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Marine Spatial Conflicts Between Submarine Cables and Energy and Civil Works Projects

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Emerging Subsea Networks

Celebrating 30 years of SubOptic

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Kent specializes in cross-border and national-security regulation of telecommunications networks, investment, and technology and in law-of-the-sea issues. He works extensively in the undersea cable sector and has led various industry-wide regulatory-reform and cable-protection initiatives. He has led many licensing and merger review proceedings for undersea cable operators and carriers before the FCC, Team Telecom, and the Committee on Foreign Investment in the United States. He chairs the undersea cable working group of the FCC's Communications Security, Reliability, and Interoperability Council and has long served as counsel to the North American Submarine Cable Association.

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Overview

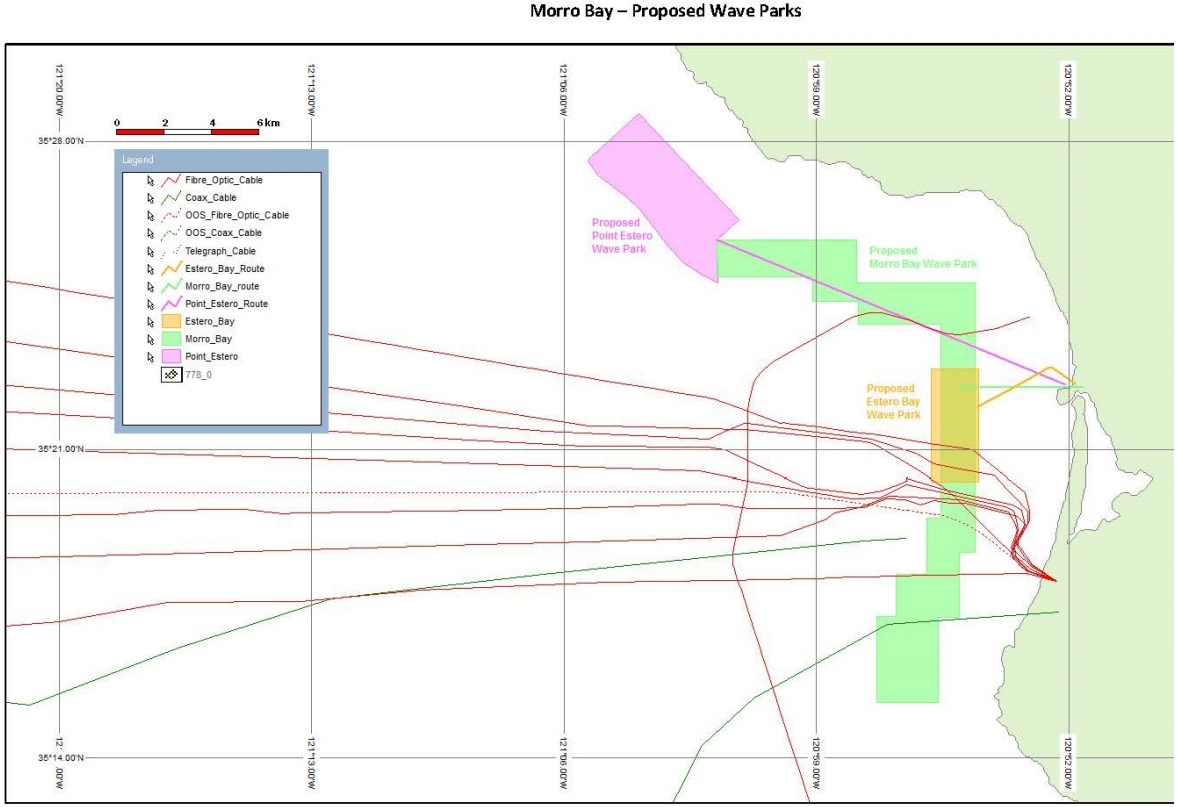
- The problem
- U.S. case studies of conflicts with renewable energy projects
- U.S. case studies of conflicts with dredging and beach replenishment
- Risks to submarine cables of uncoordinated activities
- Potential remedies and risk-mitigation measures

The problem

- Even with falling oil and gas prices, concerns about climate change, and political commitments to—and subsidies for—renewable energy projects drive further project development and potential spatial conflicts with submarine cables.
- The sheer newness of renewable energy technologies and operations means that renewable energy developers are not always sufficiently aware of the implications of their projects for submarine cable operators, and vice versa.
- Climate change and more extreme weather also increases the frequency of civil works projects like sand and gravel dredging and beach replenishment, which have long posed a threat to submarine cables if not coordinated.

Point Estero/Estero Bay wave parks

- In 2014, the U.S. energy utility Dynegy applied for Federal Energy Regulatory Commission (“FERC”) permits, proposing to build wave parks with wave gliders on the ocean surface anchored to the sea floor using large anchor arrays and connected to shore with multiple power transmission cables.



