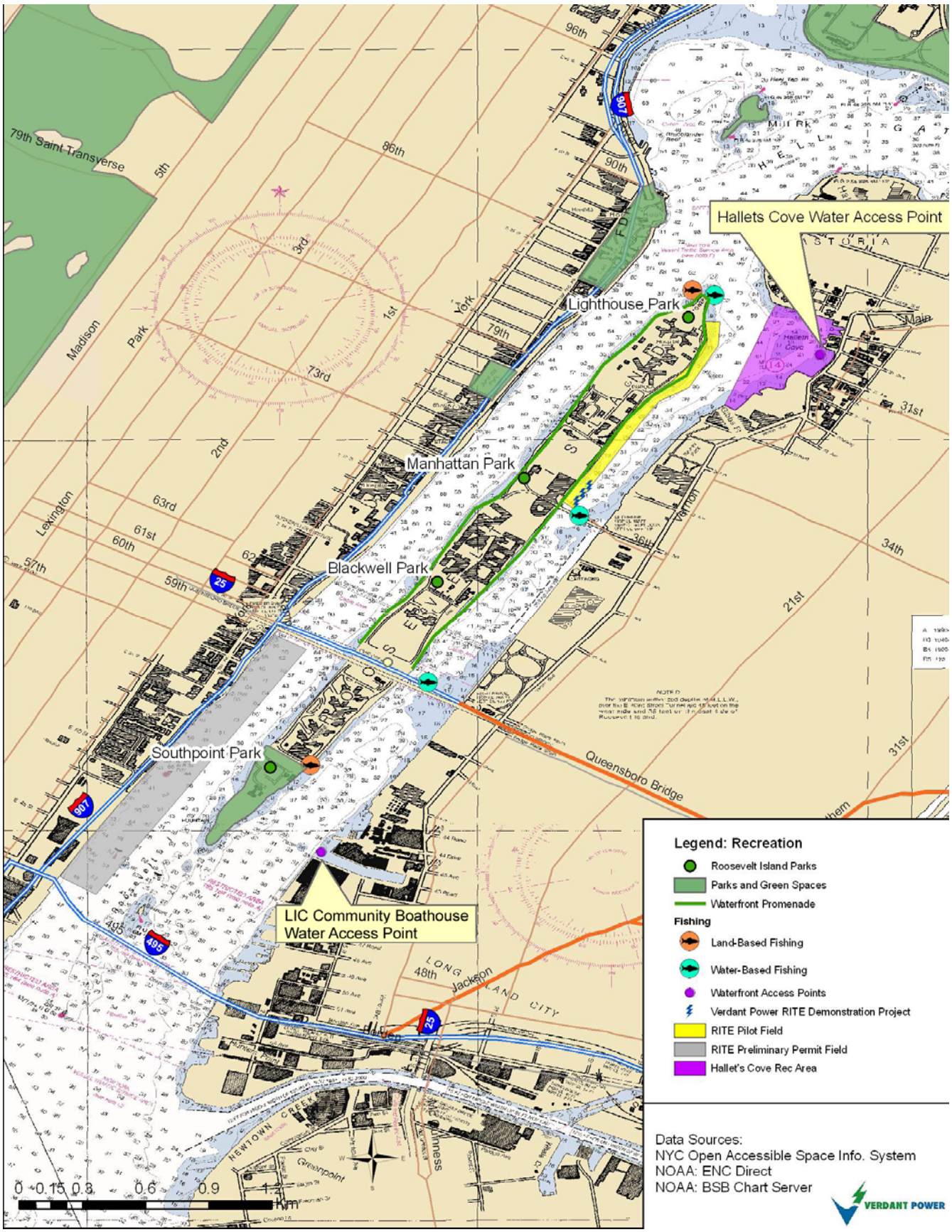


Figure 5.3.7.1-1. Navigation zones near the RITE Project

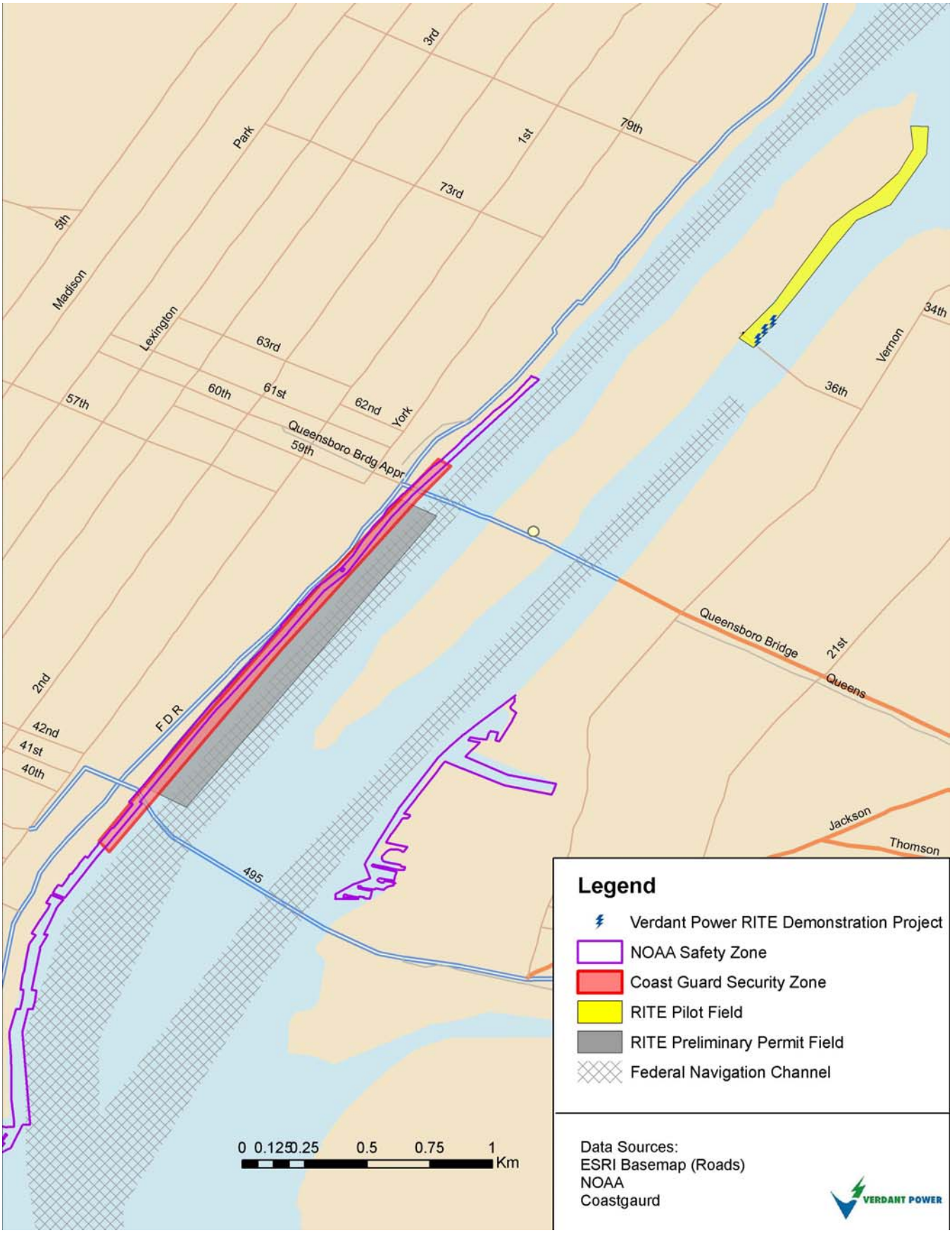


Figure 2.3-a. Bird monitoring viewshed

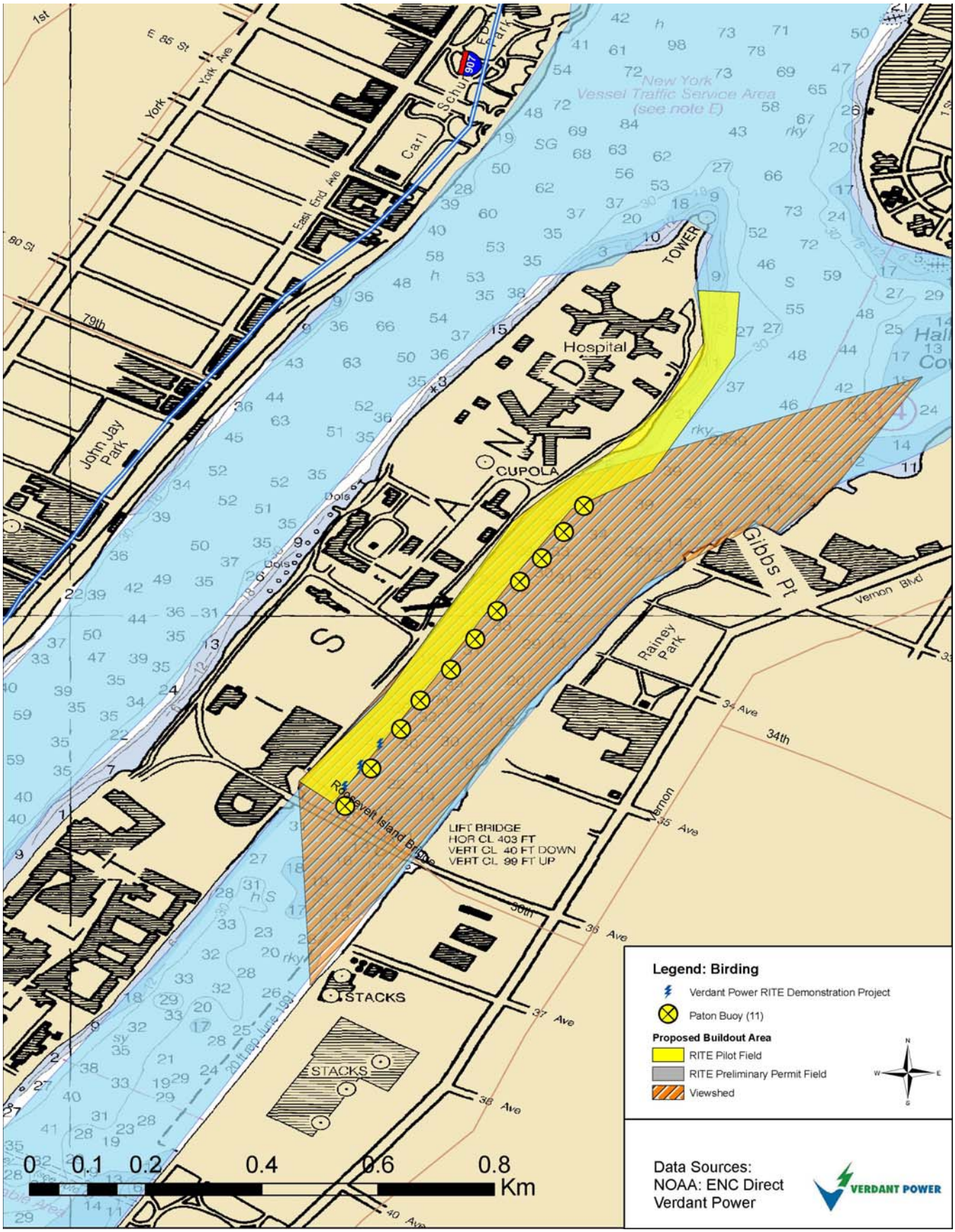
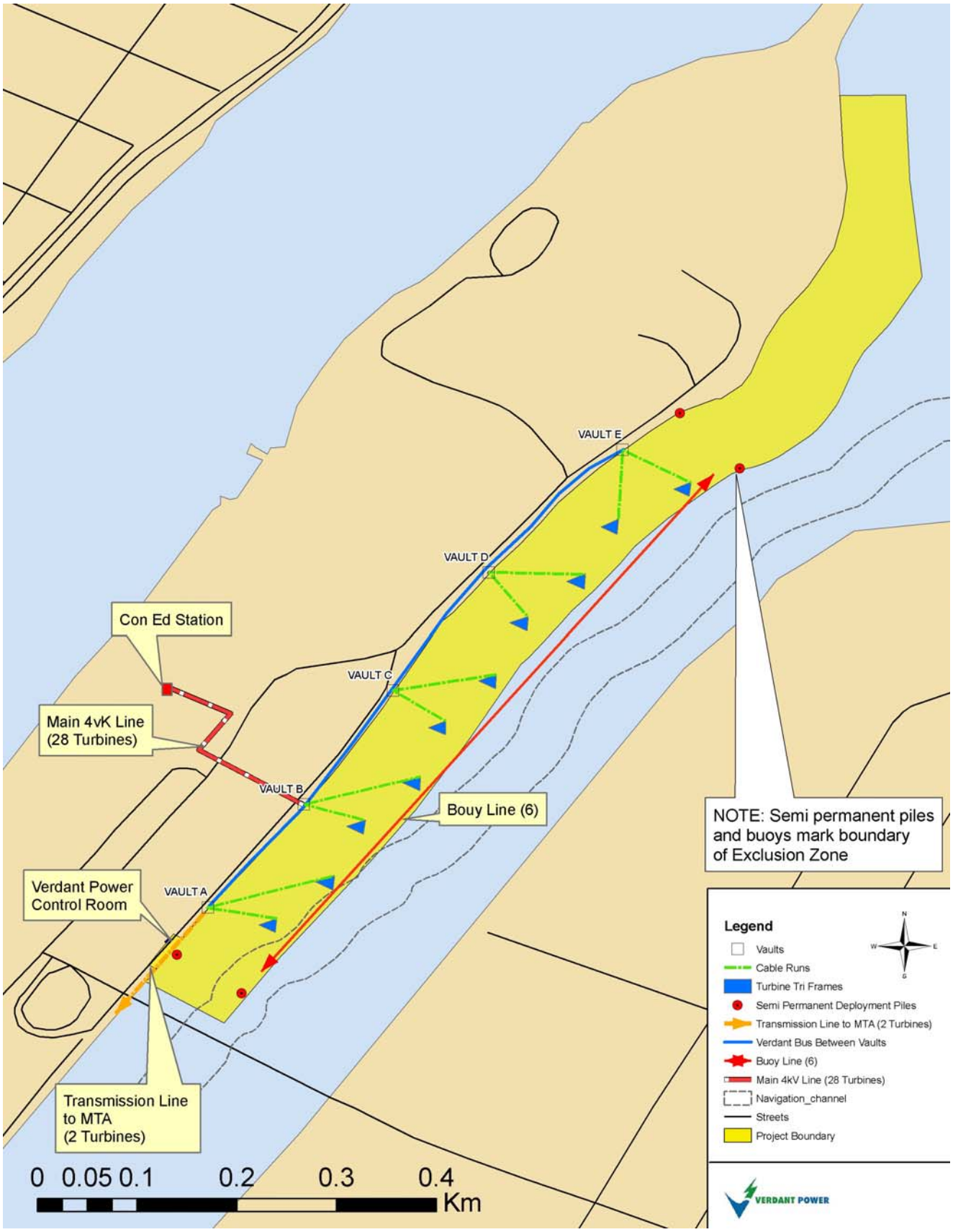


Exhibit G-1A sketch



Appendix C:

Consultation Record

1) Recreational Resources – AIR 11(a)

a. Consultation with NYC Parks

In Additional Information Request 11(a), FERC directed Verdant to consult with NYC Parks to characterize recreational use in Hallets Cove. Verdant's contact at NYC Parks is Nate Grove, marina manager, who has participated in Verdant Recreational resource meetings in the past.

On **February 2, 2009** Nate Grove at NYC Parks was sent a packet containing FERC's Additional Information Requests, sent to Verdant on January 27, 2009.

