TRANSMISSION LINE & SUBSTATION PROJECTS

COMPANY: ETI

CUSTOMER: PID 250

FACILITIES STUDY

PID 250 GENERATOR INTERCONNECTION

Revision:
3

Rev	Issue Date	Description of Revision	Prepared By	Approved By
0	10/25/11	ICT Review and Classification	EC	BR
1	11/1/11	Revised In-service Date to Correct Error	EC	BR
2	11/09/11	Revised Cost and Specified ETI Supplied Equipment	MK	
2A	12/06/11	Added Section 9 (Notes) to Address Customer Questions	SG	BW
3	2/3/12	Added Section 10 for Customer submitted comments	EC	BR

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1. EXECUTIVE SUMMARY

PID 250 intends to install a generation plant that will connect one 50 MW wood-fired generation plant to Entergy Texas, Inc. (ETI) transmission system. The point of interconnection will be approximately 1.9 miles south of Woodville Substation on 138 kV line 589.

The 50 MW of generation will be injected from the PID 250 plant to ETI's Transmission System between the Warren and Woodville substations (Figure 1). The expected in-service date for this facility is May 2013.

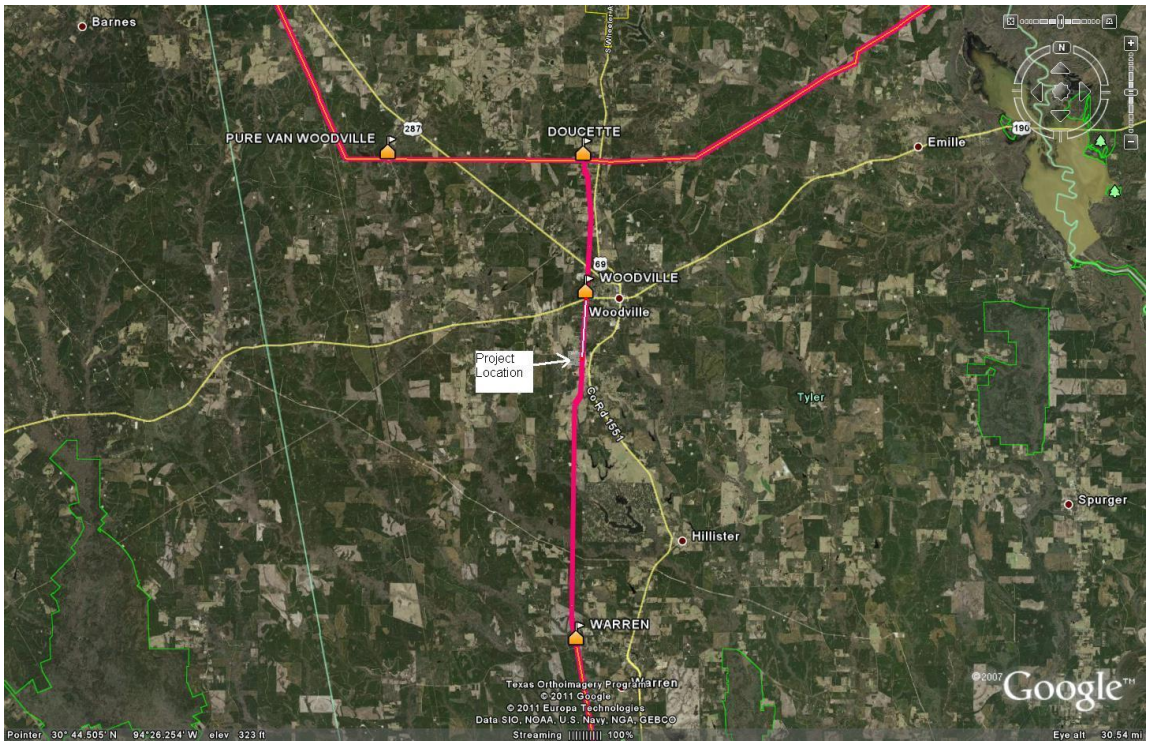

Figure 1 – Transmission System Area Map Identifying PID 250

The customer has requested Energy Resource Interconnection Service (ERIS) only. The System Impact Study indicated that under ERIS, the additional generation due to PID 250 generator **does not** cause an unacceptable increase in short circuit current or any stability violations.

The Facilities Study will identify the transmission interconnection requirements, any transmission constraints resulting from the requested power transfer, and includes corresponding cost estimates.

Major transmission upgrades needed to connect PID 250 include:

- Construction of a three breaker substation station on plant property (by Customer)
- Construction of the turn-in structures from line 589 to the plant (by ETI)

- Installation of a communications link from PID 250 to Doucette and Warren Substations (by ETI)
- Communication upgrades at Doucette and Warren Substations to accept the new path (by ETI)
- Installation of communications and metering equipment at PID 250 (Joint effort)
- Relay installation and settings at adjoining stations (by ETI)

Work identified in the Facilities Study is estimated to cost **$1,415,589** without Tax Gross Up and a total of **$1,770,760** with Tax Gross Up (TGU). The ICT has assigned **$1,415,589** as Supplemental Upgrades based on Attachment T of Entergy's OATT.

