

SUPPLEMENTAL ENVIRONMENTAL INFORMATION REQUEST

RESOURCE REPORT 2 – WATER USE AND QUALITY

1. Provide the individual acreage impacts to PEM and PFO wetlands that will occur from construction of the new permanent access road to the Carthage Compressor Station.

Response:

At the Carthage Compressor Station, the new permanent access road and electric distribution line will be constructed within a shared 100-foot-wide utility and road easement, where the northernmost 60 feet will be used for the electric utility and the southernmost 40 feet will be used for the new station access road. The configuration of the utility and road easement has been designed to allow for an adequate turning radius to accommodate the equipment transporting materials for station construction and will result in limited permanent impacts on wetlands. The transmission line poles within the utility easement will be placed to avoid permanent impacts to wetlands located within the easement. The permanent access road (TH-PA-100-PAR.1) will be approximately 15 feet wide and located within the 40-foot-wide easement. The 40-foot-wide easement will affect a total of 0.05 acre of wetlands as listed below.

Wetland D28 (PEM) – 0.01 acre
Wetland D30 (PFO) – 0.03 acre
Wetland D31 (PFO) – 0.01 acre
Wetland D32 (PEM) – <0.01 acre

Actual wetland impacts may be less than 0.05 acre depending on the final layout of the 15-foot-wide permanent access road within the 40-foot-wide easement. ETC Tiger Pipeline, LLC (ETC Tiger) will mitigate for any forested wetland impacts (both temporary and permanent) as part of its wetland mitigation plan developed in coordination with the U.S. Army Corps of Engineers (USACE).

RESOURCE REPORT 3 – FISH, WILDLIFE, AND VEGETATION

- 2. Indicate whether ETC Tiger will clean construction equipment between sites as recommended by Morris Houck of the Natural Resource Conservation Service in an email dated June 4, 2009 to Jason Lancaster of TRC Environmental, contained in ETC Tiger's consultation appendix to Resource Report 1.**

Response:

Mr. Houck stated that the only officially recognized invasive species in Louisiana is Chinese tallow (*Triadica sebifera*, aka *Sapium sebiferum*). Mr. Houck also mentioned several non-official wetland species, including water hyacinth (*Eichornia crassipes*), common salvinia (*Salvinia minima*), eurasian water milfoil (*Myriophyllum spicatum*), hydrilla (*Hydrilla verticillata*), and alligator weed (*Alternanthera philoxeroides*), which have invasive qualities and could also be present within the ETC Tiger Pipeline Project (Project) corridor.

Chinese tallow is a facultative or transitional species capable of invading both upland and wetland areas. It is typically spread by seed dispersal by water or by birds which ingest the seeds and deposit them in their excrement. Most of the aquatic invasive species are capable of rapid vegetative growth as well as sexual and asexual reproduction. Of the listed species, Chinese tallow is the most prevalent and is present throughout northern Louisiana and east Texas.

Although invasive species were noted during the ETC Tiger 2009 general ecological field studies, areas of significant coverage or monocultures of these species, especially Chinese tallow, were not identified. Aside from the general removal of tree limbs and other obvious organic debris that may be transported off the construction work area during clearing operations, ETC Tiger will not dispose of or bury organic materials in natural habitats that would lead to a congestion of seed sources that would facilitate growth of an invasive species. All woody debris or organic material cleared from the right-of-way will be burned on-site (outside the limits of any wetlands) or will be transported to an approved disposal site. For residual debris that may be transported by the equipment from one portion of the construction work area to another by normal equipment travel down the right-of-way, the residual material would be transported into similar habitats where the potential and existence of any invasive species already exists. The transport of the equipment is not expected to lead to an increased chance of invasive species infestation based upon the invasive species known to occur in the Project area. ETC Tiger will require that equipment arriving at the construction sites from remote areas or other projects not related to ETC Tiger Pipeline be cleaned prior to their arrival to prevent introduction of a new invasive species. However, once the equipment arrives on-site, no specific washing procedures or stations are proposed or warranted as the habitats and conditions along the length of the proposed pipeline are similar. Chinese tallow does not reproduce asexually or grow from limb stock, therefore the incidental transport of a limb or part of the plant from one work site to another would not lead to an infestation.

Should Chinese tallow or other aquatic invasive species be accidentally transported and lead to the establishment of these species in new areas, ETC Tiger will implement the measures within the ETC Tiger Upland Erosion Control, Revegetation, and Maintenance Plan (Plan) in Section VII.A.2, Post Construction Monitoring and Maintenance) and Wetland and Waterbody Construction and Mitigation Procedures (Procedures). The construction work areas will be monitored annually for two growing seasons in uplands and for three years in wetlands following restoration to measure the success of revegetation and detect the establishment of nuisance and invasive species. Restoration will not be considered successful until upon visual survey, the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands. In the event that monitoring determines that invasive species are present at densities greater than those on adjacent undisturbed lands, a control program will be developed in coordination with the local or state resource agencies which may include physical, chemical, or biological measures targeted specifically for those species.