On **February 11, 2009,** Verdant sent a letter requesting consultation with NYC Parks, specifically asking NYC Parks to characterize recreational use in Hallets Cove in response to FERC Additional Information Request 11(a). A dated copy of this letter can be found at the end of this section.

As follow up to this letter, Verdant held a phone conversation with Mr. Grove on **February 26, 2009.**

2/26/09 Phone conversation notes with Nate Grove:

- Mr. Grove said that Verdant can look online at NYC Park's water trail map to see the trails kayakers use.
- Mr. Grove said that there has been a request for kayak storage at Hallets Cove and this may lead to more kayak use of the cove. There is no date for storage construction yet.
- Mr. Grove said that Hallets Cove is a natural water access point, with parking and a beach but no ramp for cars. Boaters carry boats into the water.
- Mr. Grove said that regional kayakers generally launch at Hallets Cove because it is a natural launch (beach), not LIC Community Boathouse.
- Mr. Grove said in order to characterize the recreational use of Hallets Cove in more detail, Verdant should speak with LIC Community Boathouse and the Manhattan Island Foundation.
- Mr. Grove also said that a letter of consultation addressing FERC's Additional Information Request 11(a) should come from the Commissioner level and directed Verdant to speak with Joshua Laird in the NYC Parks Commissioner's Office.

As directed by Mr. Grove, Verdant phoned Joshua Laird in the NYC Parks Commissioner's Office on **March 9, 2009.**

3/9/09 Phone conversation notes with Joshua Laird:

- Introduced Mr. Laird to Verdant Power
- Gave a brief history of the RITE Project and the FERC Additional Information Requests.
- Further information would be sent for review via email.

On **March 11, 2009** Joshua Laird was sent an email that contained a link to download the RITE Project Draft License Application, the Recreational Resources map made by Verdant for the License Application (to give Mr. Laird a better idea of the project boundary) and the FERC Additional Information Requests. The email requested NYC Parks to respond to FERC Additional Information Request 11(a). The email is as follows:

> Dear Mr. Laird,
>
> It was a pleasure to speak with you Monday. As we discussed, I am providing more detail on the additional information being requested by the Federal Energy Regulatory Commission (FERC) pursuant to Verdant Power's pilot hydrokinetic license application.
>
> On November 25, 2008, Verdant Power filed a Draft License Application for a pilot license for the proposed Roosevelt Island Tidal Energy (RITE) Project in the East River of New York, NY. This Draft License Application can be downloaded from the FERC website (www.ferc.gov) or at the RITE Project website (http://theriteproject.com).
>
> On January 27, 2009, based on FERC's review of this draft application, as well as agency and individual comments, FERC directed Verdant Power to provide additional information for its analysis of potential project effects. I have attached the document that outlines this Additional Information Request from FERC. As you will see, FERC has specifically requested that Verdant Power consult with NYC Parks in item 11a.
>
> In order to meet this request, Verdant Power sent a packet with the attached Additional Information Request to Nate Grove of your agency on February 2, 2009. Mr. Grove has been Verdant Power's contact at NYC Parks at various points during the development of the RITE Project. Mr. Grove and I spoke regarding this additional information on February 26, 2009, when he directed me to consult with the Long Island City Community Boathouse and the Manhattan Island Foundation, which I have initiated. He also voiced support for the RITE Project. I asked Mr. Grove to submit a letter to Verdant Power addressing FERC's Additional Information Request 11a as well as stating his direction to consult with the entities above. Nate thought the letter should

come from the commissioner's office and directed me to you.

I have also attached for your review the Recreational Map Verdant Power created for the Recreational Resource section of its Draft License Application so that you can see where the RITE Project would lie. The boundary of the project is the yellow field on the northern coast of Roosevelt Island.

Please send your letter to the address below. Thank you for your time and review of this information. Please don't hesitate to call me any time with questions.

Mollie Gardner
Verdant Power

As of this filing, Verdant Power has not received further correspondence from Mr. Laird or NYC Parks. Verdant has left a message with Mr. Laird as a follow-up to the email.

On **March 26, 2009** Mollie Gardner of Verdant Power followed up with Nate Grove over the phone to tell him that Verdant had not yet heard from Josh Laird and also to go over Verdant's correspondence with the Manhattan Island Foundation and LIC Community Boathouse, since Mr. Grove had directed Verdant to speak with these two entities. Mr. Grove said he would remind Mr. Laird about Verdant's email.

b. Consultation with Manhattan Island Foundation

At the direction of Nate Grove of NYC Parks, Mollie Gardner of Verdant Power contacted Morty Berger of the Manhattan Island Foundation to further characterize recreational use in the Hallets Cove area and East River in the vicinity of the project.

Manhattan Island Foundation Background:

- Organizes swimming events in the waters around Manhattan
- Are most known for their swim around Manhattan Island
- During the swim around Manhattan swimmers swim in the west channel of the East River
- As of today there are no swims on the eastern side of Roosevelt Island

On **March 11, 2009,** Mollie Gardner of Verdant phoned Mr. Berger.

