



**MID IFB 2018-12
COOPER SUBSTATION MODIFICATIONS
PROJECT**

BID INFORMATION

NOVEMBER 16, 2018

MID IFB 2018-12
COOPER SUBSTATION MODIFICATIONS

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SECTION 1

GENERAL INFORMATION

1.0 General Information

1.1 Purpose:

The Merced Irrigation District (MID) is requesting bids from highly qualified Procure and Construct (PC) Contractors to participate in the solicitation for Cooper Substation Transformer #4 upgrade. Project entails the replacement of one 115 kV circuit switcher and existing 115kV/12.47kV Transformer (Bank 4) with a new 115kV/20.78kV Transformer (28 MVA), modify a five-bay 21 kV bus section with main and transfer buses, replace three (3) 21kV bus switches, install three (3) new 21kV bus switches, remove three (3) 12kV circuit breakers (one main and two distribution feeder breakers), install seven (7) new 21 kV circuit breakers (one bank, one substitute and five distribution feeder breakers), install a new 21 kV two-step shunt capacitor bank, install a new two-section control panel inside the existing control building, install a new backup station service and auto transfer switch, and install associated substructure at the existing MID Cooper Substation in this Invitation for Bid. Demolition of the existing T4 transformer and the associated 12.47kV equipment will be required to make room for the new T4 transformer and the associated 21kV equipment. Bidder shall review the complete Invitation for Bid regarding the contractual obligations and scope of work which will be required for this project prior to completing responses to the Bid Submittal Forms package.

1.2 Project Background:

The work as described shall take place at the Cooper Substation site located in Merced County, California west of the City of Merced, California. The Project shall be constructed within the fenced area of the existing substation, just north of Cooper Avenue. The substation is currently fed from two incoming 115 kV transmission lines approaching the station from the west. 21kV underground distribution facilities leave the station to the north and south. The new Bank #4 transformer will increase transformation capacity and reliability of the substation in order to continue providing reliable service to MID customers in the Merced area.

1.3 Project Scope of Work:

Contractor will receive a demolition package for the proper de-commissioning of existing equipment:

- o Existing T4, 115/12.47 kV, 16 MVA Transformer (crane service to be provided by MID),
- o 3- 12 kV breakers (1-Bank, 2- Feeders)
- o 3- 1 phase voltage regulators including 12 kV disconnect switches
- o 3-12 kV/120 V Main bus PTs
- o 3-12 kV/120 V circuit feeder 16 PT's (used for Auto synch.)

Substation planned modification is mainly to replace a new 115 kV circuit switcher, the existing Main Power Transformer 4 (MPT 4), and convert an existing 12kV distribution bus to 21kV per the engineering design to be provided by the District. The following are the tasks included (but not limited to) in the project's Scope Of Work:

- Replace existing 115-12.47 kV MID Cooper Substation Transformer T4 with a 115-21kV, 28 MVA Transformer. Contractor will be responsible of new transformer interconnection, functional testing and commissioning.
- Increase main and transfer buses phase to phase spacing for 21kV operation (from 24" to 30" phase to phase spacing).
- Replace 115 kV circuit switcher 738 (1200 amps).
- Replace circuit breakers 49, 16 and 17 with 21kV circuit breakers (1-2000 A, 2-1200 A respectively).
- Install 21kV circuit breakers 20, 6, 14 and 15 (1-2000 A, 3-1200 A respectively).
- Install a new two stage 21kV shunt capacitor bank (2 x 3,600 kVAR), including their associated switching, grounding and switch and bus work.
- Installation of new 21kV capacitor bank conduits (UG cable, cable pulling to be provided and installed by MID).
- Install Transformer 3 to Transformer 4 Main and Transfer overhead bus ties (21 kV).
- Install two (2) 2000 A, three phase, gang operated 21kV bus tie Switches to Main/Aux Buses (labeled 49C, 20C).
- Install one three-phase 2000 A, gang operated switch main bus tie switch between T2 and T3 (labeled 29D).
- Replace (3) - three-phase 2000 A, gang operated switch main bus tie switches (labeled 19C, 29C and 39C).
- Install Transformer T4, 75 kVA station service transformer an automatic transfer switch to Transformer #2 75kVA SST.
- Replace Transformer #2, 25 kVA SST with a 75 kVA SST
- Install AC and DC panels per provided drawings.
- Relocate Transformer #2 Capacitors C21& C22 terminations to T2 Main Bus to Free Up Bay for new Circuit Feeder #6
- Relocate the feed to T134 21 kV/12 kV Autotransformer from T2 – Breaker 7 to T4 – Breaker 16
- Install two sets of 3- 21kV, Bus PTs on T4 main and transfer buses
- Install SCADA for new equipment utilizing SEL RTAC
- Substation Civil Work: foundations, grading, drainage
- Substation Structural Work: tubular steel support structure, and assemblies.
- Substation Electrical Work:
 - Conduit, pullboxes, and control enclosure vertical and horizontal cable trays
 - Conduit/cable schedule for control, protection, station service circuits between control/relay panels within the control enclosure and yard equipment
 - Station grounding system, including structural and equipment grounding details and additions to the main ground grid.
 - Control, protection, and metering requirements to accommodate the installation or replacement of new equipment.
 - Modification to the existing control building configuration, additional cable trays and interface.