The estimated project duration for the ETI portion of this project is approximately 12 months, but is also be dependent on the progress of the customer's substation. This includes Design, Procurement, and Construction. It is assumed that the PID 250 customer provides ETI with an easement for the lines to connect to the station, upon completion of Entergy's transmission line design. The customer will provide all environmental permitting and compliance, if necessary.

Due to continuous system changes, the scope and cost estimates contained in this study may require changes if the customer delays commitment. Note that timing and commitment to projects in general can impact upgrades identified in this scope at any time.

2. SAFETY AWARENESS

Safety is a priority with ETI. Safety will be designed into substations and lines. The designs will be done with the utmost safety for personnel in mind for construction, operation and maintenance of the equipment.

All employees working directly or indirectly for ETI shall adhere to all rules and regulations outlined within the ETI Safety manual. ETI requires safety to be the highest priority for all projects. All ETI and Contract employees must follow all applicable safe work procedures.

3. SCOPE SUMMARY

PID 250 Substation will be constructed as a standard through bus with two (2) incoming lines and one (1) line connecting to the generation facility.

Major subprojects for the transmission upgrades needed to connect PID 250 include:

- Construction of a three breaker switching station on plant property (Customer)
- Construction of the turn-in structures from line 589 to the plant
- Installation of communication paths from PID 250 to Doucette and Warren Substations
- Communication upgrades at Doucette and Warren Substations to accept the path
- Installation of necessary communications and relaying at Warren and Doucette Substations

4. SCOPE DETAILS

4.1 Transmission Line Details

PID 250 is proposing to tap in/out of between structures 625 and 626 on 138 kV line 589 from Warren to Woodville to Doucette substation situated in Tyler County, Texas. Currently, 138 kV transmission line 589 runs from Warren to Woodville to Doucette substation for 14.99 circuit miles. The existing line 589 Right Of Way (ROW) identified is 125'. The proposed new 138 kV transmission line will be approximately 0.24 miles and will utilize existing and new 100' of ROW.

Four (4) single-circuit tangents steel structures with 15' direct embedment and four (4) self-supporting dead-ends steel with drilled pier foundations will be installed. Structures will be designed to accommodate a single circuit of 954 kcmil 54/7 ACSR code name "Cardinal" conductor rated for 1088 amps in a vertical and delta configurations spaced for 161 kV.

Since breakers will be installed at PID 250's new station, the line number line 589 will change from this point to Doucette Substation. It will be designated as line XXX until such time that a new line number is assigned.

All design and construction will be completed in accordance with current ETI loading, clearance, and construction standards for 161 kV transmission line.

A topographic survey for the t-line portion was NOT performed for this Facilities Study estimate, but will be required for final design.

4.1.1 Design Criteria used is as follows:

- Current: LC-2E Zone – NESC Medium Loads, 110 MPH Wind, 0.75" Ice
- 26' minimum ground clearance
- This tap in/out 138 kV t-line is located in NAD 83 State Plane Coordinate Zone 4203, Texas Central Zone.

4.1.2 Following is the list of structures that will need to be installed/removed:

Install:

Line 589

New str. 589/625 100' A-D-BP2-SW4 (Weight ±XXXX lbs)
Foundation: 15' direct embedment

New str. 589/625-1 85' SD-V-DEP-B60 (Weight ±XXXX lbs)
Foundation: Drilled Pier

New str. 589/625-2 100' A-V-BP2-SW4 (Weight ±XXXX lbs)

Foundation: 15’ direct embedment

New str. 589/625-3 80’ SD-V-DEP-B35 (Weight ±XXXX lbs)
Foundation: Drilled Pier

New Line XXX

New str. XXX/626-3 80’ SD-V-DEP-B35 (Weight ±XXXX lbs)
Foundation: Drilled Pier

New str. XXX/626-2 100’ A-V-BP2-SW4 (Weight ±XXXX lbs)
Foundation: 15’ direct embedment

New str. XXX/626-1 85’ SD-V-DEP-B60 (Weight ±XXXX lbs)
Foundation: Drilled Pier

New str. XXX/626 100’ A-D-BP2-SW4 (Weight ±XXXX lbs)
Foundation: 15’ direct embedment

Materials:

- 5521 lbs. of 954 kcmil 54/7 ACSR code name “Cardinal” conductor
- 900’ of 48 fiber AlumaCore DNO-8161
- 1000’ of 7 #7 alumoweld
- 30 bolted dead-end insulators
- 12 braced post insulators
- Four (4) overhead suspension
- 12 overhead dead-end
- 12 anodes

Removals:

- Four (4) wood poles
- Six (6) suspension insulators
- Two (2) crossarms (conductor)
- Two (2) x-braces

4.1.3 Geotechnical Report (Soil Borings)

Geotechnical reports including the boring logs and the laboratory data are required to properly design and size the foundations for the transmission line structures. ETI will provide PID 250’s consultants with the coordinates to obtain soil borings near proposed structure locations. It is anticipated that this data will be available and used during the design phase of this

project, however, this facility study estimate was performed without the benefit of any specific soil data. The costs may change dependent on the results obtained from the soil data.

