



# United States Department of the Interior



## FISH & WILDLIFE SERVICE

### Boqueron Field Office

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DEC 15 2010

Col. Alfred A. Pantano, Jr.  
District Commander  
Jacksonville District Corps of Engineers  
701 San Marco Boulevard.  
Jacksonville, FL 32207-0019

Re: SAJ 2010-02881 (IP-EWG), Via Verde  
Pipeline Project.

Dear Col. Pantano:

The U.S. Fish and Wildlife Service (the Service) has received a copy of the above referenced Public Notice (PN) dated November 19, 2010, for the construction of a natural gas pipeline from EcoEléctrica to the PR Electric Power Authority (PREPA) power plants on the north coast of Puerto Rico. The proposed project has been publicly named by the proponent as Via Verde. Our comments are issued in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et. seq.) and the Endangered Species Act (ESA) (16 U.S.C. 1531 et. seq. as amended).

The applicant is requesting a permit to construct an approximately 92-mile-long pipeline covering about 1,672 acres, crossing 235 rivers and covering 369 acres of jurisdictional wetlands. The Caribbean Ecological Services Field Office has been involved in providing technical assistance to PREPA and its consultants on the current proposal. We have provided preliminary comments to the Corps in October 2010, based on the information submitted with the applicant's Joint Permit Application. We also provided technical assistance to the applicant regarding appropriate methodologies to conduct surveys for listed species.

The Service supports PREPA's efforts toward reducing Puerto Rico's dependence on fossil oils and encourages the Applicant to look for alternate energy sources for Puerto Rico. In 2006, the Service issued an Incidental Take Permit to WindMar RE for take anticipated during the construction and operation of a proposed wind farm on federally-listed species. For this project, WindMar appropriately minimized possible adverse effects and developed a comprehensive mitigation plan for the affected species. In 2008, the Service consulted with the Corps on the Gasoducto del Sur project. For this last project, the Service provided guidance and technical assistance to the Applicant for 2 years to minimize possible effects of the project on the endangered Puerto Rican nightjar and avoid effects to two listed plant species. The conservation

plan for the project was formalized through a Memorandum of Agreement between the Applicant and the Puerto Rico Department of Natural and Environmental Resources. At the present time, the Service is reviewing several other energy projects in Puerto Rico.

The following comments and recommendations are based on the information provided in the PN and information we have in our files.

**Purpose of the Project, Single and Complete Project, Federal Involvement and compliance with the National Environmental Policy Act (NEPA)**

The public notice states that the overall proposed purpose of the project is to deliver an alternate fuel source to three existing electric power generating facilities located in Arecibo, Toa Baja and Palo Seco operated by PREPA. EcoEléctrica was the first and remains the only source of natural gas in Puerto Rico. We believe the proposal may not include all elements necessary to meet this purpose.

Based on the information in our files and recent discussions with EcoEléctrica's consultant (see Enclosure 1), it is our understanding that the only authorized source of natural gas in Puerto Rico needs to be upgraded in order to supply the additional gas needed for the proposed pipeline. In May 1996, the Federal Energy Regulatory Commission (FERC) authorized EcoEléctrica to construct, and operate a liquefied natural gas (LNG) import terminal in Peñuelas, Puerto Rico. Environmental Condition No.11 of the May 1996 Order specified that "EcoEléctrica shall commence construction on its LNG facilities within 3 years of the date of this Order, or file a motion to extend the deadline, with the specific reasons why additional time is necessary." Therefore, it appears that authorization for the construction of the second authorized storage tank and four of the six authorized vaporizers has lapsed, and for EcoEléctrica to build another LNG storage tank, or other related facilities, it must obtain prior FERC authorization.<sup>1</sup>

In its July 19, 2010, semiannual report<sup>2</sup> to FERC (see Enclosure 2), EcoEléctrica indicated that it is considering construction of the second LNG Storage tank to supply natural gas fuel to the Commonwealth for a future expansion. We note that in this report, EcoEléctrica only addresses the Terminal Modification project for delivering natural gas to Costa Sur as previously permitted by FERC. By letter dated November 15, 2010, EcoEléctrica indicated to the Service that the current modifications to their facilities are not part of PREPA's Via Verde pipeline project, and that they would need to request FERC's approval for any physical or operational modifications that might be necessary in their facilities to serve the newly proposed pipeline project.