- MID owner's engineer will provided relay settings. Contractor will be responsible for the programming, testing and commissioning of all new apparatus, relays, protection and control schemes, metering, etc. to make the substation's Bank#4 and 21 kV distribution feeders ready for energization.
- Coordinate with and assist MID staff with the testing/commissioning of the SCADA local monitoring

1.4 Definitive Information:

- 1.4.1 Incoming power is delivered by two (2) 115kV lines connected to MID's transmission system.

1.5 Special Conditions / Operational Constraints

- 1.5.1 Substation Modification work shall be planned and performed to keep Main Power Transformers #1, #2 and #3 energized.

1.6 Contractual Restrictions

None

1.7 Minimum Requirements

- 1.7.1 Contractor shall be fully capable, qualified, insured, and licensed as required to provide these Procurement and Construction services. Contractor shall complete and return the "Business Statement" located in the Bid Submittal Forms Package.
- 1.7.2 All services provided by the Contractor (or Subcontractor) shall be completed under one unified management effort led by the Contractor.

1.8 Sub-contractors

- 1.8.1 Contractor shall be responsible for all services performed under a Contract with MID. If Subcontractor services are utilized, they must be as follows:
- Identified in the Scope of Work together with the services to be performed
 - Identified in the fee schedule with their billing rate
- 1.8.2 Contractor shall not assign or transfer its interest in any Contract or Subcontract for any services without amending the Contract with MID.

1.9 Key and Consulting Personnel

- 1.9.1 Contractor shall identify all Key Contractor Personnel and Subcontractor Personnel (also referred to as the Project Team) used in the performance of services for this Project, along with the type of work to be performed, the estimated hours, and the percentage of their time to be spent on the Project.
- 1.9.2 Any substitution of Key Contractor Personnel or Subcontractor Personnel must be requested in writing, along with a statement of qualifications, who they will replace, and the amount of time commitment that will be replaced. This request must be approved in writing in advance by MID's Project Manager. After receiving written approval, the Contract shall be amended to reflect the changes. Changes in the use of Subcontractors shall not affect the following:
- The proposed procedures and methodology to be used
 - The cost of the services provided

1.10 Award of Contract

- 1.10.1 After a Contractor is selected, the Award of Contract is contingent upon the successful negotiation of a Contract and compliance with all submittals for insurance certificate(s), bond(s), and any other requirement(s), as specified in document titled Partial Procurement and Construction Contract Agreement, Terms and Conditions.

SECTION 2

BID REQUIREMENTS

2.0 Bid Requirements

2.1 Bid Format

- 2.1.1 The submitted Bid shall be as follows:
 - 2.1.1.1 Concise and well-organized, and demonstrate the Bidder's qualifications and experience applicable to the Project.
 - 2.1.1.2 Bound and submitted in a sealed package and addressed as directed in the Invitation Letter.
 - 2.1.1.3 Printed on one-sided pages (8 ½ inches x 11 inches), inclusive of cover, cover letter, resumes, graphics, forms, pictures, photographs, and dividers front and back (extraneous, excessive, or irrelevant material will not be favorably considered).
 - 2.1.1.4 Presented in an itemized form where requested and organized and numbered in conformance with the bold headings of Bid Submittal Forms package.
 - 2.1.1.5 Submitted along with one copy in addition to the wet-signature original, for a total of two documents.
 - 2.1.1.6 One PDF copy on CD or transferrable drive shall be included with Bid Submittal.
- 2.1.2 Bids shall be evaluated based on the information submitted in accordance with this section and with the evaluation criteria outlined in Section 3, Selection Process.
- 2.1.3 MID shall not be responsible for submittals that are delinquent, lost, marked incorrectly, and sent to an address other than that given, or sent by mail or courier service.

2.2 Bid Submittals

- 2.2.1 Presented in an itemized form where requested and organized and numbered in conformance with the bold headings of Bid Submittal Forms package.

2.3 License(s)

- 2.3.1 Contractor, its Sub-consultants, and Key Personnel shall possess the professional licenses or certifications required by the State of California to perform these services.
- 2.3.2 All professional licenses or certifications shall be maintained in good standing during the term of the Procurement and Construction Contract.

2.4 Proposed Project Schedule

- 2.4.1 The proposed Project Schedule is as follows:
 - Mandatory Pre-Bid Meeting and Job Walk November 29, 2018
 - Bid Question & Answer Period November 16 - December 10, 2018
 - Bids Due December 14, 2018
 - Announcement of Contract Award December 21, 2018
 - Execute Contractor Contract / Notice To Proceed January 4, 2019
 - Project Completion May 1, 2019

2.5 Requests for Clarification

- 2.5.1 A Contractor requesting clarification of any information presented in the IFB shall make its request in writing as indicated in the Invitation Letter.

2.6 Exceptions to this IFB

2.6.1 The Contractor shall certify that it takes no exceptions to this IFB including, but not limited to the Partial Procurement and Construction Contract Terms & Conditions (see Sample Contract Forms package). If the Contractor does take exception(s) to any portion of the IFB, the specific portion of the IFB to which exception is taken shall be identified and explained in the Exceptions Form located in the Bid Submittal Forms Package.

