UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

September 30, 2015 F/SER47:JK/pw

(Sent via Electronic Mail)

Colonel Jason A. Kirk, Commander
U.S. Army Corps of Engineers, Jacksonville District
P.O. Box 4970
Jacksonville, Florida 32232-0019

Attention: Linda Knoeck

Dear Colonel Kirk:

NOAA's National Marine Fisheries Service (NMFS) reviewed public notice SAJ-2015-01030 (LP-LCK) dated August 21, 2015. GU Holdings, Incorporated, requests authorization from the Department of the Army to install a 1.5-inch diameter fiber optic cable, referred to as the MONET Subsea Fiber Optic Cable System, with an onshore landing through an existing subterranean beach manhole at Spanish River Park, Palm Beach County. The cable would extend 2,800 feet seaward and continue to the northeast until it reaches the eastern boundary of the U.S. Exclusive Economic Zone (EEZ); ultimately the cable would be routed from Boca Raton to two landing sites in Brazil. Depending on depth and location, the cable would be installed using an existing underwater conduit, anchoring the cable to the seabottom, or directly placing the cable on the seabottom. The Jacksonville District's initial determination is the proposed impacts to seagrass, coral, coral reef, and hardbottom, including the Miami Terrace and Escarpment, which are designated Habitat Areas of Particular Concern (HAPCs) by the South Atlantic Fishery Management Council (SAFMC), would not result in an adverse effect on essential fish habitat (EFH). As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the following comments and recommendations are provided pursuant to authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Essential Fish Habitat

While several EFH designations are applicable to the proposed route for the MONET cable, the most significant three designations are seagrass; corals, coral reefs, and hardbottom; and all habitats within the Miami Terrace and Escarpment. Two habitat characterization reports provided with the notice describe cable routes through shallow water and deep water.

For the snapper-grouper fishery management plan, the SAFMC designates seagrass, corals, coral reefs, and hardbottom as HAPCs, which is a subset of EFH that warrants special protection based on rarity, ecological importance, or susceptibility to disturbance from human activities. These habitats are present along the cable route and benefit fishery resources by providing food or shelter (SAFMC 1983). The SAFMC identifies seagrass as a HAPC for several species, including adult white grunt (*Haemulon plumieri*), juvenile and adult gray snapper (*Lutjanus griseus*), and juvenile mutton snapper (*Lutjanus analis*), and as EFH for larval and juvenile pink shrimp (*Farfantepenaeus duorarum*). In addition, nearly all snapper and grouper species managed by SAFMC are associated with coral or hardbottom habitat during their life history (SAFMC 2009). Much of the deepwater coral habitat is part of a 65-kilometer-long carbonate platform between Boca Raton and South Miami (Reed et al. 2006). At the base of the escarpment, *Lophelia* mounds are present, and these deepwater corals are valuable fish habitat, susceptible to physical destruction (Fossa et al. 2002) and may be hundreds to thousands of years old (Neuman et al. 1977). *Fishery Ecosystem Plan of the South Atlantic Region* (SAFMC 2009) discusses the fishery species, such as wreckfish (*Polyprion americanus*), that use these habitats. SAFMC also designates habitats along and near the cable route as an HAPC for golden tilefish (*Lopholatilus chamaeleonticeps*) and blueline tilefish (*Caulolatilus microps*). The HAPCs for golden tilefish are the troughs and terraces intermingled with sand, mud, or shell hash at depths of 150 to 300 meters. The HAPC for blueline tilefish are rock overhangs, rock outcrops, manganese-phosphorite rock slab formations, and rocky reefs.

Because of their importance to deepwater corals, several broad areas in the South Atlantic Bight are designated HAPC under the fishery management plan for coral, coral reef, and hardbottom (SAFMC 2011). The Miami Terrace and Escarpment HAPC is one of these areas and intersects the proposed cable route. The SAFMC (2011) summarizes the value of this HAPC noting the increased understanding of deepwater coral communities and ecosystems has led to an appreciation of the value of this habitat. Deepwater coral communities are hot-spots of biodiversity in the deeper ocean, making them areas of particular conservation interest. Stony corals as well as thickets of gorgonian corals, black corals, and hydrocorals are often attracting large numbers of fish and invertebrates. The high biodiversity associated with deepwater coral communities is intrinsically valuable and may provide numerous targets for chemical and biological research on marine organisms. As noted above, deepwater coral communities are also important habitat for many commercially important fishes.