The PN fails to discuss necessary changes to EcoEléctrica's currently authorized facilities and operations to supply natural gas to PREPA's three facilities in the north. The Service issued a Biological Opinion for the original development of the EcoEléctrica facility, and modifications

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<sup>1</sup> FERC, Order Amending Authorization Under Section 3 of the Natural Gas Act, April 16, 2009, Footnote #3.

<sup>2</sup> EcoElectrica, L.P. LNG Import Terminal and Cogeneration Project Docket Number CP-95-35-000, Semi Annual Report LNG Operating Report, July 19, 2010.

to this facility would require a reinitiation of consultation under Section 7 of the Endangered Species Act, which we discuss later in this letter.

Because the Via Verde pipeline would require additional storage and modifications to the EcoEléctrica terminal, these projects are interrelated and should be viewed as one single and complete project. Should EcoEléctrica fail to obtain FERC authorization for the physical and/or operational modifications that might be necessary to serve the pipeline, the Corps would be permitting a fragment of a project that could not fulfill the stated purpose and need and would have irreversible resource impacts.

In addition, this project should be evaluated as a major construction activity since it would affect about 1,672 acres of land, including about 369 acres of wetlands, several Commonwealth Forests or Reserves, forested mountain and karst areas, and known habitat for more than 30 federally listed threatened or endangered species. Only when the project enters the San Juan metropolitan area do the environmental impacts drop significantly. We believe that the Corps has sufficient control and responsibility to warrant Federal Review over the entire project from the EcoEléctrica terminal to the end of the pipeline, and therefore a Federal EIS for this project is warranted.

### **Alternatives Analysis**

The applicant's alternative analysis does not include PREPA's original plan to build a new natural gas combined cycle power plant close to the existing Costa Sur facility, and to retro fit both Costa Sur and Aguirre power plants to use natural gas. This was the applicant's preferred alternative in the past and now is not mentioned in the applicant's alternatives analysis. We believe that this alternative is reasonable and practicable, as it is already permitted, would have lower environmental impacts, and would be more secure and easier to maintain than the currently proposed gas pipeline.

### **Habitat Impacts**

The project will cut through the southern karst region, central mountains, and northern karst region of Puerto Rico. Many portions of the alignment are currently isolated and not subject to developmental pressures. These include the Rio Abajo Commonwealth forest and the Vega Commonwealth forest, the DNER designated north karst Priority Conservation Area (PCA), the Caño Tiburones PCA, and the San Pedro Swamp Critical Wildlife Area.

The construction right of way (ROW) width ranges from 100 to 150 feet, and more if needed, with a final permanent ROW of 50 feet. The "Declaración de Impacto Ambiental Preliminar"(DIA-P) states that all vegetation within the construction ROW will be cut and that the permanent 50 foot ROW will be maintained as a no-root zone with no woody vegetation. The DIA-P does not propose mitigation for impacts to previously undisturbed forested areas in this long corridor that will create an avenue for invasive and noxious species to enter previously

isolated areas of wildlife habitat. The DIA-P also does not describe methods for maintaining a 92-mile, 50-foot-wide no-root zone corridor through karst and mountainous topography.

The Service is concerned that the clearing of all vegetation in the 150 foot ROW as stated in the DIA-P, in areas of highly erodible or unstable lands would cause excessive erosion that could impair water quality and channel stability in streams and rivers along the route. Trenching is likely not feasible in many steep areas within the corridor, yet DIA-P includes no discussion of how these areas will be traversed.