- 3. In order to be able to use the National Environmental Policy Act document as the Biological Assessment for the proposal, provide the following information in response to the U.S. Fish and Wildlife Service's (FWS) letter dated September 30, 2009:**
- a. Confirm that ETC Tiger would conduct additional consultations with the FWS to implement appropriate mitigation measures should construction be delayed into the Louisiana black bear denning season (December through April).**
 - b. Confirm that construction activities would not occur within 650 feet of a least tern nesting colony and that ETC Tiger would conduct additional consultations with the FWS to implement appropriate mitigation measures should least terns be observed during the breeding season (May 15 to August 31).**
 - c. If project activities will occur within 1,000 feet of a colonial nesting bird rookery, confirm that construction activities will be limited to the species-specific non-nesting period.**
 - d. Submit site-specific written justification for each location where ETC Tiger proposes a construction right-of-way width greater than 75 feet in any type of wetland area.**

Response:

- a. Confirm that ETC Tiger would conduct additional consultations with the FWS to implement appropriate mitigation measures should construction be delayed into the Louisiana black bear denning season (December through April).**

ETC Tiger began informal consultations with the FWS in March 2009, and is continuing to discuss potential effects of the Project with regards to federally listed species including the Louisiana black bear. During general ecological surveys of the entire Project's temporary and permanent right-of-ways, no candidate denning trees (defined as 36-inch or greater diameter at breast height) were identified. The FWS, Arlington, Texas field office has concurred in its September 14, 2009 letter, that the Project will not adversely affect the Louisiana black bear in Texas (see letter in Attachment 4, enclosed with ETC Tiger's response to the FERC Staff's October 1, 2009 Supplemental Environmental Information Request filed on October 20, 2009). Forested areas within Richland and Franklin Parishes, Louisiana are most likely to be used as foraging, breeding, and denning habitats by the Louisiana black bear. Specific surveys were completed in Richland Parish, but not within Franklin Parish because the total 0.7-mile crossing of Franklin Parish occurs in agricultural and open land.

Should construction be delayed and require clearing during the Louisiana black bear denning season (December through April), ETC Tiger will consult with the FWS to develop appropriate mitigation measures.

- b. Confirm that construction activities would not occur within 650 feet of a least tern nesting colony and that ETC Tiger would conduct additional consultations with the FWS to implement appropriate mitigation measures should least terns be observed during the breeding season (May 15 to August 31).**

Based on ecological surveys conducted in spring and summer 2009 within a 350-foot-wide corridor along ETC Tiger Pipeline's proposed temporary and permanent rights-of-way, no interior least tern nesting colonies were identified within the Project work areas. While the area with the greatest potential for occurrence of the interior least tern is in the vicinity of the Red River crossing, this crossing location does not possess the required habitat for nesting by the interior least tern. These results are similar to those found during surveys conducted for the CenterPoint Energy Gas Transmission (CenterPoint) project at an adjacent crossing of the Red River in 2006. These results are also consistent with data contained within the Louisiana Department of Wildlife and Fisheries (LDWF), Louisiana Natural Heritage Program database that indicates the nearest known interior least tern nesting locations are found greater than four (4) miles away from the proposed crossing of the Red River.

The Red River will be crossed using a horizontal directional drill (HDD), thus avoiding impacts to the river banks. The Red River will be used as a water source for hydrostatic testing of the pipeline and the HDD. Some minor disturbance will occur along the river bank for the setup of the water withdrawal pumps. Based on the surveys conducted and proposed construction activities at the Red River, construction activities will not occur within 650 feet of an interior least tern nesting colony.

Should an interior least tern nesting colony be found during construction, ETC Tiger will maintain a minimum of 650 feet between the colony and construction activities during the breeding season (May 15 to August 31) or consult with the FWS to develop appropriate mitigation measures.

- c. If project activities will occur within 1,000 feet of a colonial nesting bird rookery, confirm that construction activities will be limited to the species-specific non-nesting period.**

No colonial nesting bird rookeries were found within the survey corridor during the general ecological field studies conducted in spring and summer 2009. These results are similar to those found during surveys for the adjacent CenterPoint project conducted in 2006. Neither the Texas Parks and Wildlife Department nor the LDWF have records of any known rookeries within or near the ETC Tiger Pipeline proposed temporary or permanent rights-of-way.

In the event that a colonial nesting bird rookery is discovered within 1,000 feet of Project construction work areas, ETC Tiger will consult with the FWS and state agencies to develop appropriate mitigation measures for the specific species and its nesting season.