Point Estero/Estero Bay wave parks

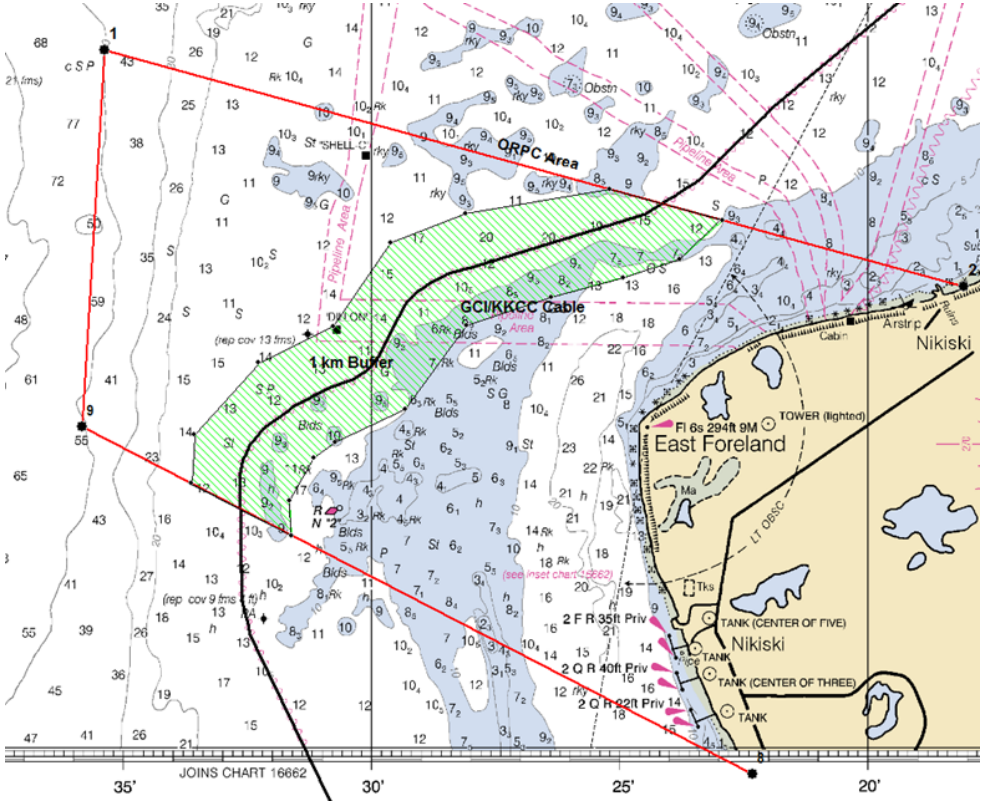
- Dynegy proposes to locate wave gliders, anchors, and power transmission cables directly over or adjacent to the Japan-U.S., Southern Cross, China-U.S., and Asia-American Gateway systems.
  - Unlike some start-up operators, Dynegy is a well-established electric utility and should have had better awareness of existing infrastructure.
  - Project maps supplied by Dynegy showed the cables but did not recognize their significance.
- In spite of strenuous objections from NASCA, AT&T, and Southern Cross, FERC issued preliminary permits on the grounds that they did not authorize construction.

Point Estero/Estero Bay wave parks

- FERC regulations failed to require identification of proximate submarine cables, inter-industry coordination, or minimum separation distances. FERC's preliminary permits also made no mention of submarine cables or the need to coordinate with them.
- FERC had previously promised to notify the FCC of such applications but failed to do so. Dynegy's subsequent progress reports made no mention of submarine cables.
- FERC's approach allows renewable energy projects to proceed very far with project planning and financing before any coordination is required, increasing the chances that the developer will harden its position and be unwilling to compromise.

Cook Inlet/East Foreland tidal energy project

- In 2010, Ocean Renewable Power Company's ORPC Alaska 2, LLC, subsidiary ("ORPC") applied for a FERC permit, proposing to build a tidal energy project directly above the Kodiak-Kenai Fiber Link ("KKFL") managed by GCI.



