



TRANSMISSION AND SUBSTATION PROJECT'S

OPERATING COMPANY: ECSI-TX

CUSTOMER: COTTONWOOD ENERGY COMPANY, LP

EJO # GS0021

FACILITY STUDY

FOR

1240 MW, IPP PROJECT NEAR HARTBURG, TX

***WITH INTERCONNECTION AT
HARTBURG 500 KV SUBSTATION***

REVISION: 0

| | | | | | |
|-----|------------|--|-------------------------------------|-----------------|-----------------|
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| Rev | Issue Date | | Description of Revision | Design Engineer | Project Manager |

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1. FACILITY STUDY SUMMARY

(see “Proposed 500 kV Transmission Line Routes” drawing GJ0021SK1IPPP)

This project provides the facilities for the interconnection of the proposed Cottonwood Energy Company, LP 1240 MW gas fired generating plant at Hartburg, Texas.

The interconnection part of this project, with an estimated cost of \$19,173,161 including overheads and tax gross ups, consists of the following mandatory work:

- Conversion of an existing four breaker ring to an inverted breaker and a half arrangement comprised of four half diameters. Each diameter will consist of three breaker positions.
- Installation of six (6) new 500 kV gas circuit breakers with associated disconnect switches, one in an empty position in the southeast diameter and the remaining five in the northeast and northwest diameters.
- Installation of two (2) new 500 kV dead end towers and all associated equipment (disconnect switches, CT's, CVT's, and lightning arresters) needed to accommodate two interconnection points to the proposed Cottonwood Energy Company, LP plant.
- Installation of one (1) new 500 kV dead end tower and all associated equipment (disconnect switch, CVT's, and lightning arresters) needed to accommodate relocation of the Cypress dead end.
- Installation of one (1) new 500 kV dead end tower and all associated equipment (disconnect switch, CT's, CVT's, and lightning arresters) to accommodate relocation of the Nelson node on the breaker and a half (strain bus will be used to connect this dead end with the existing Nelson dead end).

No optional system upgrades are considered in this study. An amended study will be issued when the optional upgrades have been identified.

The requested energization date for the Cottonwood Energy Company, LP generating plant is May 1, 2002. The requested commercial in-service date for the Cottonwood Energy Company, LP generating plant is December 2002 (based on the meeting between Entergy and Cottonwood Energy Company, LP on December 12, 2000).

THIS FACILITY STUDY ASSUMES THE HARTBURG POWER, LP FACILITY NEAR HARTBURG WILL BE COMPLETED IN CONJUNCTION WITH THIS COTTONWOOD ENERGY COMPANY, LP FACILITY. IF THE HARTBURG POWER, LP FACILITY DOES NOT GET INITIATED, THIS STUDY WILL HAVE TO BE MODIFIED.

THIS FACILITY STUDY ALSO ASSUMES THAT ENTERGY WILL BE ABLE TO OBTAIN ALL NECESSARY PERMITS FOR THE LAND TO EXPAND THE HARTBURG SUBSTATION AS DESCRIBED HEREIN. IF THESE PERMITS CANNOT BE OBTAINED IN A TIMELY MANNER, THIS STUDY WILL HAVE TO BE MODIFIED.

2. SAFETY

Safety is a priority with Entergy. Safety will be designed into the substations and lines. The designs will be done with the utmost safety for personnel in mind for the construction, operation and maintenance of the equipment. Modifications required for this interconnection will require personnel to work in energized substations.

3. STUDY DETAILS FOR INTERCONNECTION (MANDATORY WORK)

A. SUBSTATIONS

The work in the substation interconnection part of this study will be at the Hartburg 500 kV Substation near Hartburg, Texas, the Nelson 500kV Substation, the Mt. Olive 500kV Substation, and the Cypress 500kV Substation.