2.7 Attachments to the IFB

2.7.1 Contractor shall confirm in the Bid Submittal Forms Package, the receipt of all documents issued with this IFB. Contractor is not required to include copies of the actual addenda in its Bid.

SECTION 3

SELECTION PROCESS

3.0 Selection Process

3.1 General

- 3.1.1 To receive consideration, all bids shall be received by the time and date indicated in the Invitation Letter.
- 3.1.2 Evaluation of Contractor's ability to provide these services will be based upon the written materials submitted. The bid contents are specified in Bid Submittal Forms package.

3.2 Bid Evaluation

- 3.2.1 The Evaluation Team will review and rank all qualified bids. Evaluation will consist of (but not limited to), criteria such as: safety records, competitive costing, ability to meet the specification requirements, availability to begin work, ability to meet completion deadline, contractor background/experience, successful completion of similar projects and any declared exceptions to the Bid Specifications.

3.3 Selection of Contractor

- 3.3.1 After evaluating and ranking bids, the Evaluation Team will select a Contractor.
- 3.3.2 MID reserves the right to verify all information submitted in the bid, reject any or all bids, or to select the bid that is most advantageous (Highest Evaluated Bid) to MID. The decision shall be final, and there shall be no obligation by MID to provide justification for its decision.
- 3.3.3 Should negotiations with the top ranked firm fail to produce an agreement the MID reserves the right to continue negotiations with the next ranked firm and so on until an agreement can be reached.
- 3.3.4 If a mutually agreed Scope of Services and fee are arrived at, the Evaluation Team will make a recommendation that an agreement for professional services be awarded to the top ranked firm.
- 3.3.5 Following such determination by the MID, the selected Contractor will be notified in writing. Those Contractors not selected will also be notified in writing.

SECTION 4

OVERALL REQUIREMENTS

4.0 Overall Requirements

4.1 General – Special Services

- 4.1.1 Contractor shall provide all requested services in accordance with the requirements established by this document (IFB).
- 4.1.2 Other related services as may be deemed necessary by MID to meet project objectives. Such services shall be subject to the provisions of the Partial Procurement and Construction Agreement document; Terms and Conditions.

SECTION 5

ENVIRONMENT

5.0 Environment

5.1 MID Existing Functional Environment

- 5.1.1 Cooper Substation is located at 2395 Cooper Avenue, Merced, CA 95348. See Figure 5.1.1.1.