Comments on the Habitat Mapping and Characterization Reports

<u>Sallow water</u>: The shallow-water habitat mapping and characterization report describes findings from survey work completed on March 18, 2015. The report provides qualitative descriptions of the habitats present along the cable route. Notably, some sites surveyed are 30 to 40 feet away from the cable route as depicted on pages 16 and 17 of the public notice. The report does not characterize specific sites identified for anchor placement. The report presents the linear distance of hardbottom, seagrass, and unvegetated sand bottom along the cable route.

<u>Deep water</u>: The deepwater habitat mapping and characterization report describes findings from survey work completed during February 4 to 9, 2015. The report describes results of a geophysical survey using high-resolution side-scan sonar, multi-beam sonar, and subbottom profiling. As a result of this survey, four sites of interest were surveyed further using video imagery and still photographs. While the NMFS believes the survey design and data collection were executed properly, there are concerns with the analysis, in particular the classification scheme used to characterize deepwater coral habitats.

In response to a request from the applicant, the NMFS provided a technical review of the survey scope in December 2014 and provided recommended changes. One recommendation was to eliminate the use of a coral health classification system, referred to as the Det Norske Veritas (DNV) coral health classification system (DNV 2009). The NMFS believes the DNV system is not suited to characterizing corals at the Miami Terrace and Escarpment. The DNV system, used off Norway, assesses coral health based on the proportion of live coral present. While it is useful to note the relative abundance of living coral, standing dead coral, and coral rubble, these characterizations should not be used as indicators of the health of a deepwater reef (as presented in Tables 1 and 4, Image 2, in the report). Most coral mounds in the Miami Terrace and Escarpment are predominately composed of dead coral and hundreds to thousands of years old (Neuman et al. 1977). The presence of dead coral should not be used to discount the habitat value (Table 4, in the report). Dead coral is typically described as standing dead or coral rubble, and it is recognized to be an important component of the habitat. For example, the Southeastern United States Deep-Sea Coral Initiative (SEADSC) committee described 14 habitats found on the continental slope and concluded the presence of live versus standing dead coral did not matter in habitat classification (see Partyka et al. 2007). Live coral, coral rubble, and standing dead coral all provide habitat for hundreds of species of invertebrates and juvenile fish (e.g., see Ross and Quattrini 2007), in addition to commercially valuable species (e.g., see Reed and Farrington 2010). Also, recent studies of sponges living within this "dead" and "poor" coral habitat, as characterized under the DNV system, have discovered species with potent anti-pancreatic cancer properties, which may be of considerable benefit to humans one day (personal communication, John Reed, Research Professor, Cooperative Institute of Ocean Research, Exploration and Technology, Harbor Branch Oceanographic Institute, Florida Atlantic University, 5600 U.S. 1 North, Fort Pierce, FL 34949 Florida Atlantic University, September 22, 2015).

Impacts to Essential Fish Habitat

Shallow water: Use of the existing conduit will avoid impacts to the Inner Reef. The NMFS agrees impacts to the Middle and Outer Reefs would be minimized through utilization of a gap in the reef. However, high quality hardbottom habitats within this gap (e.g., see images 7 and 8, from the report) and oceanic seagrass habitats occur west of the gap (e.g., see images 4 and 5, from the report) and may be impacted by laying the cable, installing the cable anchors, or sweeping of the cable during or after installation. According to the shallow-water report, the cable would cross 110 meters of hardbottom and 92 meters of seagrass. The report does not provide an impact estimate for the width of the cable. The NMFS believes the impacts to shallow coral and hardbottom habitats resulting from cable and anchor installation would be greater than listed as a linear distance in the notice, especially if the cable is not adequately secured to the seafloor. Gilliam and Walker (2012) examined 35 cable sites within the South Florida Ocean Measurement Facility (offshore Dania Beach, Florida). Substrate scour or other evidence of cable movement occurred at 27 sites, and mortality to stony corals, gorgonians, or barrel sponges occurred in association with cable movement at 12 sites. These observations show cable movements create an impact area greater than the width of a cable. Cable movement appeared to be greater in the nearshore habitats, most likely due to the shallower water depths; however, cable movement in any of the habitats is of concern because it increases the impact area.