1. HARTBURG 500 KV SUBSTATION

a. ELECTRICAL WORK

(see drawings GJ0021FS2IPPP, GJ0021PP1IPPP, GJ0021SO1IPPP, and GJ0021292IPPP)

The following electrical equipment will be installed to accommodate two interconnection points to Cottonwood Energy Company, LP:

| ELECTRICAL EQUIPMENT | QUANTITY |
|---|----------|
| 500 kV, 3000A, 63kA gas circuit breaker with four 3000-5A MR CT's per bushing | 6 ea |
| 500 kV, 318kV MCOV rating station class lightning arrester | 12 ea |
| 500 kV, 3000A motor operated vertical break disconnect switch with manually operated grounding switch | 4 ea |
| 500 kV, 3000A motor operated vertical break disconnect switch without grounding switch | 12 ea |

Two new line positions will be installed to connect to the proposed Cottonwood Energy Company, LP generating plant. Each of these

new line positions will include three (3) lightning arresters and one (1) 500 kV disconnect switch with grounding switch.

One (1) new 500 kV breaker G and one (1) disconnect switch will be installed into an existing spare position of the southeast diameter. This breaker position currently has one disconnect switch in place on the north side. The remaining five (5) breakers A, B, D, E, and F, with their associated disconnect switches (10), will be installed in the northeast and northwest diameters. One breaker position will be left open for breaker C, which will be installed as part of the work to provide another interconnection to a separate IPP. Finally, one (1) new disconnect switch will be installed on the East side of existing breaker 13130.

To accommodate the addition of the two new line positions, three existing line positions will be modified:

1. The new Cypress dead end will be installed to the south of the existing dead end. New equipment will be installed to minimize outage time. The new equipment will include three (3) lightning arresters and one (1) 500 kV disconnect switch with grounding switch.
2. The position for the Nelson line will need to be changed from the node between breakers 13120 and 13130 to the node between breakers A and B. To minimize outage time, new equipment for the Nelson line will be installed before the move, including three (3) new lightning arresters and one (1) disconnect switch with grounding switch.
3. The node for the Mt. Olive line will need to be changed from the node between breakers 13120 and 13560 to the node between breakers E and F. The existing equipment will be reused for this line.

A 20 ft. expansion of the control house will be required to accommodate the new panels and battery system. A new control building will be installed at a later time to house all new and existing 230 kV panels, including the transformer panels. This new 230kV control building is not considered in the mandatory section of this study. New cable trench will be provided in the expanded area of the substation for the new cable runs.

Assumptions

- Entergy will provide two (2) 500 kV interconnection points inside of the substation. Cottonwood Energy Company, LP will install two (2) 500 kV lines from its facilities and terminate to

Entergy’s 500 kV dead end towers. Entergy will connect the jumpers from Cottonwood Energy Company, LP’s line terminations on the dead end towers to the substation bus.

- The final calculated fault current will not affect existing equipment ratings.
- New equipment (disconnect switches and lightning arresters) will be installed on the new generation positions (Cottonwood 1 and 2) and the two existing positions that will be modified (Nelson and Cypress lines). The existing equipment for the Nelson and Cypress lines will not be re-used for this work.
- The existing equipment on the Mt. Olive line will not have to be replaced.

Long Lead Items

The following long-lead electrical equipment is required at this substation:

| LONG LEAD ELECTRICAL EQUIPMENT | QUANTITY | ESTIMATED LEAD TIME (as of 12/1/00) |
|--|-----------|-------------------------------------|
| 500 kV, 3000A, 63kA gas circuit breaker | 6 ea | [9/01/01] |
| 500 kV station class lightning arrester | 12 ea | 16 wks |
| 500 kV, 3000A motor operated disconnect switch with manually operated grounding switch | 4 ea | [8/20/01] |
| 500 kV, 3000A motor operated vertical break disconnect switch without grounding switch | 12 ea | [8/20/01] |
| 500 kV high strength station post insulators | 471 ea | 18 wks |
| 3000A 5” aluminum pipe bus, schedule 40 | 10,500 ft | 21 wks |
| 500kV substation bus and conductor fittings | 1 lot | 11 wks |
| 1033.5 triplex ACSR 45/7 strand | 17,700 ft | 24 wks |
| 3/8” galv. shield wire, 7 strand | 2,000 ft | 24 wks |

b. SITE WORK

The following site work will be performed: surveying, site clearing, grading, excavation, fill and compaction.

New sections of road will be added to allow access to all areas of the substation.

Chain-link fencing and one vehicle gate will be added around the portions of the substation that will be expanded for this work.

A grounding system will be provided and crushed limestone will be spread over the new areas of the substation, per Entergy standard SL120102. The existing grounding must be brought up to current Entergy standards SF020100 and SF020200.