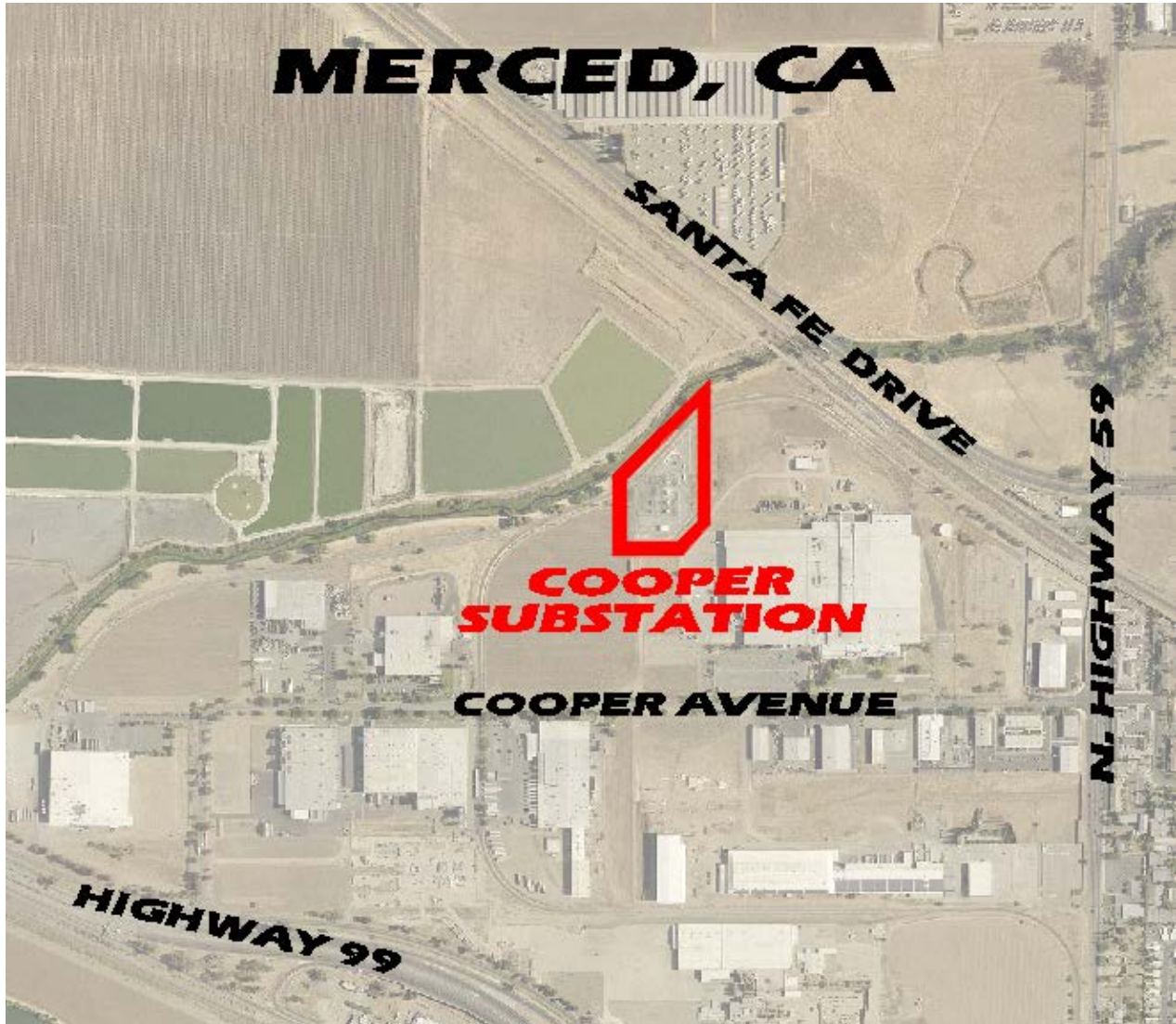


Figure 5.1.1.1 – Cooper Substation Location

- 5.1.2 The following ambient conditions apply:
 - 5.1.2.1 Altitude: 162ft Above Mean Sea Level
 - 5.1.2.2 Maximum ambient temperature: 112°F

- 5.1.2.3 Minimum ambient temperature: 19°F
- 5.1.2.4 Seismic Zone High
- 5.1.3 The existing control house is within the substation fencing, immediately south of the substation equipment. The control house encloses communications, electromechanical and microprocessor-based relaying, transducers, cabinets for instruction books, and other support equipment.
- 5.1.4 The substation has been graded, surfaced and fenced.
- 5.1.5 The substation grounding grid exists in the work area but will need to be modified to accommodate the new additions.
- 5.1.6 Cables are directed from existing electrical equipment to the control house via a trench and conduit runs.

5.2 MID Existing Infrastructure Environment

- 5.2.1 Cooper Substation control house provides hardwired telephone communications data to the Turlock Irrigation District's Operation Control Center offices and other MID local substations. MID IT, relaying and RTU traffic and traffic to other utilities loop through this control house. Communication interface for this project will be for the new protection and control but working with MID Operations and Maintenance personnel will be required.
- 5.2.2 Safety and Health Program: MID will provide a list of training and administrative requirements at the "Kickoff" Meeting. These requirements will include proof of qualifications, CPR/First Aid, and HAZWOPER Training. All personnel working on site are to attend a CPAT (Competent Person Awareness Training) class provided by MID. Safety Submittals will be specified at the "Kickoff" Meeting.
- 5.2.3 Maximum Available Fault Current: When protective ground leads are required, the protective ground leads shall be sized to carry the maximum available fault current in accordance with the Section "Safety and Health". MID engineering group will provide the Contractor with the maximum available fault current at Cooper Substation.
- 5.2.4 Documents: The drawings provided by MID will be the current drawings of record. It is the Contractor's responsibility to verify the accuracy of the drawings, as related to the project, and update as required prior to the commencement of construction. Updated drawings will need to be submitted to MID for record keeping. Final as-built drawings will also need to be submitted to MID within one (1) month after completing the project.
- 5.2.5 Staging/Work Areas
 - 5.2.5.1 Staging areas shall be determined by the PPC Contractor and shall fall within MID's ROW and/or MID property where possible. Material will be staged and carried to the proper station for construction, assembly, and erection. Access roads and use of staging areas outside MID property will be the responsibility of the PPC Contractor.
 - 5.2.5.2 A Site Plan showing these areas shall be submitted to MID 15 days after notice to proceed and will be stated in the temporary construction easements if they are required.
 - 5.2.5.3 Contractor is responsible for material unloading, storage and security until final acceptance of completion by MID.
 - 5.2.5.4 MID is not responsible for missing or stolen items even if MID property is used for storage.
 - 5.2.5.5 Temporary Buildings: Temporary facilities (including trailers) shall be in like-new condition. Locate these facilities on the Site Plan as approved by the MID PM and

within the indicated operations area. Storage of material/debris under such facilities is prohibited.

5.2.5.6 Temporary Utilities: The Contractor shall be responsible for all utilities required during construction, including electricity, telephone, and water.

5.2.5.6.1 Electric Power for Construction Purposes:

5.2.5.6.1.1 Power availability for the contractor construction purposes shall be coordinated with the MID PM.

5.2.5.6.1.2 The use of portable generators is permitted provided they comply with Section 5.5.

5.2.5.7 Temporary Sanitary Facilities: Provide adequate sanitary conveniences with secondary containment pans, of a type approved for the use of persons employed on the work, properly secluded from public observation, and maintained as required and approved by the District. Maintain these conveniences at all times without nuisance. Upon completion of the work, remove the conveniences from the premises, leaving the premises clean and free from nuisance. Include provisions for pest control and elimination of odors.