Cook Inlet/East Foreland tidal energy project

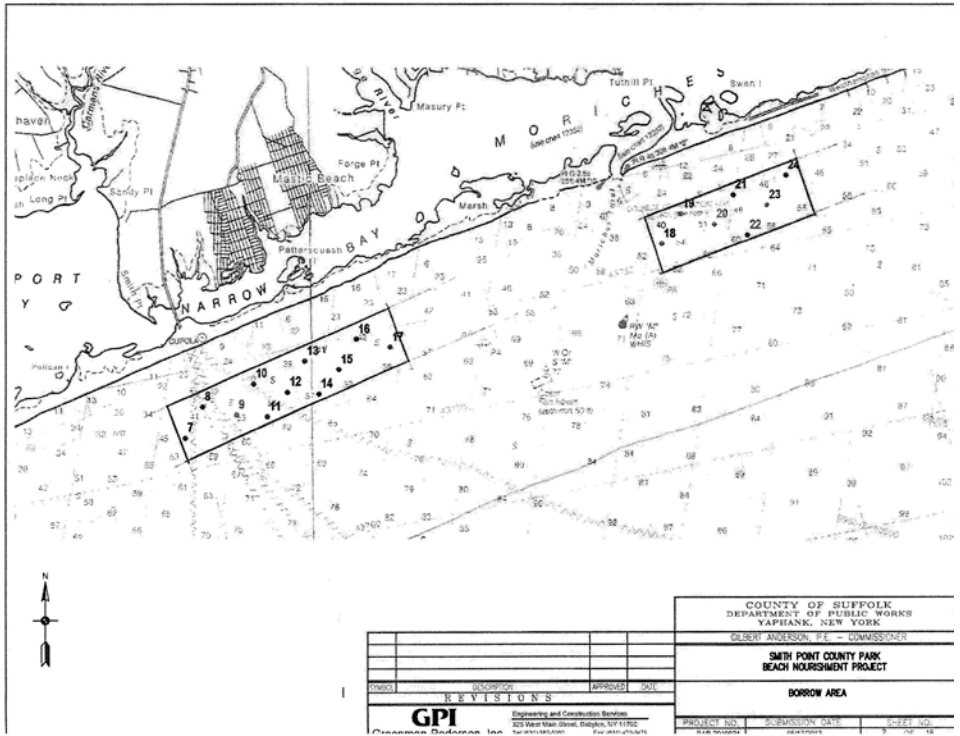
- Neither FERC nor ORPC ever notified GCI or the FCC during the permitting process, and FERC issued a preliminary permit in 2011, making no mention of submarine cables or the need to coordinate with them.
- ORPC's subsequent progress reports made no mention of submarine cables.
- In 2013, ORPC filed a license application with FERC, seeking the right to begin development.
- GCI became aware of the project, filed comments, and initiated consultations with ORPC. Later in 2013, ORPC agreed in writing to GCI's request for a one-kilometer "no work zone" on either side of the KKFL cable.

A note about offshore wind in the United States

- Offshore wind farm development in the United States lags significantly behind that of Europe.
- Nevertheless, industry has participated consistently in policy and licensing proceedings before the Office of Renewable Energy Programs (“OREP”) in the Bureau of Ocean Energy Management (“BOEM”).
- OREP has increasingly solicited input from the submarine cable industry and modified its Construction and Operation Plan (“COP”) Guidelines—which establish information requirements for the planning and implementation phases of offshore wind projects—to address submarine cables.
- Nevertheless, significant work remains to be done with risks arising from oil and gas development and marine minerals exploration, also regulated by BOEM.

Long Island dredging following Hurricane Sandy

- In 2013, Suffolk County, New York, applied to the U.S. Army Corps of Engineers for a permit to dredge sand directly over seven submarine cables lading on the south shore of Long Island (AC-1, Apollo, MAC, TAT 12/13, and Yellow).