3/11/09 Phone Conversation notes with Morty Berger:

- Mr. Berger knew of the RITE Project but not many details about it
- Mr. Berger was concerned that the surface currents would be effect by the turbines.
- Gardner explained that Verdant had done studies and modeling and there would be little to no effect on surface currents.
- Mr. Berger expressed that he did not think modeling was effective.
- Gardner asked if the Manhattan Island Foundation ever swam in the east channel of the East River – on the eastern side of Roosevelt Island.
- Mr. Berger said there were no scheduled swims on the eastern side of Roosevelt Island but also that the project should prepared for the worst case scenario and expressed that there could be some dangerous scenarios like a storm pushing a boat or a swimmer into Verdant's exclusions zone.
- Gardner asked if they did not hug Manhattan during their swim
- Mr. Berger said they take up the entire west channel
- Gardner said that Verdant had worked very closely with the Coast Guard, tug and barge operators and recreational boaters and no one had any objection to the project.
- Gardner explained that even at extreme low tide there is about 6 feet of water above the turbine and if a boat was to hit a turbine it would be more likely that the turbine would be taken out, not the boat.
- Gardner also told Mr. Berger that in the two years of the demonstration project Verdant has seen only three boats come into the exclusion zone and the encroachments were barely inside the buoy line and there was no harm to the boats or the turbines.
- Mr. Berger said that during the swim around Manhattan the west channel of the East River is closed to boat traffic and redirected to the east channel of the East River
- Gardner asked if there would be any future swims in the east channel of the East River.
- Mr. Berger said there would not be as of now.
- Mr. Berger did not understand why Verdant had to affect New York's waters for a project that was not economically viable.
- Gardner explained that it was a showcase project, and the lack of economic viability was from the demonstration aspect of it – having to prove the technology and that it was environmentally benign but it would be economically viable in the future.
- Gardner also explained that this was very important to New York because it was a renewable energy source and also power produced locally. New York needs a local source of power that does not come through miles and mile of transmission lines or fossil fuels.

- Mr. Berger said he was going to stay neutral about the project but he wished nothing was going into the water.
- Mr. Berger also said that he would speak to his colleague Cater Craft about the project.

After the phone call Gardner sent Mr. Berger an email with her contact info as well as a link from which to download the Draft License Application.

As of this filing, Verdant has received no further correspondence from Mr. Berger or the Manhattan Island Foundation.

c. Long Island City (LIC) Community Boathouse

At the direction of Nate Grove of NYC Parks, Mollie Gardner of Verdant Power contacted LIC Community Boathouse to further characterize recreational use in Hallets Cove and the East River in the vicinity of the RITE Project.

LIC Community Boathouse interaction with RITE Project:

- Lea Singer and Erik Baard of LIC Community Boathouse participated in the Recreational Resource meetings held by Verdant in early 2007.
- Erik Baard, founder of LIC Community, received and email notification about the submittal of the RITE Project Draft License Application that contained a link from which he could download the application.
- LIC Community Boathouse did not comment on the Draft License Application

On **March 4, 2009** Mollie Gardner of Verdant Power sent an email to Erik Baard about communicating with LIC Boathouse on recreational use in Hallets Cove. The email is as follows:

> Dear Mr. Baard:
>
> On November 25, 2008, Verdant Power, LLC filed a Draft License Application for a pilot license for the proposed Roosevelt Island Tidal Energy (RITE) Project in the East River of New York, NY.
>
> On January 27, 2009, based on FERC staff's review of this draft application, as well as agency and individual comments, FERC directed Verdant Power to provide additional information for its analysis of potential project effects. In one of FERC's Additional Information Requests they direct Verdant to "please

consult with New York City Parks and characterize recreational use, including an estimate of the number and type of recreation users, at Hallets Cove." FERC also directs Verdant to "please address the effects of the project on the kayakers' recreational experience. In addition, describe the visual impacts of the proposed buoy system on kayakers and those using the Hallets Cove beach." In the Draft License Application Verdant identified Hallets Cove as a recreational region, under the jurisdiction of New York City Parks, in the vicinity of the RITE project.

I have recently been in touch with Nate Grove from NYC Parks and he has directed me to you. I know you and Lea Singer have been involved in the project in the past, participating in the Recreational Resource meetings that were held in March 2007. I would like to re-open the conversation between LIC Community Boathouse and Verdant to characterize recreational use at Hallets Cove and effects of the project on kayakers. Please feel free to call or email. I am also available to present the project on one of your "Paddle Days."

Thanks,
Mollie Gardner
Verdant Power

When no response was heard, Gardner sent a follow-up email on **March 11, 2009** to the general mailbox for LIC Community Boathouse (licboathouse@gmail.com) listed on the organization's website.

As of this filing, Verdant has not received correspondence back from the Mr. Baard or the LIC Community Boathouse.

Copy of letter requesting consultation with NYC Parks:

VERDANT POWER

The Octagon
888 Main Street, Suite 1
New York, NY 10044
(212) 888-8887 (ph)
(212) 888-8897 (fax)
www.verdantpower.com

February 11, 2009

Nate Grove
NYC Department of Parks & Recreation
The Arsenal, Central Park
New York, NY 10021

Re: Project No. 12611-003; Roosevelt Island Tidal Energy Project –
AIR on Draft License Application – Consultation

Dear Mr. Grove:

On February 2, 2009, Verdant Power provided you with a packet of correspondence outlining a FERC Additional Information Request related to Verdant Power's Draft License Application for the Roosevelt Island Tidal Energy (RITE) Project. In this correspondence, FERC directed that, in lieu of a technical conference, Verdant Power should consult with various entities and file the requested additional information within 60 days of January 27, 2009, allowing entities consulted at least 30 days to respond.