4.1.4 Survey and Plan & Profile Drawings

A topographical survey of the T-line alignment will be required.

4.1.5 Right of Way (ROW)

It is anticipated that an easement will be provided at no cost to ETI by PID 250.

4.1.6 Permits (SWPPP, Waterway, Road, Highway and Railroad Crossings)

This project will likely require the design, installation, and monitoring of a Storm Water Pollution Prevention Plan. No waterway or railroad crossings will be required however a roadway and pipeline crossing is likely, and permits will need to be obtained for such.

4.2 PID 250 Substation (by Customer)

The customer has chosen to build, own and maintain the delivery point substation. ETI will have control of all through bus breakers and switches. The customer has agreed to allow ETI access on the customer's tower to install microwave communications to adjoining stations. The height of the tower will be determined in the design stage of the project. The station should be able to accommodate a ring bus (see attached oneline), should it become necessary in the future because of operational or regulator requirements.

4.2.1 Power Factor Design Criteria

ETI, consistent with the FERC Large Generator Interconnection Procedures (LGIP), requires the customer to be capable of supplying at least 0.33 MVAR (*i.e.*, 0.95 lagging power factor) and absorbing at least 0.33 MVAR (*i.e.*, 0.95 leading power factor) for every MW of power injected into the grid.

The generator was modeled with a 50 MW injection into the transmission system. The maximum net reactive power capability of the PID 250 generator is limited by the generator step-up transformer's (GSU) maximum rating of 53 MVA. Consequently, to avoid overloading the GSU, the maximum reactive power capability of the PID 250 generator is 17.7 MVAR when operating at a real power output of 50 MW. After accounting for the losses through the GSU, the net reactive power injection at the transmission grid is 15.4 MVAR (Figure 2). This is less than the Power Factor Design Criteria of .95 lagging power factor, which would calculate to 16.67 MVAR injected at the point of interconnection for a 50 MW plant.

In order to meet the 0.95 lagging power factor requirement, the generator step-up transformer must be rated to handle at least 55 MVA.

This analysis was based on the GSU impedance data provided by the Customer in Attachment A to Appendix 1 of the Interconnection Request. If

the actual equipment installed is different from the supplied information, the results outlined in this analysis are subject to change.

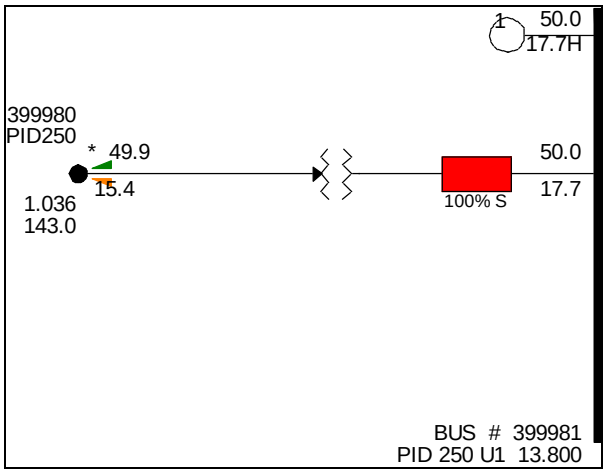

Figure 1: Load Flow Analysis for Power Factor Design Requirement

4.2.2 Relay

- The new substation will be located on ETI's 138 kV transmission line 589 between Doucette and Warren substations. (note: one (1) section of the existing line 589 must be assigned a new number)
- This substation will be a customer-owned substation and all work performed within the substation will be done by the customer according to ETI specifications. The only exception is that ETI will supply and install the metering panel, ETI's RTU and ETI's communications equipment. Nevertheless, all wiring connecting this equipment shall be supplied and installed by the customer.
- The customer will install two (2) line/breaker control panels using SEL Mirrored Bits over digital microwave for primary relaying communication referencing ETI standard PM1803, option B, latest revision. This panel incorporates a Schweitzer Engineering Lab model SEL 421 relay for primary 1 protection and an SEL model 311C for primary 2 protection. During the PEP stage, determination will be made between dual primary or single primary with distance backup protection. These panels will interface with line relay panels installed at Doucette and Warren 138 kV substations. A serial cable connection will be required from the SEL relays to the Adtran TA1500 channel bank. Detailed information on the cable required will be provided to the customer during the engineering phase of the project.
- The digital microwave installation at the new substation will utilize an Alcatel MW radio system (supplied by ETI) in a spur configuration. The mounting point will be the customer's tower (per agreement). A path survey has determined the antenna mounting height must be at least 100'. All communication equipment will be per ETI

specification. Detailed information on the equipment will be provided to the customer during the engineering phase of the project.