- d. Submit site-specific written justification for each location where ETC Tiger proposes a construction right-of-way width greater than 75 feet in any type of wetland area.**

Based upon the September 30, 2009 letter, the FWS actually stated under the Wetlands section on page 9, Item 1, that the “temporary construction right-of-way” be limited to 75 feet and any additional right-of-way be justified and described in detail on a case-by-case basis to the FWS. ETC Tiger is proposing to utilize a permanent right-of-way of up to 60 feet for operations and a “temporary construction right-of-way” ranging between 15 to 60 feet to safely install the proposed pipeline. Consequently, ETC Tiger is in compliance with the FWS directive in that it will utilize up to 60 feet of “temporary construction right-of-way” except in areas where additional temporary workspace is required. ETC Tiger’s total construction right-of-way includes both the permanent and temporary portions of the right-of-way which together become the construction right-of-way. This total construction right-of-way varies in width from 75 feet in sensitive cypress/tupelo habitat up to 120 feet in less sensitive herbaceous or non-forested wetland habitat. In most instances, ETC Tiger is overlapping existing, previously cleared rights-of-way further reducing the amount of new areas to be cleared. Information regarding case-by-case justification was provided in Table DR-9 “New” in ETC Tiger’s response to the FERC Staff’s October 1, 2009 Supplemental Environmental Information Request (No. 9) as filed on October 20, 2009. Table DR-9 provides the location (MP), extent (acreage), a description of each wetland (emergent, forested, etc.), and site-specific justification for the proposed construction right-of-way width.

ETC Tiger has provided the FWS (see Attachment 1, copy of letter dated October 27, 2009 to FWS, Atlanta Regional Office) with the same information as filed with the Commission on October 20, 2009. ETC Tiger will continue to work with the FWS to answer any questions or provide any additional information they need to facilitate construction within the limits of the workspaces as proposed by ETC Tiger.

RESOURCE REPORT 5 – SOCIOECONOMICS

4. For each county/parish crossed by the project, provide total annual county/parish revenue and the contribution percentage the annual taxes to be paid by ETC Tiger will represent (Resource Report 5).

Response:

Estimated annual taxes for the construction year (2010) and the operation year (2011 through the life of the Project) are provided below. The construction year tax revenues include estimated taxes that would be paid by the non-local workforce for food, lodging and other subsistence expenses; contractor purchases of local goods and materials; and ETC Tiger construction pipeline materials assuming a blended sales tax of 7.8 percent. The operational tax revenues include taxes paid on the assessed value of the pipeline facilities and were originally provided in Resource Report 5, Table 5.2.3, Estimated Property Taxes by County/Parish for the ETC Tiger Pipeline Project. The latest U.S. Census data for county/parish tax revenues is contained in the U.S. Census report, titled “Finances of County Governments: 2002 (Issued February 2005) Volume 4, Number 3, Government Finances,” Table 13, Finances of Individual County Governments by State: 2001-02. More current tax revenue data from the U.S. Census does not provide a breakdown of tax revenues on a county or parish basis, nor is updated information available in a comparable format from the state or county/parish governments.

TABLE DR-4 Estimated Tax Revenues					
County/Parish, State	2002 Total County/Parish Revenues <u>a</u>/ (\$)	Construction – 2010		Operation – 2011 through Life of Project	
		ETC Tiger Estimated Tax Revenues <u>b</u>/ (\$)	Percent of 2002 Total Tax Revenues	ETC Tiger Estimated Tax Revenues <u>c</u>/ (\$)	Percent of 2002 Total Tax Revenues
Panola, TX	12,674,000	2,988,339	24%	3,197,890	25%
Caddo, LA	103,615,000	1,222,998	1%	1,061,570	1%
DeSoto, LA	NA	3,616,218	-	2,993,474	-
Red River, LA	NA	3,026,558	-	3,767,253	-
Bienville, LA	NA	6,293,347	-	6,616,559	-
Jackson, LA	NA	5,134,047	-	5,149,780	-
Ouachita, LA	88,701,000	3,425,124	4%	2,520,162	3%
Richland, LA	39,757,000	6,002,157	15%	4,892,644	12%
Franklin, LA	NA	90,996	-	60,153	-
Total		31,799,784		30,259,485	

TABLE DR-4 Estimated Tax Revenues					
County/Parish, State	2002 Total County/Parish Revenues <u>a/</u> (\$)	Construction – 2010		Operation – 2011 through Life of Project	
		ETC Tiger Estimated Tax Revenues <u>b/</u> (\$)	Percent of 2002 Total Tax Revenues	ETC Tiger Estimated Tax Revenues <u>c/</u> (\$)	Percent of 2002 Total Tax Revenues
<p><u>a/</u> Table 13 from U.S. Census Bureau, http://www.census.gov/prod/2005pubs/gc02x43.pdf. <u>b/</u> Sales taxes on construction purchases during construction. <u>c/</u> Property taxes on assessed value of pipeline facilities. NA = Not available</p>					

RESOURCE REPORT 8 – LAND USE, RECREATION, AND AESTHETICS

5. Provide milepost location, temporary and permanent impacts, and proposed mitigation measures for the U.S. Army Corps of Engineers property that will be crossed.

Response:

As stated in ETC Tiger's response to No. 18 of the FERC Staff's October 1, 2009 Supplemental Environmental Information Request as filed on October 20, 2009, the U.S. Army Corps of Engineers property will be crossed between approximate MPs 138.1 and 140.5. The previously filed response includes a complete description of the property, and its current and planned future use. Because the entire property will continue in agricultural use through December 31, 2010 and half of the property will continue in agricultural use through December 31, 2011, the pipeline will be installed using agricultural construction methods. No additional mitigation is required or proposed. In accordance with the ETC Tiger's acquired easement across this property, the pipeline will be installed within a 150-foot-wide construction right-of-way and will be maintained within a 60-foot-wide permanent easement. Additional temporary workspace for the horizontal directional drill of the Bayou Lafourche will also be located on this property.