This letter initiates this consultation with New York City Parks, specifically to address FERC's Additional Information Request 11(a) (Schedule A, pg. 5), in which FERC directs Verdant Power to "please consult with New York City Parks and characterize recreational use, including an estimate of the number and type of recreation users, at Hallets Cove." In its Draft License Application, Verdant Power identified Hallets Cove as a recreational region, under the jurisdiction of New York City Parks, in the vicinity of the RITE project.

In order to meet the required timeline, Verdant Power kindly requests that any information, in response to FERC's Additional Information Request, that you can provide, be returned in written form to us no later than 30 days after receipt of this letter. In order to discuss this request further and answer any questions you may have, Mollie Gardner, Verdant Power Resource Analyst, will be calling you in the near future. If you have any questions in the meantime, please do not hesitate to contact Ms. Gardner at (212) 888-8887, ext. 611. Thank you for your time.

Very truly yours,

Ronald F. Smith
Chief Executive Officer

Cc: Mollie Gardner, Verdant Power
Mary Ann Adonizio, Verdant Power

2) Navigational Resources – AIR 12(c)

FERC Additional Information Request 12c directs Verdant to consult with the US Coast Guard, Donjon Marine Company Inc and United Marine Division of the International Longshoremen's Association Local 333 about the comments filed by DonJon and the Local 333 on the RITE Project Draft License application and the effects of the project on commercial navigation in the east channel of the East River.

On **February 2, 2009** the US Coat Guard, Donjon Marine Company, Inc and United Marine Division of the International Longshoremen's Association Local 333 were sent a packet containing FERC's Additional Information Requests, received by Verdant Power on January 27, 2009.

On **February 11, 2009** the US Coast Guard, Donjon Marine Company Inc and United Marine Division of the International Longshoremen's Association Local 333 were sent a letter requesting a meeting in Verdant's offices on March 10, 2009 to discuss concerns about commercial navigation in the east channel of the East River. The letter also stated that this meeting would not address Verdant's proposed development in the west channel of the East River, and that navigational discussion about the west channel project would take place in the summer of 2009. Dated copies of these letters can be found at the end of this section.

a. Consultation with US Coast Guard

On February 26, 2009 Dean Whatmoor of Verdant Power phoned Jeff Yunker and Lt. Edward Munoz of US Coast Guard to follow up about the proposed March 10, 2009 meeting at Verdant's office on Roosevelt Island. They confirmed that they would attend the meeting

b. Consultation with United Marine Division of the International Longshoremen's Association Local 333

On **February 27, 2009 and March 4, 2009** Mollie Gardner of Verdant spoke via phone with Steve Oravetz of the United Marine Division of the International Longshoremen's Association Local 333 regarding the proposed meeting on March 10, 2009.

2/27/09 Phone Conversation notes with Steve Oravetz:

- The Local 333 had thought that the meeting was about the Verdant Project in the west channel of the East River.
- Oravetz said the Local 333 had no problem with the project in the east channel of the East River.

- Gardner asked if they would still like to attend the meeting on March 10 and Oravetz said he would check with his supervisor.

3/4/09 Phone Conversation notes with Steve Oravetz:

- Oravetz stated that the Local 333 would not attend the meeting and would send a letter to FERC stating that they had no navigational issues with the RITE Project in the east channel of the East River.

A copy of this letter, posted in the FERC Docket on 3/19/09, follows:

20090320-0032 FERC PDF (Unofficial) 03/19/2009

ORIGINAL

Local 333
UNITED MARINE DIVISION
INTERNATIONAL LONGSHOREMEN'S ASSOCIATION, AFL-CIO
552 Bay Street, Staten Island, N.Y. 10304
718-727-5675
FAX 718-727-5736

WILLIAM HARRIGAN
President & General Manager
MICHAEL BRANDON
Secretary-Treasurer

2009 MAR 19 P 2:15

March 5, 2009

Anne Miles
Federal Energy Regulatory Commission
888 First St, NE
Washington D. C. 20426

Re: Verdant Power/Roosevelt Island and United nations Tidal Energy Expansion
Project No. 12611 -003

Dear Ms. Miles;

We have reviewed the pilot project proposed by Verdant Power in the East Channel of the East River of New York. The East Channel is lightly traveled by the mariner's in the industry we represent and therefore we do not take issue with this portion of the project.

However, the West Channel (United Nations Building side) portion of the project remains of great concern to Local 333 and the mariner's we represent. This side of the river is the main channel for commercial tug and barge traffic as well as the occasional ship transit of the area.

Local 333 needs to remain informed about the project and express our concerns regarding the West Channel Project.

Your assistance in this matter is appreciated.

Sincerely,

Capt. Steven Oravets
Director of Special Projects
Local 333, United Marine Division, ILA, AFL-CIO

cc: William Harrigan, President, Local 333
Mollie Gardner, Verdant Power

c. Consultation with Donjon Marine Company, Inc

On **February 26, 2009** Mollie Gardner of Verdant Power called Donjon Marine Company, Inc and spoke with Jon Witte's assistant, Kathy Domingos, about the proposed March 10, 2009 meeting at Verdant Power's office. Ms. Domingos stated she would check with Mr. Witte on the meeting and get back to Gardner.