Similar to unconsolidated rubble substrate, scour from cable movement can damage habitat, inhibit settlement, and reduce survival rates of reef biota (Gilliam and Moulding 2011). The potential for cable movement indicates impacts may occur to a larger area and over a longer period than evaluated in the public notice (Moulding 2011, Gilliam and Walker 2012). Due to the type of injuries cables cause (e.g., tissue abrasion, dislodgement from the reef framework, severing of octocorals and sponges) only continuous monitoring or monitoring conducted soon after cable placement or cable movement would detect the scale and magnitude of the impact (Gilliam and Walker 2012) and that type of monitoring is not proposed.

Deep water: Based on information contained in Table 4 of the deep-water report, approximately 2.44 kilometers (1.52 miles of cable would cross coral habitat and approximately 30 kilometers (18.6 miles) would cross soft substrate habitat. No anchoring is proposed along the deep-water route. The NMFS also believes the impacts to deepwater coral, coral reef, and hardbottom habitats resulting from cable and other infrastructure installation have been underestimated by the Jacksonville District, and the comments above on shallow water habitats apply here as well. Potential direct impacts identified by Messing (2011) from installing the cables include tearing, abrading, decapitating and dislodging of sponges, octocorals and antipatharians, and stony corals. The extent of possible direct impact cannot be quantified because it is not known how much the cable may move during or after deployment. While the extent of cable movement in deepwater is still not clear, impacts to coral, coral reef, and hardbottom habitat in deepwater could be minimized by developing procedures aimed at minimizing impacts that would occur as a result of the deepwater installation.

Compensatory mitigation
The notice describes two post-installation restoration activities as compensatory mitigation. First, the applicant proposes to mobilize promptly a dive team to free (by hand) any octocorals pinned under the cables and to relocate the cable to the extent possible off stony corals. In addition, the applicant proposes to re-attach any stony corals dislodged by cable placement. While the NMFS agrees these measures are needed, the NMFS does not consider these actions as compensatory mitigation; these actions are necessary responses to unauthorized impacts and may require additional mitigation.

EFH Conservation Recommendations

Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH Conservation Recommendations for any federal action or permit which may result in adverse impacts to EFH. Therefore, NMFS recommends the following to ensure the conservation of EFH and associated fishery resources:

1. The impacts to seagrass, coral, coral reef, and hardbottom habitats authorized in the permit should reflect all practicable avoidance and minimization measures, including co-location with existing cables, in particular along the shallow-water route.
2. The impacts to seagrass, coral, coral reef, and hardbottom habitats authorized in the permit should be based on an assessment methodology that includes potential cable sweep and anchor placement. The NMFS request an opportunity to comment on the locations and number of anchors and on the assessment of their impacts.
3. The permit prohibits work vessels from anchoring or spudding over seagrass, coral, coral reef, and hardbottom habitat.

4. The permit requires a post-installation survey to assess the status of seagrass, coral, coral reef, and hardbottom, at the site and to document impacts that may have occurred. The survey plan should include monitoring of the relocated corals, octocorals, and sponges for a period of two years. The plan also should include quantitative performance criteria and a requirement for remedial action should those criteria not be met. The NMFS request an opportunity to comment on the plan before initiation of the first post-installation survey.
5. The permit should require compensatory mitigation for all impacts to seagrass, coral, coral reef, and hardbottom. The NMFS request an opportunity to comment on the plan before permit issuance.

Section 305(b)(4)(B) of the Magnuson-Stevens Act and implementing regulation at 50 CFR Section 600.920(k) require the Jacksonville District to provide a written response to this letter within 30 days of its receipt. If it is not possible to provide a substantive response within 30 days, in accordance with the "findings" with the Jacksonville District, an interim response should be provided to the NMFS. A detailed response then must be provided prior to final approval of the action. The detailed response must include a description of measures proposed by the Jacksonville District to avoid, mitigate, or offset the adverse impacts of the activity. If the response is inconsistent with the EFH conservation recommendations, the Jacksonville District must provide a substantive discussion justifying the reasons for not following the recommendations.

NMFS appreciates the opportunity to provide these comments. Please direct related questions to the attention of Ms. Jocelyn Karazsia at our Palm Beach Office, 400 N Congress Ave, Suite 110, West Palm Beach, Florida 33401, at 561-249-1925, or Jocelyn.Karazsia@noaa.gov.

Sincerely,

/ for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc: USACE, Linda.C.Knoeck@usace.army.mil
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