Impacts associated with construction and operation of the pipeline on this property are provided below.

- Permanent easement – 16.5 acres
- Temporary construction workspace – 23.7 acres
- Additional temporary workspace – 4.2 acres
- Total construction and permanent workspace – 44.4 acres
- Temporary use of existing Access Roads:
 - TH-OU-824-TAR-28 (18,085 feet) – 8.3 acres
 - TH-OU-824-TAR-28A (5,665 feet) – 1.95 acres
 - Total access roads – 10.3 acres.

RESOURCE REPORT 9 – AIR AND NOISE QUALITY

6. Provide estimated construction criteria pollutant and greenhouse gas emissions for project activities to be conducted in Franklin Parish, Louisiana (Resource Report 9).

Response:

The calculations provided in Resource Report 9 for construction criteria and greenhouse gas pollutant emissions were based on pipeline construction miles, equipment specifications, and time necessary for crews to complete Project construction tasks. Terrain and weather conditions were included and had some minor impact on the assessments.

The pipeline construction length in Franklin Parish is approximately 4,000 feet (0.7 mile). Therefore, a ratio of this distance to the total pipeline length (approximately 175 miles) would yield the following emission estimates for Franklin Parish.

	Total Emissions (tons)						
	NO_x	CO	VOC	PM₁₀	PM_{2.5}	SO₂	CO₂ e
Total Pipeline Construction Emissions	709.9	3064.1	401.1	1569.6	593.7	12.0	80461
Franklin Parish	3.1	1.6	1.7	6.8	2.6	0.1	349.4

ATTACHMENT 1
Letter to FWS, Atlanta Regional Office

ETC Tiger Pipeline, LLC
Docket No. CP09-460-000

Response to:
October 19, 2009 Supplemental Environmental Information Request

October 27, 2009



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October 27, 2009

U.S. Fish and Wildlife Service
1875 Century Boulevard
Atlanta, GA 30345

Attn: Victoria Davis, Acting Chief of Planning and Permits
Southeast Region

Re: ETC Tiger Pipeline, LLC
ETC Tiger Pipeline Project
FERC Docket No. CP09-460-000
FWS/R4/ES

Dear Ms. Davis:

TRC, on behalf of ETC Tiger Pipeline, LLC (ETC Tiger), is providing the following comments in response to your September 30, 2009 letter to the Federal Energy Regulatory Commission's (FERC) Notice of Application for the proposed ETC Tiger Pipeline Project (ETC Tiger Pipeline or Project). As proposed, ETC Tiger is planning to construct, own, operate, and maintain a new 42-inch-diameter pipeline and associated pipeline support facilities to transport natural gas from Panola County, Texas to Richland Parish, Louisiana. The Project would include facilities located in Panola County, Texas, and Bienville, Caddo, DeSoto, Jackson, Ouachita, Red River, Franklin, and Richland Parishes, Louisiana.

ETC Tiger initiated consultations with the U.S. Fish and Wildlife Service (USFWS) Arlington, Texas and Lafayette, Louisiana offices in March 2009, regarding potential Project impacts on federally threatened and endangered species known to occur in the county and parishes listed above and public lands. These consultations are ongoing. Provided below is a summary of these consultations as outlined in your September 30, 2009 comment letter to the FERC.

Comments on the Portion of the Project in Texas

ETC Tiger provided the USFWS, Arlington, Texas office (USFWS, Arlington) with the results of surveys conducted in Texas for the Louisiana black bear (*Ursus americanus luteolus*) on August 31, 2009. The USFWS, Arlington concurred with the results of these surveys in its comment letter dated September 14, 2009 (see Attachment 1).

Wetlands and Wildlife Habitat

The ETC Tiger Pipeline will be constructed parallel to the CenterPoint Energy Gas Transmission (CenterPoint) and Gulf South Pipeline Company, LP (Gulf South) pipelines that are currently installed and in-service. See additional information below on wetlands and potential cumulative impacts.

Comments on the Portion of the Project in Louisiana

ETC Tiger provided the USFWS, Lafayette, Louisiana office (USFWS, Lafayette) with the results of surveys/review conducted in Louisiana for the Louisiana black bear (*Ursus americanus luteolus*), red-cockaded woodpecker (*Picoides borealis*), pallid sturgeon (*Scaphirhynchus albus*), earth fruit (*Geocarpon minimum*), interior least tern (*Sterna antillarum*), and the candidate pine snake (*Pituophis ruthveni*), on August 31, 2009. Consultations and data exchanges are ongoing with USFWS, Lafayette regarding appropriate mitigation measures and concurrence for these species and are expected by November 13, 2009.