5.3 Air Quality Construction Mitigation Plan (AQCMP)

5.3.1 The Merced County Congestion Mitigation and Air Quality, also known as CMAQ is a program for compliance with requirements related to minimizing air pollutant emitted during construction of the proposed project. CMAQ has jurisdiction over the proposed project area. The Contractor will be responsible for adhering to the guidance provided in the CMAQ, and should include costs in its bid for complying with the CMAQ. The cost should include all applicable permit fees for operating portable equipment (e.g., petroleum-fueled generators, concrete batch plants) including equipment that are registered with CARB's Portable Equipment Registration Program (PERP) at the project site as required by the CMAQ.

5.3.2 The CMAQ plan will be written consistent with CMAQ's Regulations which is to prepare a Dust Control Plan. Furthermore, the CMAQ plan will also address the diesel particulate matter (DPM) emitted from portable diesel-fueled equipment greater than 50 brake-horsepower (BHP) to meet the California Air Resources Board Airborne Toxic Control Measure and PERP, which includes registering all off-road construction equipment greater than 100 BHP with the CARB's Diesel Off-Road On-Line Reporting System (DOORS). To show compliance with these requirements, contractors will be required to provide equipment manufacturer's documentation to MID staff or specified representative as proof of compliance prior to bringing equipment onto the project site.

5.4 Inspections of Construction

5.4.1 The Contractor will be responsible that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by Contractor or any subcontractor or supplier at any tier.

5.4.2 Contractor shall maintain an adequate Quality Assurance System and perform such inspections as will ensure that the work performed under the contract conforms to the contract requirements. Contractor shall maintain complete inspection records and make them available to MID. All work shall be conducted under the general direction of MID and is subject to MID inspection and test at all places and at all reasonable times before acceptance, to ensure strict compliance with the terms of the contract.

5.4.3 MID will provide a construction inspector(s).

- 5.4.4 Work at the site will not proceed without the presence of an inspector representing MID's interests.
- 5.4.5 Inspections and tests by MID or persons employed by MID are for the sole benefit of MID and do not:
 - 5.4.5.1 Relieve Contractor of responsibility for providing adequate quality control measures.
 - 5.4.5.2 Relieve Contractor of responsibility for damage or loss of the material before acceptance.
 - 5.4.5.3 Constitute or imply acceptance.
 - 5.4.5.4 Affect the continuing rights of MID after acceptance of the completed work.
- 5.4.6 The presence or absence of an MID inspector does not relieve Contractor from any contract requirement.

SECTION 6

PROJECT DELIVERABLES

6.0 Project Deliverables

6.1 Scope

6.1.1 Compliance

- 6.1.1.1 The Contractor shall comply with applicable laws, codes and applicable requirements of any governmental agency under whose jurisdiction work is being performed.
- 6.1.1.2 If there are conflicts between the listed codes and standards, the Owner will decide which codes and standards are applicable.
- 6.1.1.3 Any site specific drawing shall be sealed by a registered professional engineer registered in the state of California.

6.1.2 Minimum Electrical Equipment Requirements

- 6.1.2.1 All equipment and material furnished shall have an acceptable history of satisfactory reliable service in electric utilities systems for a period of at least three (3) years at comparable operating, loading, and design stress levels.
- 6.1.2.2 Newly developed equipment with less than three (3) years actual service will be considered from established manufacturers if it has been adequately tested, meets the requirements of this contract, and is approved by the Owner.
- 6.1.2.3 All spare parts and maintenance tools provided with equipment shall be delivered to the District as directed.

6.1.3 Documentation

- 6.1.3.1 Contractor shall provide documentation on equipment installed.
- 6.1.3.2 Contractor shall deliver all documentation in accordance to MID documentation Standards and practices.
- 6.1.3.3 All configuration, modifications and development shall be fully documented. Documentation shall be submitted for review and approval by MID authorized personnel.

6.1.4 Project Management

- 6.1.4.1 Contractor shall perform project management functions. An MID Project Manager PM will be available for PM process approvals and assistance.
- 6.1.4.2 Contractor Project Manager shall develop a detailed project plan. This plan will be developed after contractor selection notice and prior to project contract. The detailed project plan shall be part of the final service contract exhibits.
- 6.1.4.3 Contractor shall develop a detailed Microsoft Projects plan that includes work break down structure, indicating plan phases, tasks, resources, responsibility assignments, coordination meetings, change management activities, quality management check points, hourly work durations, deliverables, contractor payment milestones. Each task shall identify specific contractor and MID resources participating in each activity and identifying the resource responsible for the deliverable.
- 6.1.4.4 Coordinates MID and Contractor project teams in conjunction with MID Project Manager and Coordinator.
- 6.1.4.5 Contractor Project Manager and Contractors are required to be on-site throughout the project. This includes the commissioning period. All work shall be performed on-site.