- Telecommunications equipment will require allocation within the control house of two (2) adjacent 19" rack spaces and dual DC feed.
- ETI requires SCADA information and breaker control. One (1) D400S RTU (supplied by ETI) will be installed per ETI standard. Included will be one (1) SEL 2407 satellite synchronized clock (by Entergy), one (1) modem, and all other miscellaneous material required for relay communications. Communications will be required to the TOC, SOC, and EMO ETI organizations. The D400S will communicate to the host via SCADAnet if available.
- Three-phase bus potential will be required for line relaying.
- Single-phase line potential will be required for hot line indication, breaker reclosing, and synchronization.
- 138 kV bus differential protection is required. Any high impedance bus differential scheme installed will use only matched, full ratio CT inputs. Tapped CTs will not be acceptable for use in a high impedance bus differential scheme.
- A high-side interrupting circuit breaker is required for the transformer. This breaker will interrupt for bus or transformer faults.
- Primary and backup AC sources are required. Automatic transfer between normal and emergency sources is required.
- Dual 125VDC power is required for generating stations connecting to the grid. The station batteries must be sized using DC battery sizing calculations, DC charger sizing calculations, and DC voltage drop calculations. Documentation of these calculations is required (Reference ETI Standard PM0203). DC battery sets must be located in appropriate seismic zone battery racks. Refer to SL0003 rev 1 section 9.15. Automatic transfer switch is not required.
- The high-side breakers will meet ETI standard SD0202, latest revision. In particular, independent CTs for primary 1 and primary 2 (or backup) relaying, primary and secondary trip schemes, and the trip coil monitoring system.

4.2.3 Assumptions:

- 138 kV bus potential is required for relaying potential. 138 kV metering potential source will be from the same bus potential source. A dedicated winding for metering is required.

4.2.4 Relay Settings

- Transmission Engineering Services shall coordinate all setting changes in the project with Woodville Gen plant as per PRC-001 (power plant protection and related control elements must be set and configured to prevent unnecessarily tripping the generator prior to

any transmission protection and related control systems acting first, unless the generator is in jeopardy by exceeding its design limits due to operating conditions, generator system faults, or other adverse potentially damaging conditions).

- New RTU configurations or revisions will be necessary.
- Relay settings and RTU configurations details need to be specified during Project Execution (PEP) Plan stage.
- System changes will be modeled in ASPEN by ETI. Relay impact analysis will be performed by an ETI settings engineer with coordination from the customer to identify requirements for relay/CT replacement and settings revisions at the local and remote stations in the area. Some obsolete relays may need to be replaced.
- At PID 250's substation, ETI is not responsible for developing any relay settings. ETI will only review the settings developed by PID 250 owner.

4.3 SCADA

Modify system SCADA displays and data point tables to reflect the addition of the new 138 kV connection for PID 250.

4.3.1 Metering

- Attachment 1 from ETI standard MI0301 shall be completed and provided to ETI. The anticipated load range must be known so it can be determined if the CTs are sized to ensure the system operates within the required accuracy range. For those systems that have large power flow ranges or power flows that may approach zero, high accuracy CTs may be necessary to meet minimum accuracy requirements over the full range of anticipated flows.
- All metering facilities shall conform to requirements of latest revisions of all applicable ETI standards (MI0301, MI0302), ANSI standards, IEEE standards, and shall be in compliance with all regulations from authorities asserting jurisdiction. All metering facilities shall comply with Good Utility Practice.
- For the purposes of this Facilities Study, it is assumed that extended range (or high accuracy) revenue class metering CTs (3) will be purchased and installed. (by Customer)
- Design, purchase, and install an indoor metering panel per ETI standard with current and potential inputs from the CT/PT cables and hardwired for pulse data. The meters will be configured to provide data to ETI's MV-90 interrogation system via a phone line carried on Entergy's microwave system and to the customer via an appropriate output format (by ETI).

- Customer shall complete and submit to ETI the Transmission Metering Applications Requirements form per Standard M10301 latest revision.
- Auxiliary station service transformer metering will also be installed within the customer's plant. The meters and enclosure will be supplied by Entergy; the customer will supply a phone line and link to the power plant RTU and will provide CTs and PTs approved by ETI. The appropriate specifications will be supplied to the customer in the engineering phase of the project.

4.4 Doucette Substation

4.4.1 Relay:

- Replace the existing Type 40 tone communication scheme between Doucette and Warren by installing one (1) line/breaker control panel using SEL Mirrored Bits over digital microwave for primary relaying communication referencing ETI standard PM1803, option B, latest revision. This panel incorporates a Schweitzer Engineering Lab model SEL 421 relay for primary 1 protection and an SEL model 311C for primary 2 protection. During the PEP stage, determination will be made between dual primary or single primary with distance backup protection. This panel will interface with the line relay panel installed at the new substation. All communication equipment needed to establish communication with the new substation will be per Telcom estimate and scope.