Migratory and Colonial Nesting Birds

ETC Tiger conducted biological surveys along the entire length of the proposed pipeline and associated work areas, including access roads. No colonial nesting wading bird rookeries were identified. While Project activities could cause birds to avoid the construction areas, this impact will be limited to the relatively short period of active construction and is not expected to result in a significant long-term change in migratory bird populations. To minimize impacts to migratory birds during the construction phase of the Project, the following steps will be implemented where practicable:

- The pipeline will be installed adjacent to existing rights-of-way for most of the length of the Project, thus avoiding unfragmented forested habitat.
- ETC Tiger is proposing to cross via Horizontal Directional Drill (HDD) the majority of the large forested riparian habitats in conjunction with the sensitive waterbody crossings, further reducing or eliminating impacts to migratory bird habitat.
- Where possible and across all old growth forested habitat, ETC Tiger has reduced the proposed right-of-way to 100 feet to minimize impacts, including areas where ETC Tiger parallels an existing utility. Out of the 175 miles, ETC Tiger only crosses 0.83 miles or 4,382 feet (< 0.01 percent) of unfragmented forested habitat which is located in Ouachita Parish, Louisiana. This correlates to 7.5 acres of impacts to unfragmented forested habitat (excluding pine plantation) which is 1.27 percent of the total

construction related impacts to forested, non-pine plantation habitat. In this area, ETC Tiger has reduced the construction right-of-way to 100 feet (60 feet permanent and 40 feet temporary construction rights-of-way) to minimize project related impacts

- The proposed pipeline traverses predominantly pine plantation habitat under active harvesting and cultivation. As a result, the migratory bird habitat has already been reduced and the Project will not result in additional habitat alterations other than what currently exists in the pine plantation habitat.
- Construction activities will be confined to the Project's rights-of-way and contractor yards. These areas will be staked and marked prior to clearing. The marking will be maintained throughout construction.
- Based upon the proposed construction time of June to November, impacts to migratory bird nesting season will largely be avoided.
- ETC Tiger will require all personnel working on the Project to attend environmental training. This training will emphasize the importance of minimizing impacts to migratory birds, procedures in place to minimize these impacts, and awareness of nesting birds and what measures to take should a nesting bird be sighted.
- The Project right-of-way will be stabilized to protect soil resources and aid in returning disturbed areas to migratory bird habitat.
- ETC Tiger will mitigate forested wetland impacts via compensatory wetland mitigation in coordination with the U.S. Army Corps of Engineers (USACE). Any mitigation for the forested habitat will also provide suitable mitigation to offset to migratory birds and their habitat.

In addition to these steps, ETC Tiger will not conduct routine vegetation maintenance of upland right-of-way more frequently than once every 3 years in order to minimize impacts to migratory bird species that may use the permanent right-of-way for nesting. However, to facilitate periodic corrosion and leak surveys in wetlands, a corridor not exceeding 10 feet in width centered on the pipeline may be maintained annually in an herbaceous state.

Wetlands

Right-Of-Way Width and Collocation Issues

As part of its October 21, 2009, response to FERC's environmental data request, ETC Tiger has prepared and filed with the FERC a detailed table that identifies the MP location, extent (acreage), and site-specific justification for each wetland area where ETC Tiger is requesting a total right-of-way width greater than 75 feet in wetlands. Based upon the FWS letter dated September 30, 2009, the FWS indicated that the "temporary construction rights-of-way should be restricted to 75 feet in all wetland types." ETC Tiger has designed the Project and configured the right-of-way dimensions so that the permanent or operational right-of-way will be a maximum of 60 feet wide and the "temporary construction rights-of-way" will vary between 15 to 60 feet (e.g., that additional clearing outside the permanent right-of-way) in all wetland types. This configuration results in total rights-of-way widths (permanent or operational plus temporary construction rights-of-way) of the following:

- 75 feet in cypress tupelo wetlands (60 feet permanent or operational right-of-way plus 15 feet temporary construction right-of-way)
- 100 feet in forested wetlands absent cypress or tupelo trees (60 feet permanent or operational right-of-way plus 40 feet temporary construction right-of-way)
- 120 feet (60 feet permanent or operational right-of-way plus 60 feet of temporary construction rights-of-way).

This is consistent with the FWS recommended restriction. ETC Tiger is also paralleling several other adjacent utilities for the majority of the project length. Where ETC Tiger parallels a foreign utility, ETC Tiger will overlap the parallel utility right-of-way for as much as possible and up to 10 feet from the centerline of the foreign utility. This utilization of the foreign utility right-of-way will further reduce the amount of clearing ETC Tiger must conduct for its proposed pipeline to facilitate construction. Depending on the configuration of the foreign utility's right-of-way, ETC Tiger will utilize up to 20 feet of the foreign utility's permanent easement and in cases where the previous utility's construction footprint overlaps ETC Tiger's proposed workspace, ETC Tiger will utilize up to an additional 40 or 45 feet of the previously cleared right-of-way for construction. This previously cleared construction right-of-way will also become part of ETC Tiger's new permanent or operational right-of-way, further reducing new impacts to undisturbed wetland habitat.

ETC Tiger is providing attached herein as Attachment 2 to this letter a copy of the right-of-way justification provided to the FERC on October 21, 2009. This Attachment provides the site-by-site and case-by-case justification for total rights-of-way greater than 75 feet in wetland habitats, which is additional detail beyond the justification for the "temporary construction rights-of-way" as requested by the FWS.