- 6.1.4.6 MID requires use of MS-Project 2013 as the project management tool used to develop project plans.
- 6.1.4.7 Contractor shall develop the Project Charter. This defines the project scope, objectives, and overall development approach; Serves as a contract between the Project Team and the Client, stating the deliverables, budget, time constraints, resources, and standards for the project.
- 6.1.4.8 Contractor shall develop the Project Plan. This shall be a detailed work plan of project activities, tasks, deliverables, resources, schedule, and contingencies. Actual hours worked on tasks shall be captured in the work plan. Project plan tasks shall not be longer than one week.
- 6.1.4.9 Contractor shall develop and perform a Project Plan Presentation. A high-level presentation, which describes the scope, schedule, work plan, and various approaches to the project, based on the Project Charter.
- 6.1.4.10 Contractor shall develop an Audit Risk Assessment Checklist that assists in risk mitigation management.
- 6.1.4.11 Contractor shall develop and maintain a Project Control File. A repository for maintaining a record of all project approvals and work papers including the Project Charter, the most recent Weekly and Monthly Status Reports, Change Request and Issue Logs, and final documentation.
- 6.1.4.12 Contractor shall deliver Weekly and Monthly Status Reports. These reports shall convey project status in terms of deliverables, schedule, budget, and project issues, and Change Requests. Any problems impeding progress must be reported weekly and monthly. Project plan shall be up to date and current at all times.
- 6.1.4.13 Contractor shall perform Project Team Weekly project progress meetings for the MID project team.
- 6.1.4.14 Contractor shall perform management monthly status meeting by Contractor's Project Manager for MID management.
- 6.1.4.15 Contractor shall Issue Forms and Summaries to document and to communicate an important project concern that normally does not require an update to the Project Charter.
- 6.1.4.16 Contractor shall provide Change Requests Forms, Assessments, and Summaries. A Change Request must support anything that materially affects or changes the current Project Charter. The Assessment describes the impact of the change on project costs, deliverables, work effort, schedule, organization, and other factors. The Summary is updated whenever a Change Request is created or changes status. MID approved Change Requests must be tracked in the project work plan.
- 6.1.4.17 Contractor shall propose a Quality Management process for use in the project. The MID approved process shall at a minimum contain Quality Checkpoint Reviews used to evaluate the completion of key milestones or project phases to support continuous improvement. In addition, the process shall contain reviews of all deliverables. The contractor shall identify all these activities in the appropriate areas of the project plan.
- 6.1.4.18 At a minimum the Quality Management Process shall contain the following elements:
 - 6.1.4.18.1 Contractor shall identify quality standards for each phase of the project.
 - 6.1.4.18.2 Contractor shall identify quality metrics for each phase of the project and for the entire project.
 - 6.1.4.18.3 Contractor shall design quality control process for the project, specify procedures for design review, signoff, design changes and design waivers of requirements.

- 6.1.4.18.4 Contractor shall develop detailed plans for acceptance testing.
- 6.1.4.18.5 Contractor shall define procedures for corrective actions.
- 6.1.4.18.6 Contractor shall obtain consensus and approval from the project steering team to implement quality management process.

6.1.5 Project Construction

- 6.1.5.1 Kickoff Meeting: Within a time determined by MID, after the date of award, a meeting or series of meetings will be held to establish procedures for handling compliance submittals, review procedures for payment of Contractor, discuss safety and environmental compliance and establish a working understanding between the parties as to their relationships during conduct of the Project. The conference shall be attended by Key Contractor Personnel, Key Subcontractor Personnel, MID Project Management and MID personnel as determined by the MID Project Manager.
 - 6.1.5.1.1 Other meetings may be scheduled by the contractor to review / learn MID standards and shall be coordinated with the Project Manager and the respective MID Section.
- 6.1.5.2 The PPC Contractor is required to submit a Proposed Project Plan for review by MID 10 days after Notice of Award. It will include, at a minimum, a narrative description of the following activities and will include guidelines and steps to be taken to ensure the project will be installed safely and according to project specifications.
 - 1. Safety
 - 2. Surveying
 - 3. Erosion Control
 - 4. Environmental Issues and Mitigation
 - 5. Access Roads
 - 6. Staging Work Areas
 - 7. Permits
 - 8. Site Work
 - 9. Concrete Work
 - 10. Grounding
 - 11. Conduit Installation
 - 12. Structure Assembly and Erection
 - 13. Electrical Equipment Installation
 - 14. Relaying and Communications Installation
 - 15. Control Building Additions/Modifications
 - 16. Testing and Commissioning
- 6.1.5.3 Preconstruction Meeting: Prior to the start work of construction field activities, a preconstruction meeting will be held at the location designated by the MID Project Manager. The Contractor's Project Manager, a Field Superintendent, and a representative of the major subcontractors shall attend.
- 6.1.5.4 Project Management Meetings: Monthly meetings to review Contractor Project Manager's Report. The Contractor's Project Manager, a Field Superintendent, and MID Project Manager and MID personnel as requested by the MID PM shall attend.
- 6.1.5.5 Execution of the Work: The capacity of the Contractor's construction plant, sequence of operations, method of operation, and the forces employed shall, at all