An office trailer for Entergy construction management personnel, equipment storage facilities, a fork lift, and 24 hour guard service will be provided throughout the duration of the project.

Assumptions

- Currently there is triangular piece of land located on the east side of the northeast corner of the proposed Hartburg site layout which intrudes into this proposed layout. This piece of land will be purchased and available for construction purposes by July 2001.

c. STRUCTURAL WORK

The following structures will be installed to support the new electrical equipment:

| STRUCTURES | QUANTITY |
|--|----------|
| Single phase 500 kV disconnect switch support | 48 ea |
| Single phase 500 kV CT support | 12 ea |
| Single phase 500 kV CVT support | 18 ea |
| Single phase 500 kV station class lightning arrester support | 12 ea |
| Single phase 500 kV high bus support | 165 ea |
| Single phase 500 kV low bus support | 162 ea |
| Static tower | 1 ea |
| 500 kV dead end tower | 4 ea |

Two (2) 500 kV dead end towers will be installed to accommodate the two new line positions for the interconnection to the proposed Cottonwood Energy Company, LP generating plant.

One (1) new 500 kV dead end tower will be installed to accommodate relocation of the Cypress dead end.

One (1) 500 kV dead end tower will be installed to accommodate relocation of the Nelson node on the breaker and a half (strain bus will be used to connect this dead end with the existing Nelson dead end).

Assumptions

- The new dead end towers will be specified by the transmission line design group but purchased by the substation design group.
- The substation will be adequately protected from lightning with one (1) new static tower and the four new (4) dead end towers connected to the existing shielding system.

Long Lead Items

The following long-lead structural equipment is required at this substation:

| LONG LEAD STRUCTURAL EQUIPMENT | QUANTITY | ESTIMATED LEAD TIME (as of 12/1/00) |
|--------------------------------|----------|-------------------------------------|
| Lattice Steel | 1 lot | 26 wks |

d. FOUNDATION WORK

The following foundations will be installed to support the new electrical equipment:

| FOUNDATIONS | QUANTITY |
|---|----------|
| Single phase 500 kV gas circuit breaker | 18 ea |
| Single phase 500 kV disconnect switch support (2 foundations per support) | 96 ea |
| Single phase 500 kV CT support | 12 ea |
| Single phase 500 kV CVT support | 18 ea |
| Single phase 500 kV station class lightning arrester support | 12 ea |
| Single phase 500 kV high bus support | 165 ea |
| Single phase 500 kV low bus support | 162 ea |
| Static tower | 1 ea |
| 500 kV dead end tower | 4 ea |
| Control building expansion | 1 ea |

Assumptions

- The existing foundation designs will need to be verified for the increased equipment rating (3000A versus 2000A) and the increased fault current.
- A new survey and new soil borings will be performed for the areas of the substation that were not analyzed in the previous soil report and those areas that will have to be added to accommodate this work.

e. RELAYING WORK

(see drawings GJ0021SK2IPPP and GJ0021SK3IPPP, and attached spreadsheet titled “Cottonwood Energy Company LP Switchyard Communication, Metering, and Relay Responsibilities”)

1. OVERVIEW

The following equipment will be installed to provide relay protection, breaker control and revenue metering for the interconnection with Cottonwood Energy Company, LP:

| RELAYING EQUIPMENT | QUANTITY |
|--|----------|
| Breaker/MOD control relay panel – new breakers | 6 ea |
| Breaker/MOD control relay panel – existing breakers | 4 ea |
| Bus potential transfer panel | 1 ea |
| Line relay panel (dual primary relays, MiCOM P544 w/TT & SEL 311C w/TT) – generator positions | 2 ea |
| Line relay panels to replace existing Nelson & Mt. Olive relaying. | 2 ea |
| Bus differential panel (dual primary bus differential relays) – for bus differential on main busses #1 and #2. | 4 ea |
| Dual revenue metering panel | 1 ea |
| GE Harris RTU D.20 link | 2 ea |
| 125VDC external power supply for D.20 link | 2 ea |
| Fiber optic modem | 2 ea |
| Stand alone AC panel | 1 ea |
| Stand alone DC panel | 1 ea |
| 500 kV capacitive voltage transformer (CVT), 2500/4500:1 ratio, for relaying, w/o carrier accessories. For use on 500kV main bus #1 and main bus #2. | 6 ea |
| 500 kV capacitive voltage transformer (CVT), | 12 ea |