For all the locations where ETC Tiger is proposing a total right-of-way in wetlands from 75 feet to either 100 or 120 feet, the bulleted information below is generally applicable. ETC Tiger is only proposing a wider right-of-way in areas where it is necessary to have an wider right-of-way to minimize extended durations of impacts to the wetland resources, which will ultimately lead to reduced impacts to the community and will allow for more successful restoration. In all of the mature, old growth forested wetlands which are located adjacent to major or sensitive river/stream crossings and in areas where cypress-tupelo habitat is found, ETC Tiger has either reduced the right-of-way to 75 feet or is proposing to cross the habitat via an HDD. These crossings are either short in length (less than 500 feet) allowing drag construction techniques or the conditions are suitable for an HDD or the area is sensitive in nature and an HDD will prevent significant impacts to the resource.

When installing a pipeline in drag sections, the pipeline is welded in long sections outside the wetland area and a portion of the trench spoil is carried outside the wetland boundary temporarily while construction is underway. This process and technique allows more of the right-of-way to be utilized for access and equipment. Once the trench is dug and the work area is graded to allow the equipment to travel into/out of the wetland, the pipe is then carried into the wetland and placed into the trench. Immediately following the pipe placement, the pipe weights are installed and then the trench is back-filled with the spoil stored within the right-of-way or it is carried back into the wetland from the storage area. This technique can be employed in situations where the crossing is less than 500 linear feet.

However, if the wetland is greater than 500 linear feet, the pipe drag section becomes too long and cannot be carried into the wetland due to weight limitations and typically the equipment does not have enough strength to drag and carry the pipe at the same time. The weight of the pipe coupled with the weight of the equipment is limited by the soil having enough weight-bearing capacity to handle the combined weight of the pipe and equipment, even with the use of wood mats and low weight bearing equipment.

Additionally, by preparing for and proposing a larger footprint upfront during the planning process, ETC Tiger believes that the construction duration can be reduced, thus reducing the duration of construction within the wetland and allowing for quicker restoration. In general an expanded right-of-way in certain wetlands will minimize the environmental risk, reduce the duration of impacts, and will allow for efficient construction of this pipeline.

The following bulleted information is consistent and applicable to all locations where ETC Tiger is proposing the use of a total right-of-way greater than 75 feet in wetland habitats:

- Typical construction layout drawings Figure 2B-1 (Sheets 1 through 5) and Figure 2C-1 (Sheets 1 through 6) (see Attachment 3 to this letter) provide scale drawings of the proposed construction within the 100 and 120 foot total right-of-way sections. These drawings demonstrate the overlap of the abutting and previous construction/permanent utilized areas as well as the new right-of-way required to install the proposed pipeline.
- Overall, in wetlands where a total right-of-way is proposed that exceeds 75 feet in width, ETC Tiger is proposing to utilize the parallel, previously cleared utility right-of-way as much as possible. In most areas (where a utility is parallel to the proposed pipeline and the parallel pipeline's workspace falls on the same side as the ETC Tiger proposed pipeline workspace), this translates into ETC Tiger overlapping the existing foreign pipeline permanent right-of-way for up to 20 feet. ETC Tiger also will utilize the previously impacted/cleared construction right-of-way for up to 45 feet (assuming the previous pipeline had a 75 foot right-of-way and not taking into account additional temporary workspace).
- New total right-of-way in wetland areas not previously disturbed by a parallel utility could range between 75 and 120 feet depending on the habitat type, length of the wetland crossing and site-specific conditions of the wetland crossing. However, where ETC Tiger abuts a parallel utility, ETC Tiger does not anticipate that the new additional wetland clearing will exceed 75 feet in forested habitat and no more than 100 in non-forested habitat (in most cases where a parallel utility exists and the previous workspace will also be overlapped this will be limited to 40 or 45 feet).
- To expedite construction and reduce the duration and impacts to the environment and landowners who have specifically requested a more expedited construction period than they experienced with the prior two pipelines, ETC Tiger requires a larger right-of-way within certain habitat types to ensure the contractors can move efficiently and safely along the right-of-way. Without adequate space, the contractors move at a slower pace, extend the duration of impacts and soil disturbance, and extend the exposure of safety hazards to the construction employees. Narrow workspaces increase congestion and ultimately result in higher accident and injury ratios. More efficient construction

also will result in fewer impacts to the landowners and communities by reducing the duration of construction related traffic along the public and private roadways. Experience has shown that extending the construction of natural gas pipelines can lead to unintended environmental damage related to severe weather and increased probability of unplanned events (off-right-of-way disturbances, machinery related discharges, etc.).