4.4.2 Relay Settings:

- Provide updated relay settings for Doucette to new substation line (SEL321/SEL221)
- Possibly revise Doucette 138 kV bus diff settings (CO10)
- Revise Zone2, Zone3 and GOC settings for
  - Sam Dam - Doucette 138 kV
  - Corrigan - Doucette 138 kV

4.5 Warren Substation

4.5.1 Relay:

Replace the existing Type 40 tone communication scheme between Doucette and Warren by installing one (1) line/breaker control panel using SEL Mirrored Bits over digital microwave for primary relaying communication referencing ETI standard PM1803, option B, latest revision. This panel incorporates a Schweitzer Engineering Lab model SEL 421 relay for primary 1 protection and an SEL model 311C for primary 2 protection. During the PEP stage, determination will be made between dual primary or single primary with distance backup protection. This panel will interface with the line relay panel installed at the new substation. All communication

equipment needed to establish communication with the new substation will be per Telcom estimate and scope.

4.5.2 Relay Settings:

- Provide updated relay settings for Warren to new substation line (SEL421/SEL321)
- Revise Zone2, Zone3 and GOC settings for
  - Kountze - Warren 138 kV

5. COSTS

The estimated costs shown in the table include overheads and but not AFUDC, since the project will be prepaid.

Cost Analysis

Segment	Direct	Indirect (less AFUDC)	FFV
New Sub	$245,233	$39,546	$284,779
Warren	$177,605	$26,533	$204,138
Doucette	$227,679	$34,954	$262,633
Tline	$582,237	$81,802	$664,039
Full Financial Cost			$1,415,589
TGU	25.09%		$355,171
Total			**$1,770,760**

6. UPGRADE CLASSIFICATION

The ICT has reviewed and determined whether each required upgrade will be considered a Base Plan Upgrade or a Supplemental Upgrade. For more information on cost responsibility for Base Plan and Supplemental Upgrades, see Attachment T to Entergy's OATT.

Task	Total Cost	Base Plan	Supplemental	Reference
New Sub	$284,779		$284,779	4.2
Warren	$204,138		$204,138	4.5
Doucette	$262,633		$262,633	4.4
Tline	$664,039		$664,039	4.1
Total	$1,415,589		$1,415,589 *	

*This cost does not include Tax Gross Up which may apply.

7. SCHEDULE

A detailed schedule will be developed during the scoping/design stage of the project and will be tied to the date the customer executes a reimbursement agreement and provides funding. The customer's substation is the critical path for this project, so ETI's schedule will ultimately depend upon the customer completing their station in the early spring, so that ETI can complete its work. Outage availability may have an

effect on the schedule, since outages are generally not available in the summer months. The preliminary schedule (in work days) is as follows:

Phase Name	Duration (days)
Project Approval	1-2
Scoping/Design	2-138
Procurement	25-175
Construction	76-266
Closeout	267-387