- times during the continuance of the Contract, be subject to MID Project Manager's approval and shall be such as to ensure the completion of the work within the specified period of time.
- 6.1.5.6 Provision to de-energize any buses or circuits necessary to accomplish the work will be coordinated with District's Operations personnel to minimize interference with District's normal operations.
 - 6.1.6 Submittals
 - 6.1.6.1 Methods and procedures for submittals will be detailed during the Kickoff Meeting.
 - 6.1.6.2 Drawings for review: Electronic copies shall be uploaded onto MID's virtual private network (VPN) or FTP site.
 - 6.1.6.3 Project Design Submittals may include but not limited to:
 - 6.1.6.3.1 Fabrication and erection drawings
 - 6.1.6.3.2 Instrument transformer performance curves and data
 - 6.1.6.3.3 Instruction books shall be prepared by the Contractor for all equipment with loose-leaf pages mounted in durable covers and shall be delivered prior to delivery of the equipment covered in the instruction books. They shall include the following:
 - 6.1.6.3.3.1 Index and tabs.
 - 6.1.6.3.3.2 Data sheets showing model numbers and serial numbers of equipment and additional data as required to identify applicable portions of standard sections of the instruction books.
 - 6.1.6.3.3.3 Instructions for installation, start-up, operation, inspection, and maintenance.
 - 6.1.6.3.3.4 Applicable drawings, corrected to show field changes.
 - 6.1.6.3.3.5 Diagrams of any circuit board cards used in equipment.
 - 6.1.6.3.3.6 Parts lists and recommended spare parts.
 - 6.1.6.3.3.7 Address of nearest manufacturer-authorized service facility.
 - 6.1.6.3.3.8 All additional data specified.
 - 6.1.6.3.4 Operation and Maintenance Manuals: Data intended to be incorporated in operations and maintenance manuals.
 - 6.1.6.3.5 Nameplate information:
 - 6.1.6.3.5.1 Complete catalog of equipment manufacturer's nameplate data including capacities, model numbers, serial numbers and descriptions.
 - 6.1.6.3.5.2 Lists of nameplate sizes and wording for individual device or panel nameplates.
 - 6.1.6.3.5.3 Diagrammatic connection information for electrical equipment.
 - 6.1.6.3.6 All drawings, catalogs or parts thereof, instructions, written guarantees and other information specified or necessary.
 - 6.1.6.4 As a minimum, the following items are to be submitted by the contractor
 - 6.1.6.4.1 Project Step Plan, 10 days after Notice to Proceed is awarded
 - 6.1.6.4.2 PPC Schedule, 10 days after Notice to Proceed is awarded
 - 6.1.6.4.2.1 Contractor is to submit schedules in Microsoft Project, or similar approved format.
 - 6.1.6.4.3 De-Energization Sequencing Plan, 20 days prior to construction, showing the dates and duration of outages on the 115kV and 21kV buses. Also shows the plan for moving and energizing high voltage equipment from mobilization to final commissioning.

- 6.1.6.4.4 Communication Plan, 20 days after Notice to Proceed is awarded
- 6.1.6.4.5 Site Project Construction Plan, 10 days after Notice to Proceed is awarded.
- 6.1.6.4.6 Site specific Safety Plan, 10 days Prior to Construction.
- 6.1.6.4.7 Concrete Testing Plan (to meeting MID specifications), 10 days prior to construction.
- 6.1.6.4.8 "Post Construction" Submittals, 30 days after completion of project.
 - 6.1.6.4.8.1 "Final As-Builts" Package. As-built drawings shall also be submitted in electronic .pdf format.
 - 6.1.6.4.8.2 Instruction books and manuals: submit five (5) hard copies one copy in electronic PDF format.
- 6.1.6.5 Check submittal of subcontractors, suppliers and other manufacturers prior to transmitting them to Owner. Contractor's transmission shall constitute a representation to Owner and Owner's PM that Contractor assumes full responsibility for coordinating each compliance submittal with the requirements of the work and the contract documents.
- 6.1.7 Permitting Requirements and Responsibilities
 - 6.1.7.1 The Contractor is responsible for obtaining all permits necessary for the completion of the Work, except for Company Acquired Permits. The listing of Contractor Acquired Permits provided in Paragraph 6.2.9.3 is not to be considered a complete or comprehensive listing of all Contractor Acquired Permits required, but is only furnished as a guide. The Contractor is responsible to provide all other permits necessary for completion of the full Scope of the Work, including, but not limited to all temporary facilities and site access work except for Company Acquired Permits.
 - 6.1.7.2 Company Acquired Permits will not cover Contractor's temporary facilities located offsite or Contractor's work performed offsite.
 - 6.1.7.3 Contractor Acquired Permits – The following constitutes a guide for Contractor Acquired Permits, the cost of which shall be borne entirely by Contractor. Contractor shall have no right to submit any change in work with respect to the costs associated with such Contractor Acquired Permits.

Permit, License or Approval
All permits required for equipment and liquids handling, removal, transportation and disposal including hazardous wastes.
Construction equipment and vehicle licenses and permits.
Licenses and business permits required or necessary for the operations of the Contractor or Subcontractors within jurisdiction of the Work.
Permits or licenses related to the transportation or importation of equipment or for the transportation or importation of equipment, tools, machinery and other items to be used by Contractor in the performance of the Work, including those required for heavy haul or oversize transportation loads.
Site Grading Permit(s).
Well Water, Septic and Sanitation Permits. Permits and licenses related to Contractor's disposal of refuse, construction debris and waste.
Labor or health standard permits and approvals reasonably related to Work and the Project.
Permits, visas, approvals and certifications necessary for the Contractor's/Subcontractor's employees to legally perform the work in the State of California (including documentation of citizenship or legal residency on the United States).