- Landowners have agreed in concept or have signed easement agreements for larger rights-of-way up to 125 feet plus the required ATWS. These commitments have been made with the expectation of more expedient construction to lessen the inconvenience and impacts to their property and lifestyle. For wetland areas, ETC Tiger is proposing a range of right-of-way configurations from 75 to 120 feet where feasible, although the landowners have agreed to allow up to 125 feet.
- In sensitive areas where the agencies have recommended a reduced right-of-way, ETC Tiger has met their requirements and has reduced the right-of-way where feasible. In addition to reductions in sensitive areas, ETC Tiger is proposing numerous HDDs to avoid impacts to major waterbodies, parallel stream areas where the route could not avoid the stream, and certain wetlands that the agencies have considered more sensitive. To further minimize the environmental impacts and overall footprint, although ETC Tiger will have a permanent easement across the HDDs, ETC Tiger has committed to the agencies that the area in-between the HDD entry and exit points will not be cleared during construction or operations. ETC Tiger believes that the combination of the right-of-way configurations coupled with the mitigation measures as proposed in the sensitive areas minimizes the impacts to environmental resources as much as possible while still facilitating a route and right-of-way that meets the project objectives.
- The majority of the land traversed where ETC Tiger is proposing a total right-of-way configuration greater than 75 feet are locations where the cover type consists of non-forested wetlands, long wetland crossings where it is not feasible to reduce the right-of-way (to allow access into, across and out of the wetland with the least amount of passes possible; reduced width requires multiple wetland passes to support the various stages of pipeline construction and could be up to 10 passes for a single wetland), or young forested wetland habitat that has either been cleared by previous utility installation or other land uses.
- In areas where old growth timber or unfragmented forest exists (which is very limited along the proposed pipeline – 0.83 % of the entire route), ETC Tiger is proposing to utilize a 100-foot-wide or less right-of-way, depending on the presence of cypress and tupelo trees (which with their presence would be reduced to 75 feet).
- A wider total right-of-way will reduce the chances for safety-related incidents by reducing congested work conditions – 42-inch pipe requires a larger and deeper trench which takes up a larger proportion of the right-of-way than smaller diameter pipe. This increases the ditch width and depth and requires a larger total right-of-way to store spoil material during stringing, welding, trenching, and laying operations.
- As part of the pipeline installation, pipe weights are required to be placed on top of the pipe to ensure the pipe remains buried during periods when the wetlands are

saturated. The weights will be spaced at intervals of no more than eight feet and could be less based on the soil conditions of the wetland crossing. These weights extend beyond the circumference of the pipe from 16 to 20 inches in all directions except beneath the pipe. Therefore, the ditch must be deepened and widened up to 24 inches to account for the pipe weights and to still maintain the required 3 feet of cover pursuant to US DOT requirements (49 CRF 192). A wider total right-of-way is required to account for the wider ditch, plus the additional space necessary to store the spoil, and the space required to handle and transport the weights into and across the wetland. Each weight requires a single side-boom or a back-hoe to handle, carry, and place the weight. Therefore, depending on the length of the wetland crossings, more equipment is necessary and adequate space required to maneuver the equipment placing and transporting the weights into and across the wetlands.

- Multiple side booms are required to handle the large diameter of the proposed pipe. ETC Tiger's contractors will maneuver the side booms and "leap frog" the equipment, requiring the additional width to allow construction to move in an "assembly line" approach. By limiting the width of the right-of-way, multiple passes would be necessary which will result in extended crossing durations, multiple wetland crossing passes, increased soil compaction, and more difficult wetland restoration.
- To move the pipe into and up/down the right-of-way for stringing, welding, and eventual installation, a larger total right-of-way is required to facilitate access along the right-of-way. Due to the size of the pipe and ETC Tiger's use of double jointed pipes, additional, larger and longer trucks are necessary to transport the pipe. To ensure the trucks can maneuver down the right-of-way without trapping the trucks or congesting the right-of-way, a larger total right-of-way is necessary to allow access and to reduce the number of passes across a wetland.
- ETC Tiger intends to utilize automatic welding to improve the welding speed or efficiency without losing quality. Automatic welding improves the welding consistency, accuracy and quality and ETC Tiger believes it will ultimately lead to a safer pipeline. To utilize automatic welding, welding shacks are employed to house the welding equipment. These shacks take additional space in the right-of-way to operate during welding and to move along the right-of-way during construction. When coupled with the other equipment and pipe weights, additional room is necessary to have adequate space to facilitate construction.
- A wider total right-of-way will reduce the duration of construction, thus reducing the potential environmental impacts associated with soil compaction, erosion and sedimentation, potential storm-related impacts, unintended construction-related events, and construction equipment emissions. Further, appropriate right-of-way widths provide adequate space to store the spoil material and separate the subsoil from the topsoil to improve and shorten the duration of restoration.
- Overall the expanded workspace will allow for shorter construction duration which translates into more economical project costs. Decreased production that results from congested workspace results in upwards of 30 percent increases in cost. This increase in cost increases the overall rates to the customers/shippers on the pipeline and ultimately increases the cost of natural gas to the end users.

Aboveground Facility Impacts

With the exception of the proposed access road for the Carthage Compressor Station, all construction and operational activities associated with the proposed aboveground facilities will be located outside of delineated wetland boundaries.