| | |
|---|----------|
| 2500/4500:1 ratio, for metering, w/ carrier accessories. For use on Cottonwood Line #1, Cottonwood Line #2, Nelson Line, and Cypress Line. | |
| 500 kV current transformer (CT), 0.15% accuracy, 1.5 thermal rating, 1000:5 single ratio, for metering. For use on Cottonwood Line #1, Cottonwood Line #2, Nelson Line, and Mt. Olive Line. | 12 ea |
| 125VDC, 440AH Battery Set and Rack | 1 ea |
| 50A battery charger | 1 ea |
| 100A battery test switch panel | 1 ea |
| Junction boxes (4 – metering CT, 4 – metering CVT, 2 – Bus relaying CVT, 4 – Bus Diff CT, 1 – Bus potential distribution box) | 15 ea |
| OPTGW-fiber splice box | 4 ea |
| Fiber optic cable (24 fibers) & inner duct | 2,000 ft |
| Fiber optic patch panel (for 24 fibers) and other fiber accessories | 2 ea |
| Stand alone 19” rack panel (for patch panels) | 1 ea |
| Control cable | 1 lot |
| Shielded control cable | 1 lot |

Two (2) new line positions will be installed to connect to the proposed Cottonwood Energy Company, LP generating plant. Each of these new line positions will include three (3) revenue metering CVT’s and three (3) revenue metering CT’s.

To accommodate the addition of the two new line positions, three existing lines will be modified:

1. The new Cypress dead end will be installed to the south of the existing dead end. New equipment will be installed to minimize outage time, with the exception of the existing wave trap, which will be reused. The new equipment will include three (3) metering CVT’s with carrier accessories. Existing line relaying will be reused for the Cypress line.
2. The position for the Nelson line needs to be changed from the node between breakers 13120 and 13130 to the node between breakers A and B. To minimize outage time, new equipment for the Nelson line will be installed before the move, including three (3) new metering CVT’s with carrier accessories, three (3) CT’s to tie into existing metering, and a new line relay panel at the Hartburg Substation for the Nelson-Hartburg transmission line. Two existing line relay panels will be

removed upon addition of the new line relaying for the Nelson-Hartburg line.

3. The node for the Mt. Olive line will need to be changed from the node between breakers 13120 and 13560 to the node between breakers E and F. Three (3) new CT's will be needed to tie into existing metering. Existing CVT's will be used. A new line relay panel will be required at Hartburg Substation for the Mt. Olive-Hartburg transmission line. Two existing line relay panels will be removed upon addition of the new line relaying for the Nelson-Hartburg line.

Each main bus of the new inverted breaker and a half scheme will include three (3) new relaying CVT's. One set will be installed at the bus node between breakers A and D, the other set at the node between breakers C and F. A bus potential transfer panel and bus potential distribution box will also be needed.

With conversion of the ring bus to a breaker and a half arrangement, dual bus differential protection will be required on each bus. Therefore, two bus differential CT junction boxes will be needed for each bus, for a total of four.

Metering accuracy CVT's and CT's will be installed on the two Cottonwood Energy Company, LP interconnection lines at the Hartburg Substation along with a dual-meter metering panel. The metering data will be transmitted to Entergy System Operating Center (SOC). An SOC data circuit will be added by a separate IPP. Substation data will need to be sent to Entergy Transmission Operation Center (TOC). The TOC data circuit is existing.

Cottonwood Energy Company, LP will provide and install two (2) OPTGW fiber optic cables per Entergy specifications from the generating plant to splice boxes on the dead end towers at Hartburg Substation. Entergy will provide and install fiber optic cable from the splice boxes to the control building.

Each fiber optic cable shall provide independent relay protection, i.e., primary relay protection in each cable, and shall take different routes to provide redundancy in case of a single cable failure. A fiber optic cable termination patch panel shall be installed for fiber cable distribution. Telecommunication and data circuits will be provided via fiber optic multiplex and channel equipment. All communications circuits, including relaying, metering, telecommunications, and data between the Hartburg control house

and the Cottonwood Energy Company, LP control house will be via fiber optic cable.