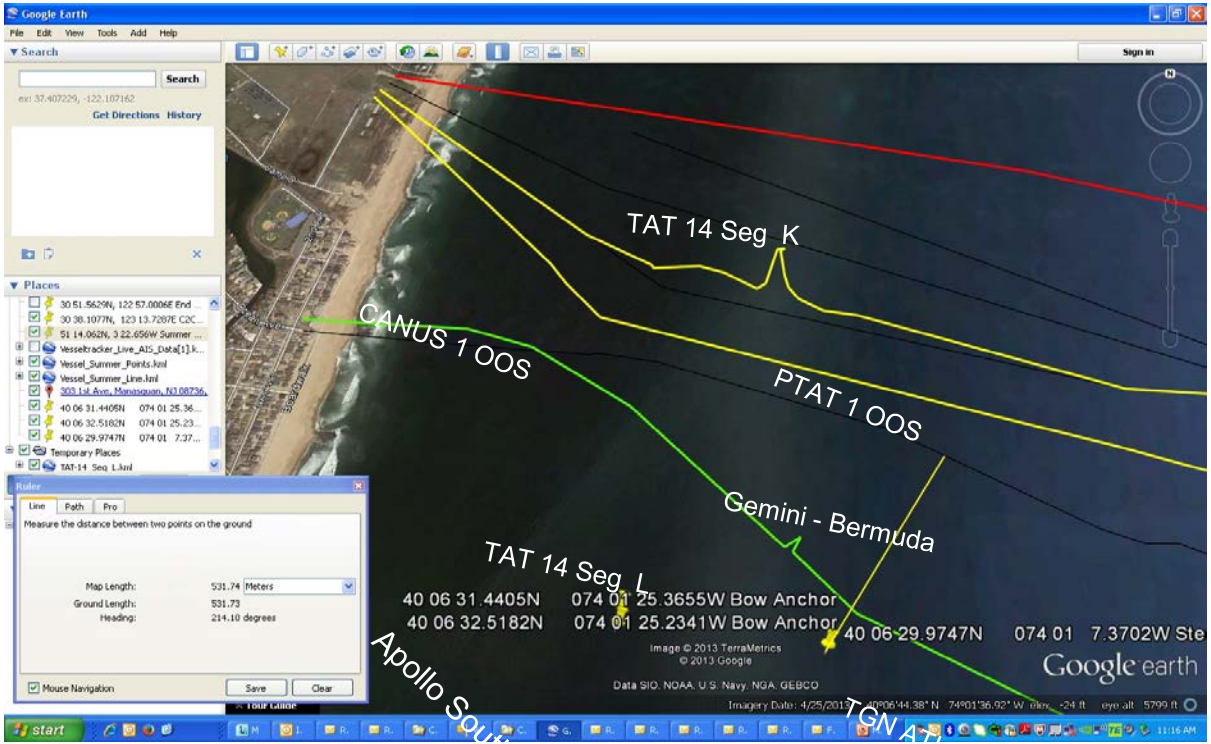


Long Island dredging following Hurricane Sandy

- In fact, the Army Corps had issued permits for all seven of those submarine cables but lacked an effective mechanism for tracking previously-permitted and installed infrastructure against new permit applications.
- Suffolk County's own charts show the submarine cables clearly marked.
- Apollo, AT&T, and Level 3 vigorously opposed the grant of that Army Corps application.
- Direct engagement with Suffolk County and the Army Corps ultimately resulted in reconfiguration of the project and relocation of the borrow area.

New Jersey beach replenishment following Hurricane Sandy

- In 2013, the U.S. Army Corps of Engineers commenced a dredging and beach replenishment project to restore significant portions of the New Jersey coast; the barge anchorage for sand pumping was located almost directly above Apollo South.



New Jersey beach replenishment following Hurricane Sandy

- The Corps and its contractor dredged sand in the north, transported it by barge, and pumped the sand ashore using fixed bow anchors and stern anchors that were redeployed after each trip from the borrow area.
- As the Corps itself was conducting the project, it issued no permits, and public scoping meetings did not include the submarine cable industry.
- Again, the Corps itself had issued permits for all proximate cables but failed to consult its records to identify a potential conflict.
- Notice was provided by a friend of the industry who was walking his dog on the beach.
- In reaction to a request by industry to move the barge anchorage, the Corps initially refused and told cable operators that they would need to relocate their cables.
- The issue was ultimately resolved by threats to sue the Corps' contractor and intervention by the U.S. Department of Homeland Security and the FCC.

Risks of uncoordinated renewable energy development

- Sea floor scouring
  - Can result in sea floor destabilization, cable exposure and suspensions, and sediment redeposit that increase fault risks due to abrasion, anchors, and fishing.
  - Could necessitate deeper burial, increasing costs of installation and repair.
- Direct physical disturbance of submarine cables by generating equipment and associated anchors, installation and repair equipment, and vessel anchors.
- Impaired access for submarine cables, cable ships, and associated equipment on the surface, in the water column, and on the sea floor with the presence of structures, equipment, power transmission cables, and support vessels.
- Physical and personnel safety risks arising from interactions with power transmission cables.
- Clustering, *de facto* corridors, and foreclosure of diverse routes and landings.

Potential remedies and risk-mitigation measures

- Direct and timely engagement with government agencies and industries, both at the policy and project levels.
- Development and promotion of industry recommendations and standards—and government recognition thereof—regarding spatial requirements for submarine cables and best practices for coordination vis-à-vis other marine activities..
- Creation within a government or coastal state of a single point of contact and clearinghouse for submarine cable information—not just location information, but also data about operational requirements and economic and national-security importance.

Potential remedies and risk-mitigation measures

- Improved data accessibility and management, recognizing that other industries might not be familiar with submarine cables or know where to find relevant data.
- Adoption of government agency rules requiring investigation of and coordination with submarine cables as a precondition of permitting.
- Hiring of agency personnel with broader experience in marine issues.
- Development of interagency coordination and consultation mechanisms, including telecoms and energy regulators and civil works agencies.
- Development of marine spatial planning mechanisms using GIS.
- More significant civil and criminal penalties for cable damage.

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