Ms. Domingos called Gardner on **February 27, 2009** and stated that Mr. Witte could not attend the meeting on March 10, but wanted to send a letter. Because the Local 333 had been confused about the purpose of the meeting (to discuss east channel and not west channel of the East River) Gardner wanted to clarify this same issue with Mr. Witte. Ms. Domingos told Gardner to write her an email about this issue.

On **March 2, 2009** Gardner sent an email to Ms. Domingos as follows:

> Kathy - here is the message that I wanted to leave Friday! Way too long for a message!
>
> Dear Mr. Witte,
>
> As a follow-up to the FERC Addition Information Request about your comments filed on January 13, 2009, we would like to know if your opposition was in regard to the development in the east channel of the East River or the west channel of the East River (in front of the UN building).
>
> If your January 13 comments were regarding only the west channel, we would kindly ask that you send us correspondence stating this (by March 27). Please be assured however, that you will have an opportunity to discuss these issues on the west channel in a meeting this summer.
>
> If your January 13 comments were related to the east channel, we would like to meet with you, either in person or via conference call, to further discuss these issues. Since you are unable to attend the meeting on March 10, we would ask that you propose a different date that matches your availability.
>
> We are sorry for any confusion or inconvenience this matter may have caused.
>
> Please feel free to contact me at any time.
>
> Best,
> Mollie Gardner
> Verdant Power

On **March 4, 2009,** Gardner followed-up this email with a phone call. Ms. Domingos said that Mr. Witte was clear about the east versus west channel. Gardner asked Ms. Domingos what the letter would state, because if DonJon had a navigational issue with the RITE Project in the east channel, Verdant would like very much to have a meeting with Mr. Witte. Ms. Domingos said she did not know and would get back to Gardner.

On **March 25, 2009** Gardner sent Ms. Domingos a copy of the United Marine Division Local 333 letter and asked if Mr. Witte was planning on sending a similar letter and if she had any questions to please contact Verdant.

As of this filing, Verdant has not received correspondence from Mr. Witte or DonJon Marine Company, Inc.

Because neither Donjon Marine Company, Inc nor United Marine Division of the International Longshoremen's Association Local 333 had interest in attending a meeting to further discuss navigational issues in the east channel of the East River, Verdant Power canceled the meeting proposed for March 10, 2009. To the best of Verdant's knowledge all navigational issues about the RITE Project are limited to development in the west channel of the East River, which Verdant will discuss among stakeholders (including entities consulted with here) as part of its preliminary permit activities.

Copy of letters requesting consultation with USCG, United Marine Division and DonJon Marine Company (all received same letter):

VERDANT POWER

The Octagon
888 Main Street, Suite 1
New York, NY 10044
(212) 888-8887 (ph)
(212) 888-8897 (fax)
www.verdantpower.com

February 11, 2009

Lt. Edward Munoz
Chief Waterways Oversight Branch, US Coast Guard
212 Coast Guard Drive
Staten Island, NY 10305

RE: Project No. 12611-003; Roosevelt Island Tidal Energy Project –
AIR on Draft License Application – Consultation

Dear Lt. Munoz:

On February 2, 2009, Verdant Power provided you with a packet of correspondence outlining a FERC Additional Information Request related to Verdant Power's Draft License Application for the Roosevelt Island Tidal Energy (RITE) Project. In this correspondence, FERC directed that, in lieu of a technical conference, Verdant Power should consult with various entities and file the requested additional information within 60 days of January 27, 2009, allowing entities consulted at least 30 days to respond.

Verdant Power is now contacting you to meet this directive and specifically to respond to FERC's Additional Information Request 12(c) (Schedule A, p. 6-7), which states, "Please consult with the United Marine Division, the Donjon Marine Company, and the US Coast Guard, and provide additional discussion that addresses any previously unforeseen concerns about the project's effects on commercial navigation in the east channel."

We would like to arrange a meeting to provide this additional discussion. Verdant Power proposes that this meeting be held on **Tuesday, March 10, 2009 at 1:00 p.m**. at our offices on Roosevelt Island. Please note that this meeting will be to discuss only Verdant Power's pilot project in the *east channel* of the East River. It is Verdant Power's intention to have a separate meeting in the near future with you and other entities, to discuss the Company's proposed development in the west channel.

A representative from Verdant Power will be contacting you shortly to further discuss the meeting and your availability. In the meantime, if you have any questions, please do not hesitate to contact me at (212) 888-8887, ext. 601.

Very truly yours,

Ronald F. Smith
Chief Executive Officer

Cc: Dean Whatmoor, Verdant Power
Mollie Gardner, Verdant Power
RITE FERC AIR 12 (c) Distribution List

VERDANT POWER

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888 Main Street, Suite 1
New York, NY 10044
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(212) 888-8897 (fax)
www.verdantpower.com

February 11, 2009

Jeff Yunker
Waterways Management Coordinator, US Coast Guard
212 Coast Guard Drive
Staten Island, NY 10305

RE: Project No. 12611-003; Roosevelt Island Tidal Energy Project –
AIR on Draft License Application – Consultation

Dear Mr. Yunker:

On February 2, 2009, Verdant Power provided you with a packet of correspondence outlining a FERC Additional Information Request related to Verdant Power's Draft License Application for the Roosevelt Island Tidal Energy (RITE) Project. In this correspondence, FERC directed that, in lieu of a technical conference, Verdant Power should consult with various entities and file the requested additional information within 60 days of January 27, 2009, allowing entities consulted at least 30 days to respond.