All fiber optic equipment, including cable, patch panels, multiplex equipment, splice boxes, etc., installed between Entergy and Cottonwood Energy Company, LP, shall be of the same type and manufacturer as per Entergy standards.

Entergy will provide the engineering for relay coordination and determination of the protective relay settings, set the applicable relays and perform relay calibration, testing and checkout for all Entergy relays. Cottonwood Energy Company, LP to provide relay settings at Cottonwood Energy Company, LP Switchyard.

Two GE Harris D20 remote terminal units (RTU) will be supplied, owned, and maintained by Entergy. One master RTU will be installed at the Hartburg Substation. The other will be installed at the Cottonwood Energy Company, LP switchyard. The two RTU's will communicate with each other for necessary data exchanges. Entergy will provide point assignment list, and create and download RTU configuration. Entergy and customer will mutually test the RTU in the Cottonwood Energy Company, LP facility for communication between Entergy Hartburg Substation and Cottonwood Energy Company, LP facility. Cottonwood Energy Company, LP responsible for testing and terminating in field from Cottonwood Energy Company, LP facilities to the splice boxes in Entergy Hartburg Substation. Additionally, the existing RTU at Hartburg Substation will need to be removed following the addition of the new RTU's. The new RTU at Hartburg Substation will contain all needed existing points from the old RTU to be removed.

Cottonwood Energy Company, LP shall apply to Entergy local metering department for retail metering services on auxiliary power metering. The cost of equipment associated with auxiliary power metering is not included in this study.

With the rearrangement of lines and outage requirements, new breaker control panels will be required for each of the four existing breakers. These breaker control panels should also include MOD controls to match the existing layout as possible. The four existing breaker control panels will be removed following the addition of the new panels.

All four existing breakers will be required to have independent pole operation and pressure switches added for SF6 monitoring, this cost is not included at this time. Additionally, existing breakers will have two independent 125VDC battery sets to supply trip coil #1 and trip coil #2.

Assumptions

- Cottonwood Energy Company, LP will install its own CVT’s for use in synchronizing with the Entergy system. The synchronization of the Cottonwood Energy Company, LP units to the Entergy system will be done at the Cottonwood Energy Company, LP switchyard. The dual primary relay protection equipment for the 500 kV transmission line between Hartburg Substation and the Cottonwood Energy Company, LP switchyard shall be of the same type and manufacturer at both ends. The Entergy contractor will be used to splice and test the fiber cables between the Cottonwood Energy Company, LP facilities and the Hartburg Substation as part of this study. Cottonwood Energy Company, LP will make terminations of the fiber cables at their facilities.
- Cottonwood Energy Company, LP will purchase and install two fiber optic cables on independent paths from the Cottonwood Energy Company, LP control house to the Hartburg Substation.
- Each main bus in the inverted breaker and a half scheme will have three CVT’s installed for relaying purposes.
- Cottonwood Energy Company, LP will meet the requirements of Entergy standard PM3901 “Non-utility Generator Interconnection Requirements Standard.”

Long Lead Items

The following long-lead equipment is required for this relaying work:

| LONG LEAD RELAYING EQUIPMENT | QUANTITY | ESTIMATED LEAD TIME (as of 12/1/00) |
|---|----------|-------------------------------------|
| 500 kV revenue metering accuracy CT | 12 ea | 14 wks |
| 500 kV revenue metering accuracy CVT w/ carrier accessories | 12 ea | 14 wks |
| 500 kV relaying CVT w/o carrier accessories | 6 ea | 14 wks |

| | | |
|----------------------------------|----------|--------|
| Breaker Control Panel | 10 ea | 26 wks |
| Bus Differential Relaying Panel | 4 ea | 26 wks |
| Interconnection Line Relay Panel | 4 ea | 26 wks |
| Fiber Optic Cables | 2,000 ft | 78 wks |
| Remote Terminal Unit | 2 ea | 20 wks |
| Revenue Metering Panel | 1 ea | 20 wks |

2. NELSON 500 KV SUBSTATION

a. RELAYING WORK

4. With the changes at Hartburg Substation, a new line relay panel will be needed at the Nelson Substation for the Nelson-Hartburg transmission line. Two existing line relay panels will be removed upon addition of the new line relaying for the Nelson-Hartburg line. Entergy will provide the engineering for relay coordination and determination of the protective relay settings, set the applicable relays and perform relay calibration, testing and checkout for all Entergy relays. The existing microwave system should be used for communication.

