



May 18, 2022

City of Seguin
Attn: Clay Howard
816 Fred Byrd Drive
Seguin, Texas 78155

Submitted electronically via email to choward@seguintexas.gov

Subject: City of Seguin Substation upgrades

Dear Mr. Howard,

Thank you for allowing M&S Engineering (M&S) the opportunity to provide a proposal for the various relay upgrades for Seguin East, Seguin West, and Cushman substations. This proposal is based on information provided by City of Seguin (Seguin) in various phone calls and emails.

Scope of Work

The intent of this project is to install new protection relays and ORION LX+ RTU devices in the following stations:

- Seguin West Substation:
 - New protection panel with the following devices:
 - Four (4) SEL-351S feeder relays
 - One (1) ORION LX+ RTU
 - Test switches and other miscellaneous items
- Seguin East Substation:
 - Install one (1) ORION LX+ RTU in existing panel
- Cushman Substation:
 - New protection panel with the following devices:
 - Three (3) SEL-351S feeder relays
 - One (1) ORION LX+ RTU
 - Test switches and other miscellaneous items

Substation Engineering Design – Relaying and Controls (R&C)

- Provide the following design for the scope of work listed above:
 1. Create single line diagram for all three stations.
 2. Update control house equipment layout (if needed).
 3. Update AC and DC panels (if needed).
 4. Addition of new relay panel for Seguin West Substation that gathers four (4) feeder breakers and one RTU (includes removal of the existing relay panel).
 5. Addition of one RTU to an existing panel at Seguin East Substation.
 6. Addition of new relay panel for Cushman Substation that gathers three (3) feeder breakers and one RTU (includes removal of the existing relay panel).

Notes:

Design will be based on the existing drawings, site visits, vendor drawings, and standard panel drawings, and will include asbuilt/record drawings.



Relay Settings

The design will include developing or modifying existing settings files for the relays described above (including SCADA points for control and monitoring).

Existing relay setting files will be used as a template of protection and control functions to be used by City of Seguin. This is required to maintain consistency between Seguin's assets in different stations and maintain communication configurations. Seguin to provide existing files of all relays described in this proposal to M&S Engineering.

Project Management and Construction Contract Management

- M&S will coordinate with all project members (distribution, construction, etc.) and provide project updates.
- M&S will be available to answer questions from the contractor during the construction process.

Deliverables

Substation Engineering Design Deliverables

1. Seguin West Substation R&C Design Drawings
 - 1) Drawing List
 - 2) Control House Layout (update if needed)
 - 3) Switching Oneline
 - 4) Cable Schedule
 - 5) AC Panelboards Connection Diagram (update)
 - 6) DC Panelboards Connection Diagram (update)
 - 7) Panel 1 (new): Four feeder Panel
 - i. Panel Layout
 - ii. Panel Nameplates
 - iii. Currents and Potentials Schematic #1
 - iv. Currents and Potentials Schematic #2
 - v. Currents and Potentials Schematic #3
 - vi. Currents and Potentials Schematic #4
 - vii. Trip & Close Breaker Schematic #1
 - viii. Trip & Close Breaker Schematic #2
 - ix. Trip & Close Breaker Schematic #3
 - x. Trip & Close Breaker Schematic #4
 - xi. RTU Schematic
 - xii. Feeder Breaker Connection Diagram #1
 - xiii. Feeder Breaker Connection Diagram #2
 - xiv. Feeder Breaker Connection Diagram #3
 - xv. Feeder Breaker Connection Diagram #4
 - xvi. Wiring Diagram 1
 - xvii. Wiring Diagram 2
2. Seguin East Substation R&C Design Drawings
 - 1) Switching Oneline
 - 2) Cable Schedule
 - 3) AC Panelboards Connection Diagram (update)
 - 4) DC Panelboards Connection Diagram (update)
 - 5) Panel 12 (existing): Feeders Panel
 - i. RTU Schematic



- ii. Wiring Diagram 1 (update existing)
- iii. Wiring Diagram 2 (update existing)
- 3. Cushman Substation R&C Design Drawings
 - 1) Drawing List
 - 2) Control House Layout (update if needed)
 - 3) Switching Oneline
 - 4) Cable Schedule
 - 5) AC Panelboards Connection Diagram (update)
 - 6) DC Panelboards Connection Diagram (update)
 - 7) Panel 1 (new): Three feeder Panel
 - i. Panel Layout
 - ii. Panel Nameplates
 - iii. Currents and Potentials Schematic #1
 - iv. Currents and Potentials Schematic #2
 - v. Currents and Potentials Schematic #3
 - vi. Trip & Close Breaker Schematic #1
 - vii. Trip & Close Breaker Schematic #2
 - viii. Trip & Close Breaker Schematic #3
 - ix. RTU Schematic
 - x. Feeder Breaker Connection Diagram #1
 - xi. Feeder Breaker Connection Diagram #2
 - xii. Feeder Breaker Connection Diagram #3
 - xiii. Wiring Diagram 1
 - xiv. Wiring Diagram 2
- 4. SEL relay setting files (.rdb) for direct use in SEL-351S relays.
- 5. Settings work sheet that contains all parameters configured and their descriptions.

Project Management and Construction Contract Management Deliverables

- 1. Project updates
- 2. Issued For review and Issued for Construction drawing sets

Pricing

The estimated **Not-to-Exceed Price** for the scope of work described to complete detailed engineering design is broken down as follows:

Substation Engineering Design Deliverables	\$61,900
Project Management and Construction Contract Management Deliverables (site visit qty. 3)	\$6,300
Total	\$68,200

Invoicing will be mailed to your attention at the end of every month for the work completed during the previous month.



Schedule

M&S will work closely with Seguin staff to ensure timely execution of this project. M&S should have sufficient staff available to meet the deadlines associated with this project.

Assumptions and Clarifications

The following assumptions and clarifications are associated with M&S' proposal. Any deviations from these assumptions or delays in receipt of notice to proceed may impact our proposal and/or schedule of deliverables.

1. All drawings will be designed in AutoCAD format. All drawings issued for review and construction will be provided in pdf format.
2. This proposal does not include advanced electrical studies, SCADA programming or communications design.
3. This proposal does not include equipment inspections at the vendor's locations or shops. Should these visits or meetings be required, they will be done so at our cost plus 15%.
4. This proposal includes travel related expenses for project meetings at the substation site (see quantity in Pricing). Additional trips required will be charged at our cost plus 15%.
5. This proposal does not include construction inspection services during construction. If requested, a subsequent proposal shall be made.
6. This proposal is exclusive of any federal, county, and city permitting fees required for the project. This will be the responsibility of the owner or construction contractor.
7. This proposal is exclusive to services listed in the above scope of work. Should additional services be required, they shall be performed in accordance with current rates & reimbursables.
8. This proposal is valid for 30 days.
9. The project shall be executed within the agreed upon terms and conditions identified in the Master Services Agreement between the City of Seguin and M&S.

This proposal identifies engineering services to be performed by M&S and pricing is based on the understood scope of work as described herein. We hope this proposal meets with your agreement and that we may provide you with the specified engineering services. Should you have any questions, please do not hesitate to call.

Sincerely,

Cory Kadlacek
Substation Division Manager