Permits required to construct the Project such as installation of potable water, curb cutting, septic, or local sewer connections.
Permits required for any use or improvement of construction laydown area(s), parking lots, warehouses, utilities, field office, or other structures used for the work.
Permits required for the handling of discharge water.
Permits related to the potential discharge into waters of the state (Section 401 Permit) from US Army Corps of Engineers and State of California.
Permits for any improvements of the public roads for ingress and egress of construction or employee vehicles.
Stream alteration permit if required based on construction methods.
Contractor will be responsible for obtaining any railroad flagmen or other requirements required by the railroad for work adjacent to tracks or railroad property.
Permits required in order to perform any of the warranty obligations under the contract.
Any additional permits or revisions to permits required if Contractor does not comply with conditions, construction methods, or stipulations of Company Acquired Permits.

6.1.7.4 MID Acquired Permits - The following are the possible MID Acquired Permits:

Permit, License or Approval
Permits required for the soil erosion and sediment control plan and construction storm water runoff (Storm Water Pollution Prevention Plan).
Section 402 National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from U.S. EPA on construction sites with greater than one acre of land disturbed.
Pipeline, other Utility Crossing Permits/Licenses.
Department of Natural Resources Permit

6.1.7.5 Submission of Permits

6.1.7.5.1 All permit transmittals are to clearly indicate the following:

- a. Company's name
- b. Project name
- c. Contractor's project number and name
- d. How submittal is being transmitted

6.1.7.6 Copies of all permits will be available at the construction site and a copy shall be submitted to MID's Project Manager.

6.1.7.7 Distributions to other parties are to be shown on the face of the transmittal.

6.1.7.8 All permit documents prepared by the PPC Contractor or any of its Subcontractors shall be in American English.

6.1.7.9 All documents will indicate Merced Irrigation District as the final Owner. The Contractor will ensure MID is listed as the Company of Record with all Subcontractors and Manufacturers providing permits for the project.

6.1.8 Digital Photo Records and Reports

6.1.8.1 Preconstruction Pictures:

6.1.8.1.1 Contractor will prepare preconstruction digital photos of the substation site to clearly illustrate the preconstruction condition of the facilities, access roads, and terrain on District property. Pictures shall be taken

from vantage points identified in cooperation with the MID's Project Manager.

6.1.8.2 Progress, Pictures and Reports:

6.1.8.2.1 Contractor is to keep a digital photo history showing construction progress. The history is to be submitted monthly to the District PM via MID's VPN.

6.1.8.2.2 As requested by MID, submit digital photos to MID personnel as field questions arise for better communication.

6.1.8.2.3 Submit pictures in JPG format that is compatible with the District's software.

6.1.8.3 Completion Pictures:

6.1.8.3.1 Provide pictures showing the completed project.

SECTION 7

CONTRACTOR STAFF

7.0 Contractor Staff

7.1 Personnel

- 7.1.1 Contractor personnel assigned to this project are required to perform work on-site and follow MID working hours of the respective MID functional teams.
- 7.1.2 All Contractor personnel shall be on-site during MID working hours.
- 7.1.3 All Contractor personnel shall be on-site for the duration of the project.
- 7.1.4 All Contractor personnel shall be prequalified to work on the MID project as specified in Section 3.
- 7.1.5 Prior to arriving on-site, all Contractor personnel shall submit a personal resume to the MID Project Team verifying required experience.
- 7.1.6 All Contractor personnel shall submit recently updated references for several recent projects. For each reference, the Contractor shall identify their project responsibilities. The MID Project Team will contact the references and perform a reference interview.
- 7.1.7 The MID will perform a Contractor qualification telephone interview by the respective MID functional team and MID Project Manager.
- 7.1.8 The MID Project Team shall be able to reject Contractor participation without explanation.
- 7.1.9 If the MID functional team does not accept a Sub Contractor, the Contractor shall immediately propose another well-qualified Sub Contractor for MID consideration.

7.2 Required Skills and Experience

- 7.2.1 Contractor shall provide skilled staff in the following classifications to support the project tasks. At a minimum, on-site Contractor project staff shall have the following skills and experience:
- 7.2.2 Contractor Project Manager shall have:
 - At least five years of experience overseeing major Substation construction projects
 - Experience working with client Project Managers and/or Co-Project Managers
 - Experience evaluating employee performance
 - Experience with MS Project, MS PowerPoint, MS Visio, MS Word, and MS Excel
 - Experience with maintaining project schedules
 - Experience acting as vendor liaison to Client
 - Excellent written and oral communication skills
- 7.2.3 Other Positions to be Approved by MID
Electrical Engineers, Civil Engineers, Designers, System Protection Engineers, Electricians, Testers, Contractor, Laborers, Subcontractors for Grounding, Conduit, etc.
- 7.2.4 Protection and Communications Testing and Commissioning shall be approved by MID.