Assumptions

- The existing microwave system can be used to communicate with Hartburg Substation, and existing line relaying cannot be reused.

3. MT. OLIVE 500 KV SUBSTATION

a. RELAYING WORK

With the changes at Hartburg Substation, all relay coordination and settings will need to be redone at Mt. Olive Substation. Entergy will provide the engineering for relay coordination and determination of the protective relay settings, set the applicable relays and perform relay calibration, testing and checkout for all Entergy relays. The existing power line carrier system should be used for communication.

Assumptions

- The existing power line carrier system can be used to communicate with Hartburg Substation, and no relays or

communication equipment will need to be replaced at Mt. Olive Substation.

4. CYPRESS 500 KV SUBSTATION

a. RELAYING WORK

With the changes at Hartburg Substation, all relay coordination and settings will need to be redone at Cypress Substation for the Cypress-Hartburg transmission line. Entergy will provide the engineering for relay coordination and determination of the protective relay settings, set the applicable relays and perform relay calibration, testing and checkout for all Entergy relays. Since the electrical node (between breakers 13560 and 13125) has not changed, all existing relaying will be used on both ends of the Cypress-Hartburg transmission line.

Assumptions

- Relaying settings for the Cypress-Hartburg transmission line relays will need revised due to work being done at Hartburg Substation.

B. TRANSMISSION LINES

The following 500 kV transmission lines must be moved.

1. HARTBURG – CYPRESS 500 KV LINE NO. 547

The existing Cypress termination is currently arranged such that the node position in the breaker and a half was to be between new breakers D & E. Due to changes in planning requirements, electrically Cypress must now stay at the same node position between breakers 13125 and 13560. Thus the termination of the Cypress line must be physically changed, and the existing Cypress 500 kV line must be rerouted to the new location of the 500 kV dead end tower inside of the Hartburg Substation. The 500 kV dead end tower must be removed and replaced with a new one to be installed about 100' south of the existing location. The existing dead end tower will be scrapped, and will not be salvaged. Refer to drawing "Proposed 500 kV Transmission Line Routes for Cogentrix and Cottonwood Energy Company, LP North America."

The tangent tower north of the dead end tower will have to be analyzed to verify that it can hold the additional structural loads due to the added span length.

Cottonwood Energy Company, LP will be responsible for the transmission line work to connect to the two dead end structures at the Hartburg Substation. The Cottonwood-1 and Cottonwood-2 lines will be designed for vertical clearance according to NESC section 23 paragraph 232 where they cross the Hartburg Substation access road (see drawing GJ0021PP1IPPP) The vertical clearances must be approved by Entergy.

Assumptions

- Design and Shop Detail drawings for the 500 kV dead end tower are available to be used, and do not need to be generated.
- The existing foundations will not need to be removed.
- The tangent structure north of the dead end will be of sufficient capacity and will not need to be replaced. The span, between the tangent and the dead end will increase from approximately 950 feet to approximately 1050 feet.
- 1,600 linear feet of new conductor will need to be spliced into the existing span, 3 phases, triple bundled totaling 16,000 feet of new conductor.
- 200 feet of new shield wire will need to be spliced into the existing span totaling 400 feet of shield wire.
- Transmission line outages can be scheduled to support the construction schedule and maintain power delivery as needed to allow the rebuilding of this transmission line.
- No additional right-of-way will be needed.
- A CCN exemption is required.

Long Lead Items

The following long-lead equipment is required for this transmission work:

| LONG LEAD TRANSMISSION LINE ITEMS | QUANTITY | ESTIMATED LEAD TIME (as of 12/1/00) |
|-----------------------------------|--------------|-------------------------------------|
| 1024 ACAR Conductor | 15,387 lbs | 24 wks |
| Polymer Insulators | 3 Assemblies | 16 wks |

4. STUDY DETAILS FOR OPTIONAL SYSTEM UPGRADES

No optional system upgrades are considered in this study. An amended study will be issued when the optional upgrades have been identified.