8. ATTACHMENTS:

8.1 Proposed PID 250 Oneline and ultimate ring bus

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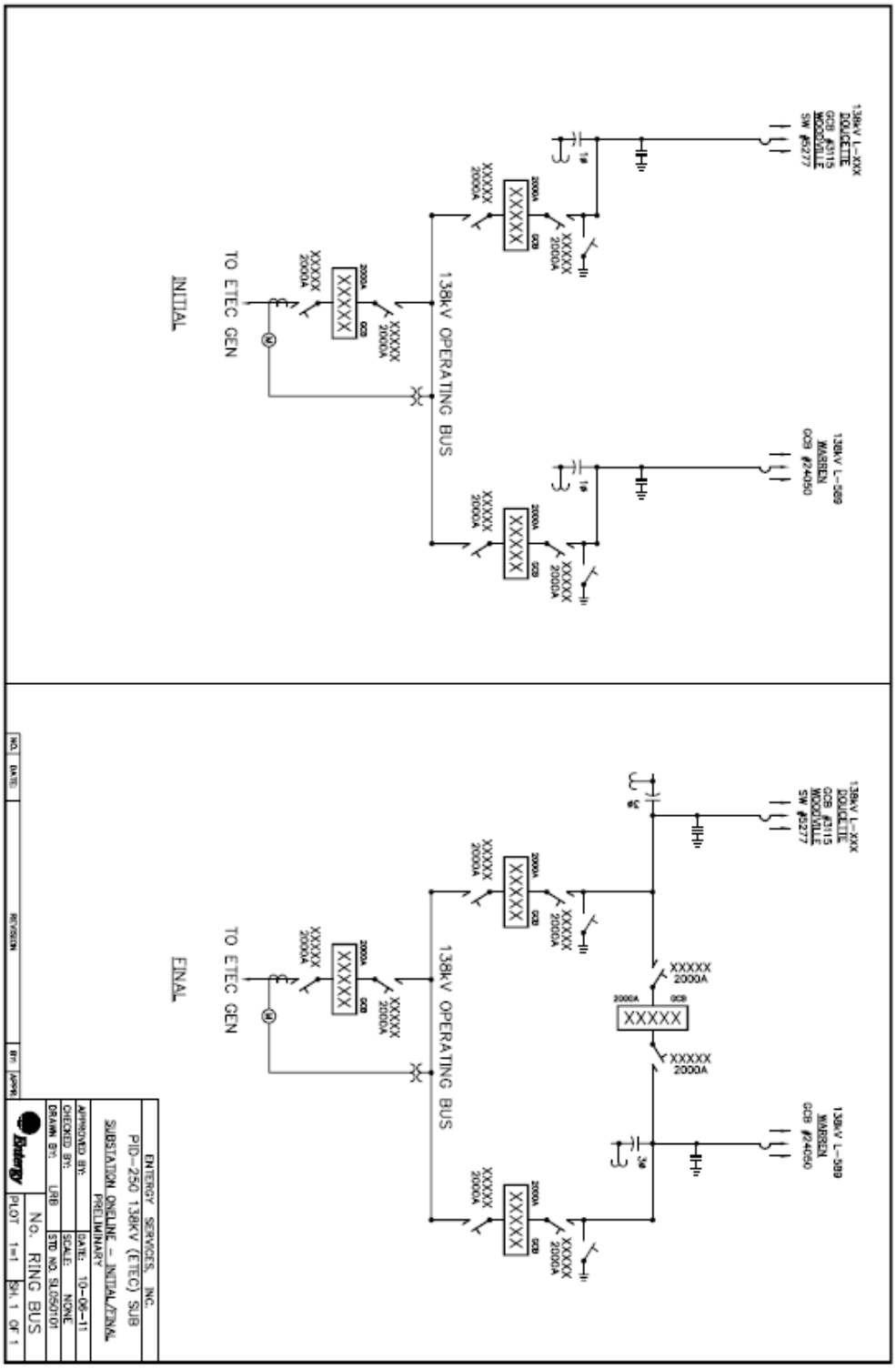

9. NOTES

Below are Entergy's responses to two PID 250 customer questions. The first answer is regarding whether the customer may perform the cut-in construction, which consists of eight structures into the substation and the cut-in at each end.

- Entergy will construct the cut-in. The point of interconnection for the new customer-owned substation will be at the terminal connection of the line at the substation dead-end.

The following is Entergy's response to the second question from the PID 250 customer as to whether Entergy will provide a cost breakdown by specific items for work to be completed by Entergy.

- The level of estimate provided in this Facility Study Report is consistent with estimates ordinarily provided on facility studies so Entergy will not provide a cost breakdown by specific items.

10. CUSTOMER COMMENTS TO FACILITIES STUDY

The following comments were submitted to the ICT by the Customer for inclusion in the Facilities Study Report as noted in Section 8.3 of Attachment N of Entergy's OATT. Responses by the ICT and Entergy are included.

1. Facilities Study page 4:

"*This estimated duration assumes the PID 250 customer provides ETI with an easement for the lines to connect to the station. The customer will provide all environmental permitting and compliance, if necessary.*"

GDS Comment 01/09/2012: This statement should be reworded. Since the work associated with the transmission line tap (design, procurement and construction) is to be completed by the Transmission Provider, consequentially he is the one to provide all necessary documentation to the Interconnection Customer which is then required to obtain any easements, Right-of-Way (ROW) and additional permits in accordance with the local Texas laws. The Interconnection Customer will be required to obtain the easements, permitting and compliance pending upon the necessary documentation that is to be supplied by the Transmission Provider. Entergy is requested to revise the statement as follows "It is assumed that the PID 250 customer provides ETI with an easement for the lines to connect to the station, upon completion of Entergy's transmission line design. [...]"

Entergy Response: Agree with GDS.

ICT Response: Report revised per Customer's request.

2. Facilities Study page 5:

"*Four (4) single-circuit tangents steel structures with 15' direct embedment and four (4) self-supporting dead-ends steel with drilled pier foundations will be installed*."

GDS Comment 01/09/2012: Entergy is requested to provide clarification on the basis for which the steel poles are preferred instead of the wood poles (self-supporting vs. guyed structures). If there is no specific requirement in that respect, Entergy is requested to revise the statement reflecting that steel pole structures have been considered only for cost estimation purposes (worst case scenario), and the final solution (whether to install steel poles or wood poles) will be adopted based upon further agreement with the Customer.

Entergy Response: ETI uses steel and concrete poles as the standard because of their superior strength and longevity. Wood poles are no longer used in new construction. Self-supported structures were specified because it seemed likely that guys could not be put into place because of pipelines in the area of the proposed deadends. Further, the self-supporting structures were recommended as a conservative solution since soil borings were not available during the Facility Study stage of the project. During the design stage, the use of concrete or steel and down guys will be evaluated.

ICT Response: Report not revised.