Verdant Power is now contacting you to meet this directive and specifically to respond to FERC's Additional Information Request 12(c) (Schedule A, p. 6-7), which states, "Please consult with the United Marine Division, the Donjon Marine Company, and the US Coast Guard, and provide additional discussion that addresses any previously unforeseen concerns about the project's effects on commercial navigation in the east channel."

We would like to arrange a meeting to provide this additional discussion. Verdant Power proposes that this meeting be held on **Tuesday, March 10, 2009 at 1:00 p.m**. at our offices on Roosevelt Island. Please note that this meeting will be to discuss only Verdant Power's pilot project in the *east channel* of the East River. It is Verdant Power's intention to have a separate meeting in the near future with you and other entities, to discuss the Company's proposed development in the west channel.

A representative from Verdant Power will be contacting you shortly to further discuss the meeting and your availability. In the meantime, if you have any questions, please do not hesitate to contact me at (212) 888-8887, ext. 601.

Very truly yours,

Ronald F. Smith
Chief Executive Officer

Cc: Dean Whatmoor, Verdant Power
Mollie Gardner, Verdant Power
RITE FERC AIR12 (c) Distribution List

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The Octagon
888 Main Street, Suite 1
New York, NY 10044
(212) 888-8887 (ph)
(212) 888-8897 (fax)
www.verdantpower.com

February 11, 2009

William Harrigan
United Marine Division International Longshoremen's Association, Local 333
552 Bay Street
Staten Island, NY 10304

RE: Project No. 12611-003; Roosevelt Island Tidal Energy Project –
AIR on Draft License Application – Consultation

Dear Mr. Harrigan:

On February 2, 2009, Verdant Power provided you with a packet of correspondence outlining a FERC Additional Information Request related to Verdant Power's Draft License Application for the Roosevelt Island Tidal Energy (RITE) Project. In this correspondence, FERC directed that, in lieu of a technical conference, Verdant Power should consult with various entities and file the requested additional information within 60 days of January 27, 2009, allowing entities consulted at least 30 days to respond.

Verdant Power is now contacting you to meet this directive and specifically to respond to FERC's Additional Information Request 12(c) (Schedule A, p. 6-7), which states, "Please consult with the United Marine Division, the Donjon Marine Company, and the US Coast Guard, and provide additional discussion that addresses any previously unforeseen concerns about the project's effects on commercial navigation in the east channel."

We would like to arrange a meeting to provide this additional discussion. Verdant Power proposes that this meeting be held on **Tuesday, March 10, 2009 at 1:00 p.m**. at our offices on Roosevelt Island. Please note that this meeting will be to discuss only Verdant Power's pilot project in the *east channel* of the East River. It is Verdant Power's intention to have a separate meeting in the near future with you and other entities, to discuss the Company's proposed development in the west channel.

A representative from Verdant Power will be contacting you shortly to further discuss the meeting and your availability. In the meantime, if you have any questions, please do not hesitate to contact me at (212) 888-8887, ext. 601.

Very truly yours,

Ronald F. Smith
Chief Executive Officer

Cc: Dean Whatmoor, Verdant Power
Mollie Gardner, Verdant Power
RITE FERC AIR 12 (c) Distribution List

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New York, NY 10044
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(212) 888-8897 (fax)
www.verdantpower.com

February 11, 2009

John Witte
Donjon Marine Company
1250 Liberty Avenue
Hillside, NJ 02205

RE: Project No. 12611-003; Roosevelt Island Tidal Energy Project –
AIR on Draft License Application – Consultation

Dear Mr. Witte:

On February 2, 2009, Verdant Power provided you with a packet of correspondence outlining a FERC Additional Information Request related to Verdant Power's Draft License Application for the Roosevelt Island Tidal Energy (RITE) Project. In this correspondence, FERC directed that, in lieu of a technical conference, Verdant Power should consult with various entities and file the requested additional information within 60 days of January 27, 2009, allowing entities consulted at least 30 days to respond.

Verdant Power is now contacting you to meet this directive and specifically to respond to FERC's Additional Information Request 12(c) (Schedule A, p. 6-7), which states, "Please consult with the United Marine Division, the Donjon Marine Company, and the US Coast Guard, and provide additional discussion that addresses any previously unforeseen concerns about the project's effects on commercial navigation in the east channel."

We would like to arrange a meeting to provide this additional discussion. Verdant Power proposes that this meeting be held on **Tuesday, March 10, 2009 at 1:00 p.m**. at our offices on Roosevelt Island. Please note that this meeting will be to discuss only Verdant Power's pilot project in the *east channel* of the East River. It is Verdant Power's intention to have a separate meeting in the near future with you and other entities, to discuss the Company's proposed development in the west channel.

A representative from Verdant Power will be contacting you shortly to further discuss the meeting and your availability. In the meantime, if you have any questions, please do not hesitate to contact me at (212) 888-8887, ext. 601.

Very truly yours,

Ronald F. Smith
Chief Executive Officer

Cc: Dean Whatmoor, Verdant Power
Mollie Gardner, Verdant Power
RITE FERC AIR 12 (c) Distribution List

March 30, 2009 Distribution List – VP Response to FERC AIR

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Lt. Edward Munoz
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Donjon Marine Company
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Hillside, NJ 02205

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New York, NY 10007

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