Since the construction ROW varies in width, we believe that all project impacts should be based on the worst-case scenario of a 150-foot wide ROW. Generalized drawings as seen on sheet 2 of the PN do not clearly represent what is written in the DIA-P. The proposed permanent 50 foot ROW and its associated no root zone will require either mechanical or chemical maintenance, which implies construction of a permanent maintenance road with associated stream crossings along most of, if not the entire, ROW length. This is not addressed anywhere in the documents. Utilizing the full estimate of ROW impacts should also help account for staging areas along the project route.

The Service is concerned about the possible impacts of directional drilling in the karst portions of the pipeline corridor. Voids in the rock matrix may lead directly to the aquifer, and a “frac-out” of drilling muds in this type of terrain and geology could contaminate underground waters and adversely affect human health, unique subterranean fauna, and commerce.

### **Endangered Species**

The Service concurs with the Corps' determination that the proposed project may affect the following 32 listed species: Puerto Rican nightjar (*Caprimulgus noctitherus*); Puerto Rican parrot (*Amazona vittata vittata*); Puerto Rican crested toad (*Peltophryne lemur*); Puerto Rican boa (*Epicrates inornatus*); Puerto Rican sharp-shinned hawk (*Accipiter striatus venator*); Puerto Rican broad-winged hawk (*Buteo platypterus brunnescens*); Puerto Rican plain pigeon (*Patagioenas inornata wetmorei*); and the listed plant species *Auerodendron pauciflorum*, palo de Ramón (*Banara vanderbiltii*), diablito de tres cuernos (*Buxus valhii*), *Cordia bellonis*, *Daphnopsis helleriana*, palo de rosa (*Ottoschulzia rhodoxylon*), *Myrcia paganii*, chupacallos (*Pleodendron macranthum*), *Shoepfia arenaria*, erubia (*Solanum drymophilum*), *Tectarea estremerana*, *Thelypteris inabonensis*, *Thelypteris verecunda*, *Thelypteris yaucoensis*, *Chamaecrista glandulosa*, cobana negra (*Stahlia monosperma*), *Polystichum calderoense*, nogal (*Juglans jamaicensis*), *Mitracarpus maxwelliae*, *Mitracarpus polycladus*, *Cordia rupicola*, *Catesbaea melanocarpa*, *Eugenia woodburyana*, bariaco (*Trichilia triacantha*), and St. Thomas prickly ash (*Zanthoxylum thomasianum*). No designated critical habitat is present along the proposed route for the project. The Service also continues to recommend surveys of the petitioned species coqui llanero (*Eleutherodactylus juanariveroi*) where the project crosses wetlands in Toa Baja.

In addition to the species listed above, the Corps also needs to make an effect determination with regards to the endangered Antillean manatee (*Trichechus manatus*). As we mentioned earlier in this letter, when EcoEléctrica was originally authorized, formal consultation under Section 7 of the ESA was concluded for the species. Since that time, the Environmental Baseline has changed; therefore, the Corps' biological assessment should also include an analysis of any necessary changes to current facilities and/or operation of the EcoEléctrica LNG terminal needed for the Via Verde project.

On October 18, 2010, the Service provided technical assistance to the Corps regarding the information included in the draft Biological Evaluation for the project. We concluded that the biological evaluation provided by the applicant did not rely upon survey methodologies that maximized detection probabilities for federally-listed species and did not include site-specific habitat characterization. Therefore, the Service could not concur with the determinations of the biological evaluation. We recommended that surveys for listed species be appropriately designed and conducted. We also recommended the development of a Biological Assessment, since we considered the project a major construction activity under NEPA. On November 10, 2010, December 2, 2010 and December 8, 2010, the Service provided additional technical assistance to the project applicant regarding appropriate survey methods for listed species along the proposed route.