3. Facilities Study page 5:

"*All design and construction will be completed in accordance with current ETI loading, clearance, and construction standards for 161 kV transmission line.*"

GDS Comment 01/09/2012: The existing line is operating at 138kV. Unless the existing transmission line was originally designed for 161kV or previously upgraded as such, or unless there is an existing Entergy standard to require 161kV, the suggested use of construction standards for 161kV is considered excessive and cannot be justified otherwise. Entergy is requested to provide additional clarifications to support the statement.

Entergy Response: ETI Standards use 161 kV insulators for voltages of 115 kV, 138 kV and 161 kV.

ICT Response: Report not revised.

4. Facilities Study page 7:

"*Consequently, to avoid overloading the GSU, the maximum reactive power capability of the PID 250 generator is 17.7 MVAR when operating at a real power output of 50 MW. After accounting for the losses through the GSU, the net reactive power injection at the transmission grid is 15.4 MVAR (Figure 2). This is less than the Power Factor Design Criteria of .95 lagging power factor, which would calculate to 16.67 MVAR injected at the point of interconnection for a 50 MW plant.*"

GDS Comment 01/09/2012: Comment in conjunction with Comment 5. We suggest eliminating the entire paragraph.

Entergy Response: Entergy agrees with the ICT. Section 3.2.1.2 of Attachment N to the Entergy Tariff states that for ERIS service, the Transmission Provider shall perform a reactive power analysis at the Point of Interconnection as it relates to the Transmission System. This paragraphs details the results of this analysis.

ICT Response: Report not revised.

5. Facilities Study page 7:

"*In order to meet the 0.95 lagging power factor requirement, the generator step-up transformer must be rated to handle at least 55 MVA*."

GDS Comment 01/09/2012: This statement should be reworded such as "In order to meet the 0.95 lagging power factor requirement, the generator step-up transformer must be rated to accommodate a maximum output of the plant".

Entergy Response: This sentence concludes the reactive power analysis and should remain in the report. Based on the MW amount of ERIS service

requested and the GSU impedance data received, Entergy concludes that at least a 55 MVA rated GSU is required for this interconnection.

ICT Response: Report not revised.

6. Facilities Study page 8:

"*This substation will be a customer-owned substation and all work performed within the substation will be done by the customer as per ETI specifications. The only exception is ETI will supply the metering panel, ETI's RTU and ETI's Communications equipment.*"

GDS Comment 01/09/2012:

- Paragraph should be revised such as to clearly specify whether Entergy will supply and install, or only supply (thus the Customer will install the equipment in that case) the metering panel, Entergy's RTU and Communication equipment.
- Paragraph should be reworded / appended. Since Customer's substation design is impacted by Entergy's power / voltage requirement associated with each of these panels, Entergy is requested to provide clarification how this information will be supplied to the Customer.

Entergy Response: Recommend rewording as follows: "This substation will be a customer-owned substation and all work performed within the substation will be done by the customer according to ETI specifications. The only exception is that ETI will supply and install the metering panel, ETI's RTU and ETI's communications equipment. Nevertheless, all wiring connecting this equipment shall be supplied and installed by the customer.

ICT Response: Report revised per Customer's request.

7. Facilities Study page 8:

"*The customer will install two (2) line/breaker control panels using SEL Mirrored Bits over digital microwave for primary relaying communication referencing ETI standard PM1803, option B, latest revision.*"

GDS Comment 01/09/2012: Paragraph should be reworded / appended. Entergy is requested to provide clarification regarding the interface that is required between the SEL relays and the microwave system, and how all this information will be supplied to the Customer.

Entergy Response: The following statements should be added: A serial cable connection will be required from the SEL relays to the Adtran TA1500 channel bank. Detailed information on the cable required will be provided to the customer during the engineering phase of the project.

ICT Response: Report revised per Customer's request.

8. Facilities Study page 9:

"*The digital microwave installation at the new substation will utilize an Alcatel MW radio system (supplied by ETI) in a spur configuration. The mounting point will be the customer's tower (per agreement). A path survey has determined the antenna mounting height must be at least 100'. All communication equipment will be per ETI specification.*"

GDS Comment 01/09/2012: Paragraph should be reworded / appended. Since the substation design it is impacted by Entergy's equipment that is to be installed on Customer's tower, Entergy is requested to provide clarification on how the information pertaining this equipment will be supplied to the Customer.

Entergy Response: Add the following sentence: "Detailed information on the equipment will be provided to the customer during the engineering phase of the project."

ICT Response: Report revised per Customer's request.

9. Facilities Study page 9:

"*Dual 125VDC power is required for generating stations connecting to the grid. The station batteries must be sized using DC battery sizing calculations, DC charger sizing calculations, and DC voltage drop calculations*."

GDS Comment 01/09/2012: Since Customer is not familiar with this requirement, Entergy is requested to provide the basis (standard) by which a "Dual 125VDC is required". Consequently, Entergy is requested to provide clarification whether an automatic transfer switch will be also required.

Entergy Response: Refer to SL0003 rev 1 section 9.15. Automatic transfer switch is not required.