5. COST ESTIMATE SUMMARY

INTERCONNECTION (MANDATORY WORK)

| | |
|--|---------------------|
| The total cost for the interconnection work that is mandatory is listed below: | |
| Hartburg 500 kV Substation | \$19,066,876 |
| Total cost for the MANDATORY work (including tax gross ups) is: | \$19,066,876 |

6. SCHEDULE MILESTONES

Entergy will make commercially reasonable efforts to complete this project to meet your requested in-service date. The project schedule outlined below is based on having an executed Interconnection and Operating agreement in place within one month of the date of presentation of this facility agreement. Any delay in the date of signing will impact critical milestone dates within this schedule. In many cases, delays to any critical milestone dates can result in a far greater impact to completion of these milestone dates. We also note that the ability of Entergy to schedule power outages on its substation and transmission systems is very limited year-round and not possible at all during peak summer months (May through to October). Further, by regulation, available transmission transfer capacity is committed up to thirteen months in advance and this could limit outage capabilities. Finally, long lead times for critical materials identified in this schedule are based on current lead times offered by our suppliers and are subject to change with the commitment of actual purchase orders. For these and other reasons, Entergy cannot guarantee the completion date of the required or optional system improvements, regardless of when the customer executes an Interconnection and Operating agreement.

THE INTERCONNECTION AND OPERATING AGREEMENT WITH COTTONWOOD ENERGY COMPANY, LP HAS BEEN SIGNED.

HARTBURG 500 kV SUBSTATION (MANDATORY)

| DESCRIPTION | MILESTONE DURATIONS |
|-------------------------|----------------------------|
| Site Work Design | 10 wks |
| Foundation Design | 11 wks |
| Electrical Design | 21 wks |
| Relay Design Package | 25 wks |
| Relay Settings Package | 25 wks |
| Foundation Construction | * |
| Electrical Construction | * |

| | |
|--------------------|---|
| Relay Construction | * |
|--------------------|---|

* The construction will be performed in stages in order to ensure that the May 1, 2002 energization date for the Cottonwood Energy Company, LP generating plant is met.

HARTBURG – CYPRESS 500 KV LINE NO. 547 (MANDATORY)

| DESCRIPTION | MILESTONE DURATIONS |
|--------------------------------|---------------------|
| Transmission Line Design | 21 wks |
| Transmission Line Construction | * |

* The construction will be performed in stages in order to ensure that the May 1, 2002 energization date for the Cottonwood Energy Company, LP generating plant is met.

7. OUTAGE REQUIREMENTS

INTERCONNECTION (MANDATORY WORK)

HARTBURG 500 kV SUBSTATION

| Outage ID | Outage Description | Work Description | Duration (days) |
|-----------|--------------------------------------|---|-----------------|
| 1 | Cypress Dead End and Line Relocation | Disconnect line from existing dead end, transfer line to new dead end, connect line to new bus. | 5 |
| 2 | Mt. Olive Node Relocation | Install new bus and switch, transfer to new node position. | 5 |
| 3 | Nelson Node Relocation | Disconnect line from existing bus, install new strain bus from new dead end to existing dead end and connect to line. | 5 |

SYSTEM UPGRADES (OPTIONAL WORK)

No optional system upgrades are considered in this study. An amended study will be issued when the optional upgrades have been identified.

8. ATTACHMENTS

| DWG # | DESCRIPTION |
|---------------|---|
| GJ0021SK1IPPP | Proposed 500 kV Transmission Line Routes for Cogentrix and Intergen North America |

| | |
|---------------|--|
| GJ0021FS2IPPP | Hartburg 500 kV Substation – Proposed Station One-Line Diagram |
| GJ0021SK2IPPP | Hartburg 500 kV Substation – Proposed Relay Operational One Line |
| GJ0021SK3IPPP | Hartburg 500 kV Substation – Proposed Communication Diagram |
| GJ0021PP1IPPP | Hartburg 500 kV Substation – Proposed Property Plan |
| GJ0021SO1IPPP | Hartburg 500 kV Substation – Existing Station One-Line Diagram |
| GJ0021292IPPP | Hartburg 500 kV Substation – Existing Property Plan |