At the present time, we continue to recommend that appropriate site-specific surveys be conducted along the proposed route to determine presence/absence of listed species within the project area and the amount of suitable habitat. Survey methodologies should be developed and surveys conducted by experienced and qualified personnel, and in close coordination with the Service. The Biological Assessment should include the results of such surveys and should be part of the Federal EIS. The Biological Assessment should consider the behaviors to be affected by the project, and proposed site-specific measures to avoid or minimize possible adverse effects.

Federal regulations at 50 CFR 402.12 provide guidance regarding Biological Assessments. A biological assessment shall evaluate the potential effects of the action on listed species and proposed species and designated and proposed critical habitat and determine whether any such species or habitat are likely to be adversely affected by the action and is used in determining whether formal consultation or a conference is necessary. The Biological Assessment shall be completed before any contract for construction is let, and before construction is begun (50 CFR 402.12(b)(2)). The regulation also describes the information should be considered for inclusion in the Biological Assessment (see 50 CFR 402.12(f)). The regulation recommends the following:

- (1) The results of an on-site inspection of the area affected by the action to determine if listed or proposed species are present or occur seasonally.
- (2) The views of recognized experts on the species at issue.
- (3) A review of the literature and other information.
- (4) An analysis of the effects of the action on the species and habitat, including consideration of cumulative effects, and the results of any related studies

- (5) An analysis of alternate actions considered by the Federal agency for the proposed action.

The Federal agency or the designated non-Federal representative shall complete the Biological Assessment within 180 days after its initiation (receipt of or concurrence with the species list), unless a different period of time is agreed to by the Service and the Federal agency (50 CFR 402.12(i)). If a permit or license applicant is involved, the 180-day period may not be extended unless the agency provides the applicant, before the close of the 180-day period, with a written statement setting forth the estimated length of the proposed extension and the reasons why such an extension is necessary. Once the Service reviews the Biological Assessment and concurs in writing with the Corps's initiation letter, a biological opinion is provided to the Corps within 135 days.

We would like to provide the following technical assistance for the planning and implementation of the surveys to inform the Biological Assessment.

#### **Habitat characterization for the Puerto Rican sharp-shinned hawk and Puerto Rican broad-winged hawk**

We agree with the Applicant's approach of characterizing the suitable breeding habitat for the endangered raptors utilizing expert's opinion, maps of previously known breeding areas or home ranges, data from previous studies and published references. We recommend compiling these data within a digital Geographic Information System (GIS). We would like to meet with the species experts and discuss during a working meeting the areas to be included in the analysis to ensure that all available information is considered for the effects determination. We also would like to have the opportunity to visit the areas with contracted personnel. If surveys to determine breeding territories are not conducted, suitable breeding habitat for the species should be avoided. The alternative of avoiding impacts to potential nesting trees and tree species is not protective to the species if the breeding territory is not identified. We do not concur with the Applicant that it is possible to avoid impacts to breeding habitat and breeding behavior without first identifying the breeding territory. Under the assumption that suitable habitat is occupied for breeding, possible take as defined by the ESA should be anticipated. It is important to determine the number of breeding territories that would be affected by the project construction and operation in order to evaluate in a Biological Opinion whether the project jeopardizes the continued existence of the species.

#### **Potential presence of endangered plants**

We do not agree with the Applicant's proposal of surveying at intervals of 100 m within suitable habitat. Interval sampling and transects is appropriate for diversity inventories, but not to detect presence of listed plant species, due to their patchy distribution and similarity of appearance with other common species. We recommend that personnel trained to recognize the listed species systematically search all areas of suitable habitat within the project footprint. We propose a working meeting between our staff and the Applicant's contracted personnel to share information

and delineate together the survey areas. Once the areas are designated, we propose combined site visits to determine the suitability of the sampling approach for each area. The Service requests that if listed species are identified or found, duplicates of herbarium specimens are provided to our office for reference purposes.