ICT Response: Report revised per Customer's request.

10. Facilities Study page 9:

"*A GE Harris D25 will be needed to provide SCADA information from the customer plant to EMO*."

GDS Comment 01/09/2012: Entergy is requested to provide clarification on whether this GE Harris D25 will be supplied by Entergy or by the Customer? As GDS need to ensure this specification gets conveyed to EPC Contractor, Entergy is requested to provide appropriate clarification in that respect.

Entergy Response: This may or may not be needed, based upon the interface requirements with ETI's RTU at the substation. This statement will be removed from the Facility Study Report.

ICT Response: Report revised per Customer's request.

11. Facilities Study page 10:

"*System changes will be modeled in ASPEN. Relay Impact Analysis will be performed by a settings engineer during PEP stage to identify requirements for relay/CT replacement and settings revisions at the local and remote stations in the area. Some obsolete relays may need to be replaced.*"

GDS Comment 01/09/2012: The paragraph should be reworded / appended such as to clearly indicate whether Entergy is responsible for the ASPEN modeling and the Relay Impact Analysis.

Entergy Response: Revise to the following, "System changes will be modeled in ASPEN by ETI. Relay impact analysis will be performed by an ETI settings engineer with coordination from the customer."

ICT Response: Report revised per Customer's request.

12. Facilities Study page 10:

"*The meters will be configured to provide data to ETI's MV-90 interrogation system via a dial-up modem and to the customer via an appropriate output format. (by ETI)*."

GDS Comment 01/09/2012: Entergy is requested to provide appropriate clarifications on whether the communication modem is in addition to the RTU communications links described in Section 4.2.2.

Entergy Response: Revise as follows: "The meters will be configured to provide data to ETI's MV-90 interrogation system via a phone line carried on Entergy's microwave system and to the customer via an appropriate output format (by ETI)."

ICT Response: Report revised per Customer's request.

13. Facilities Study page 11:

"*Auxiliary station service transformer metering will also be installed within the customer's plant."*

GDS Comment 01/09/2012:

- Entergy is requested to provide clarification on whether ETI will supply the meter and meter can(s) and if there is an ETI specification for the CT's & PT.

  ICT Response: Report revised per Customer's request.

- Entergy is requested to provide clarification on whether Sam Houston will be involved with auxiliary metering in the plant facility and the power to the switching station, or this is solely Entergy's service territory.

  ICT Response: Report not revised.

Entergy Response: Revise as follows: "Auxiliary station service transformer metering will also be installed within the customer's plant. The meters and

enclosure will be supplied by Entergy; the customer will supply a phone line and link to the power plant RTU and will provide CTs and PTs approved by ETI. The appropriate specifications will be supplied to the customer in the engineering phase of the project.

14. Facilities Study page 12:

"*The expected duration of each major phase is shown below, with some tasks running concurrently*."

GDS Comment 01/09/2012: As stated, this is just the duration of these tasks, and not the actual schedule. Entergy is requested to provide the schedule of work (and any of the assumptions made when proposing that schedule) consistent with its own LGIP and the executed Facilities Study Agreement (page 2, paragraph 4.0).

Entergy Response: A detailed schedule will be developed during the scoping/design stage of the project and will be tied to the date the customer executes a reimbursement agreement and provides funding. The customer's substation is the critical path for this project, so ETI's schedule will ultimately depend upon the customer completing their station in the early spring, so that ETI can complete its work. Outage availability may have an effect on the schedule, since outages are generally not available in the summer months. The preliminary schedule (in work days) is as follows:

Project approval	Day 1-2
Scoping/design	Day 2-138
Procurement	Day 25-175
Construction	Day 176-266
Closeout	Day 267-387

ICT Response: Report revised per Customer's request.

15. Facilities Study page 15:

"*9. Notes*"

GDS Comment 01/09/2012: As a general comment, Customer is requesting to be supplied with a copy of all Entergy standards referenced in the report in order to convey this information to its contractors for conformity.

Entergy Response: Entergy will provide the appropriate design standards.

ICT Response: Report not revised. Entergy requested to provide copies of standards.

16. Facilities Study page 15:

"*Entergy will construct the cut-in*"

GDS Comment 01/09/2012: The Interconnection Customer it is in disagreement with the Transmission Provider's decision pertaining the construction of 138kV transmission line tap. As such, in accordance with Entergy's LGIP and FERC recommendations, the Interconnection Customer it is electing its option to build. While there is no otherwise agreement between the Transmission Provider and Interconnection Customer, the Interconnection Customer wishes to "assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities".

Entergy Response: Article 5.1.3, Option to Build, provides the Interconnection Customer the ability to construct Stand Alone Network Upgrades only if the in-service date designated by the Interconnection Customer is not acceptable to the Transmission Provider. Transmission Provider can commit to building the Transmission System tapped line extension by the designated in-service date; therefore the Option to Build cannot be selected.

ICT Response: Report not revised.