At the Carthage Compressor Station, ETC Tiger is proposing to construct a new permanent access road and electric transmission line within a 100-foot-wide utility and road easement (60-foot-wide corridor for electric utility and 40-foot-wide for the new station access road). The transmission line poles within the utility easement will be placed to avoid permanent impacts to wetlands located within the easement. ETC Tiger has routed the new station access road to minimize impacts to wetland resources. However, due to the location of the existing roadway where ETC Tiger will begin construction of the proposed access road, the turning radius and roadway design required to accommodate the equipment that will utilize the roadway, and the final location of the compressor station facilities (also sited to avoid impacting wetlands), a small amount of wetland acreage will be affected. ETC Tiger calculated that a total of approximately 0.05 acres of wetland would be affected by construction of a 40-foot-wide access road to the Carthage Compressor Station (Wetland D28 (PEM) 0.01 acre; Wetland D30 (PFO) 0.03 acre; Wetland D31 (PFO) 0.01 acre; and Wetland D32 (PEM) <0.01 acre). In addition approximately 0.02 acre of Wetland A86 (PFO) will be permanently impacted by construction of the compressor station facilities. ETC Tiger has committed to the USACE to mitigate for any forested wetland impacts (both temporary and permanent) to offset any temporary loss of wetland functions and permanent conversion of wetland habitat type.

HDD Crossings

ETC Tiger is committed to minimizing wetland impacts at major waterbody crossings and across areas of large contiguous swamp and bottomland hardwood forests. Attachment 4 of this response letter contains a copy of TABLE 1B-5 "REVISED" that lists the location of all 22 HDDs proposed for the Project. Included in this list of proposed HDD locations is an HDD of Flat Creek and the adjacent high quality wetlands near MP 117, as recommended by LADWF.

As stated above, ETC Tiger is proposing 22 HDDs to minimize impacts to wetlands and waterbodies. Other wetlands and waterbodies will be crossed using the construction and mitigation measures outlined in *ETC Tiger's Wetland and Waterbody Construction and Mitigation Procedures* (ETC Procedures). During the design of the Project, ETC evaluated the use of the push-pull construction method for wetland crossings. Based on this review, ETC Tiger determined that the wetland communities that would not be crossed by HDD are not sufficiently saturated to allow for installation of the pipeline by this method. ETC believes that the mitigation measures contained in the ETC Procedures are adequate to protect wetland resources during construction and operation of the Project.

Access Roads

In addition to the construction right-of-way, ETC Tiger will require temporary access roads to allow vehicles and equipment to access the construction right-of-way from public roads. New

compressor stations and other aboveground facilities will require permanent roads for access during operation. To the extent possible, ETC Tiger will use or improve existing roads for access during the construction and operation of the pipeline and aboveground facilities. It is anticipated that ETC Tiger will use the existing access roads that were used for previous projects in the area, such as the CenterPoint project, which will require little or no improvement. None of the currently identified temporary access roads will be improved where such roads traverse wetland habitats, so the use of these roads will not disturb wetland habitats. However, minimal trimming of overhanging branches from shrubs and trees may be required.

ETC Tiger has attempted to site permanent access roads to minimize wetland impacts. No impacts to wetlands are anticipated from the development of new permanent access roads to the Bienville, Cannisnia, or Chatham Compressor Station sites. As stated above, construction of the new access road to the Carthage Compressor Station would permanently impact approximately 0.05 acre of wetland.

Public Lands

The ETC Tiger Pipeline will not cross the former Farmers Home Administration (FmHA) property that is now owned and managed as part of the USFWS' National Wildlife Refuge System.

ETC Tiger began consultations with the Natural Resources Conservation Service in Alexandria, Louisiana in March 2009. Based on these consultations, the ETC Tiger Pipeline will be in proximity to three tracts under the Wetland Reserve Program (WRP). Two of the WRP tracts will be avoided. The third WRP tract will be crossed using an HDD and will avoid surface impacts to this site.

The ETC Tiger Pipeline will not cross the Bayou Pierre or Ouachita Wildlife Management Areas.

Scenic Rivers

On August 31, 2009, ETC Tiger applied for scenic river permits for the crossings of Black Lake Bayou and Saline Bayou, both of which are listed as Louisiana Scenic Rivers. The Louisiana Department of Wildlife and Fisheries (LDWF) have completed their review and notice of the applications was published in local newspapers on October 22, 2009, beginning the 45-day comment period.

Cumulative Effects

As part of its FERC application submitted on August 31, 2009, ETC Tiger submitted an analysis of potential planned projects in the vicinity of the ETC Tiger Pipeline Project. As suggested in the September 30, 2009 USFWS letter, the FERC will provide an analysis of cumulative impacts in its NEP documentation.

If you should have any questions, please do not hesitate to contact me (978-656-3540, ppatterson@trcsolutions.com) or Jason Lancaster (770-270.1192 or jlancaster@trcsolutions.com).

Sincerely,



Patricia Patterson
Senior Project Manager

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J. Mahmoud, ETC Tiger
B. Thomason, ETC Tiger

Attachments:

- Attachment 1 – USFWS, Arlington, TX concurrence letter
- Attachment 2 - Table DR-9 “NEW” from October 1, 2009 FERC data response
- Attachment 3 - Typical construction layout drawings Figure 2B-1 (Sheets 1 through 5) and Figure 2C-1 (Sheets 1 through 6) from October 1, 2009 FERC data response
- Attachment 4 - TABLE 1B-5 “REVISED” – Horizontal Directional Drill Locations