#### **Potential presence of coqui llanero in Toa Baja**

We agree with PREPA's approach to search for this species. We would like to have the opportunity to visit the ROW of the proposed project within other wetland areas in northern Puerto Rico to identify whether habitat suitable for the coqui llanero is present in other areas of the route.

#### **Potential presence of the Puerto Rican crested toad**

We agree with PREPA's approach to search for the Puerto Rican crested toad in both the southern and northern limestone forest areas. We recommend that before surveys are initiated, survey areas are discussed and delineated between our staff and contracted species experts. We would like to also have the opportunity to visit the areas with contracted personnel. As we mentioned in our letter dated October 18, 2010, haystack hills between Manatí and Bayamón harbor suitable habitat for the Puerto Rican crested toad. These areas should be included in the survey plans.

#### **Puerto Rican nightjar**

We continue to recommend intensive surveys during the breeding season for the endangered Puerto Rican nightjar to determine the amount of suitable habitat and the number of singing males or territories that the project may affect.. This information is necessary to determine direct and indirect effects to the species, and to formulate measures to avoid and minimize adverse effects during construction and operations.

#### **Puerto Rican boa**

The Applicant should delineate and quantify the amount of suitable boa habitat within the project area. The applicant should first consider alternatives to avoid these areas and develop conservation measures to minimize possible adverse effects where avoidance is not possible. Once possible effects are appropriately minimized, the Service would work with the Applicant to develop a search and rescue protocol for relocating individual animals to suitable habitat outside of the project area prior to project construction.

#### **Impacts to Landowner Incentive Programs**

The present project goes throughout properties under the Service's Partners for Fish and Wildlife Program (PFWP). We have identified that at least three properties under a current Conservation Agreement with the Service that may be adversely affected by the proposed project: Hacienda

Pellejas in Adjuntas, Hacienda Esperanza in Manatí, and the US Navy Radio Station in Toa Baja. Current efforts at these highly ecologically valued properties include restoration of forest, riparian habitat and restoration of wetland areas. The Service has invested close to \$180,000 of federal funds on these restoration activities, and we recommend modifying the project to avoid these areas. If avoidance is not practicable, the conservation investment in these properties must be compensated with comparable restoration efforts on other similar properties.

### **Wetland Impacts**

Temporary wetland impacts in the Joint Permit Application were calculated using a 50-foot width, even though the ROW width is 150 feet. As stated above, we recommend using a 150-foot construction corridor width to estimate temporary impacts.

The Applicant states that all wetland impacts will be temporary. Because the project involves approximately 235 separate wetland and river crossings, poor construction techniques on even a fraction of these, such as failing to remove all matting or excess fill material, or to properly grade and revegetate disturbed areas, could easily result in substantial permanent impacts.. This makes calculating wetland and habitat impacts difficult since impacts to wetlands and streams depend largely on the construction technique the contractor will use and does not take into account operation and maintenance of the pipeline.

Some of the wetlands the project may affect are within areas designated by the Commonwealth of Puerto Rico as Natural Reserves and Critical Wildlife Areas, including: the Cucharillas Marsh PCA, San Pedro Swamp PCA, Caño Tiburones Natural Reserve, and Hacienda la Esperanza Natural Reserve. These areas lie within the northern karst, an area known for its underground streams, springs and shallow aquifer.

Directional drilling is proposed to minimize impacts on larger rivers and streams, wetlands, roads and other areas, which involves injecting drilling mud (bentonite clay and other substances) under pressure into the bore hole. A “frac-out” occurs when the drilling mud escapes the bore hole, and if it enters waters supporting aquatic life, micro particles of the clay can clog the gills of aquatic organisms. While there is a discussion regarding steps to take in the event of a frac-out, the Service is very concerned with the use of this method in karst topography, where voids in the substrate are common and often connected to ground- and surface-water systems.

The pipeline route crosses multiple low-order streams in mountainous areas. These streams are the headwaters of larger rivers and support a marine-derived native stream fauna composed of several species of freshwater shrimp, crabs and gobies. This diverse community is sensitive to disturbance, increased turbidity, and changes in channel morphology. Excessive erosion and sedimentation during construction or maintenance of the ROW could cause long-term or permanent impacts to these important wildlife areas.



Directional drilling is also proposed to avoid impacts to forested wetland areas. This includes an approximately 1-mile long crossing under the mangrove wetlands and the Rio Cocal in Toa Baja. However, all project drawings of wetland crossings show the 150-foot ROW and the permanent 50-foot no-root zone. It is not clear whether the 50-foot permanent ROW in forested wetlands could be used to access the pipeline in the future. If so, then this should be considered a permanent wetland impact. Because of the muck soils associated with some of these wetland types, additional staging areas will be needed for the drill rig, pipe, etc. There is no mention of how drilling mud will be managed, since there will be a need for sumps and other ground disturbances at the drill site to store drill muds.

### **Mitigation**

The Corps has not yet verified the Applicant's jurisdictional determinations. The Applicant proposes a .01-to-1 compensatory mitigation ratio. This would amount to 4 acres of compensatory mitigation for an estimated 369 acres of "temporary" wetland impacts, which is inappropriate and unacceptable to the Service. A much higher ratio is necessary to compensate for the: 1) temporary loss of wetlands functions and values; 2) likely permanent loss of functions and values due to contractor errors; and 3) permanent habitat alteration by species such as cattails that rapidly invade disturbed wetland areas and out compete more beneficial wetland plants.

The Applicant should develop an adequate mitigation plan after the appropriate efforts have been implemented for avoidance and minimization. In addition we recommend that the Corps impose a performance bond to assure proper compliance with the mitigation and minimization measures.

The project area includes the mitigation area for the Gasoducto del Sur project, despite our repeated requests during the technical assistance process to avoid this area. This area was selected as a mitigation area to preserve its large amount of undisturbed, quality habitat. The Corps needs to assure compliance with previous permit conditions as part of considering this new permit action.

### **Summary and Conclusion**

This project is one of the largest infrastructure projects proposed in Puerto Rico in decades. Its 92-mile corridor of temporary and permanent impacts would cross karst, mountain, and coastal habitats, a number of which are recognized in the Puerto Rico Comprehensive Wildlife Conservation Strategy as Critical Wildlife Areas important to conservation. The project could affect habitat for more than thirty federally-listed species and one species for which we are considering a petition for listing. Impacts to fauna and flora are not well documented, and maintenance for sensitive areas after construction is not well specified.

A broad spectrum of fish and wildlife resources occur within and adjacent to the proposed pipeline route, including migratory birds, amphidromous fish, endangered species, and wetlands. The karst areas of Puerto Rico are unique geological and ecological features in the United States,

and serve as an important aquifer recharge zone for the island. The haystack karst hills are a refugium for many native plant species. The project could adversely affect numerous streams and wetlands, and the Applicant's proposal does not appropriately consider alternatives to avoid, and measures to minimize, such impacts. The proposed 0.01-to-1 compensatory mitigation ratio is inadequate. Therefore, we are advising you, in accordance with part IV 3(a) of the 1992 Memorandum of Agreement between our agencies on the elevation of permit decisions under section 404(q) of the Clean Water Act, that the proposed project may result in substantial and unacceptable impacts to aquatic resources of national importance. We recommend that the Corps deny a permit for this action as currently proposed. The Service requests to be informed of any meetings with the applicant and the Corps or any additional documentation submitted to the Corps, regarding this permit action.

If you have any questions please contact Marelisa Rivera at 787 851 7297 x 206.

Sincerely,



Edwin Muñiz  
Field Supervisor

Fhl/mtr

Enclosures

cc:

DNER, San Juan

EQB, San Juan

PRPB, Land Use Division, San Juan

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