

## KEYS BID 23-22 SPECIFICATIONS FOR ELECTROSWITCH WIRING MODIFICATIONS

### **GENERAL**

Keys Energy Services (KEYS) is a municipal electric utility supplying power to residents of the lower Florida Keys. KEYS is located in the extreme southern tip of peninsular Florida, situated in Monroe County, Florida, primarily what is considered the "Lower Keys", which extends eastwardly from Key West to the west end of the Seven-Mile Bridge. Corporate Offices are located at 1001 James Street, Key West, Florida and the Transmission and Distribution (T&D) Facility is located on Stock Island at 6900 Front Street Extended, Key West, Florida 33040.

KEYS and its representatives have exercised due care in preparing this Request for Proposals (RFP). All information contained herein is believed to be substantially correct. However, bidders should verify information independently if desired. KEYS and its representatives do not warrant the accuracy of information contained herein.

### **SPECIFICATIONS**

KEYS is seeking to secure a Utility Service Contract with a contractor to perform control wire modifications, **minor** relay setting modification, and associated functional testing in three of KEYS distribution substations. These substations are:

White Street Substation (WSS)- Located in Key West, FL  
Thompson Street Substation (TSS)- Located in Key West, FL  
Cudjoe Key Substation (CKS)- Located in Cudjoe Key, FL

Currently all three substations are equipped with Electromechanical switches, Series 24.

The current configuration of this switch at the substations consists of an electrical input from KEYS SCADA RTU DDIO (Novatech). The DDIO outputs remote SCADA commands (trip and close) to the electromechanical switch which in-turn controls breaker operation. These electromechanical switches are also used as the local manual control of the associated breaker and will also supervise closing and reclosing.

KEYS would like awarded contractor to:

1. Rewire the primary feeder, and spare feeder local "reclosing" toggle switches in parallel to one input on the 351 relay. The current configuration has each toggle switch wired to a separate input on the 351 relay. Because of this, there will not be enough inputs available on the 351 relay to re-wire an additional 2 close inputs for closing the feeder primary and spare.
  - a. **Minor** relay setting modifications required (SEL 351): Removing feeder spare toggle switch input from 79DTL logic.
2. Remove current primary feeder and spare feeder DDIO SCADA control (trip/close) from each of their Series 24 electromechanical switch. Rewire each trip output to the breaker trip coil and each close output to the SEL 351. (15kV breakers only).
  - a. **Minor** relay setting modifications required (SEL 351): Modify existing breaker reclose output logic to assert upon addition of the 2 new close inputs.
3. Remove Series 24 NAC contacts from close and reclose circuits (15kV and 69kV/138kV).

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4. Transmission breaker controls will be rewired directly to the trip coil **and** close coil. KEYS would like the Series 24 switches to only be capable of local control of the breakers and to not perform any supervision on breaker closing or reclosing.

These modifications are for the following:

Main Breaker(s) (15kV)  
 Feeder(s) (15kV)  
 Feeder(s) (spare). (15kV)  
 Bus Tie (15kV-WSS).  
 Transmission breaker(s) (138kV 69kV)  
 Motor Operated Switches (applicable to TSS (69kV))

\*WSS transmission breakers (W1, W2, W3, and W4) have SCADA control directly wired to the breaker coils, and not via the electromechanical switch. The only modification required is to remove the electromechanical switch NAC contacts that supervise the close circuit.

All control wiring shall be No. 14 AWG minimum.

### WSS

Breaker	Relay MFG	ElectroSwitch	Local Reclose Toggle Switch
Feeder 2	SEL 351 (1 shared)	Series 24	
Feeder 2 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Feeder 3	SEL 351 (1 shared)	Series 24	
Feeder 3 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Feeder 4	SEL 351 (1 shared)	Series 24	
Feeder 4 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Cap Bank Main-1	SEL 351	Series 24	
Bus-Tie Breaker	SEL 351	Series 24	
Feeder 5	SEL 351 (1 shared)	Series 24	
Feeder 5 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Feeder 6	SEL 351 (1 shared)	Series 24	
Feeder 6 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Feeder 7	SEL 351 (1 shared)	Series 24	
Feeder 7 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Cap Bank Main-2	SEL 351	Series 24	
Main Breaker 1	SEL 351	Series 24	
Main Breaker 2	SEL 351	Series 24	
W1 Transmission Breaker		Series 24-Remove NAC in Close Circuit	
W2 Transmission Breaker		Series 24-Remove NAC in Close Circuit	

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W3 Transmission Breaker		Series 24-Remove NAC in Close Circuit	
W4 Transmission Breaker		Series 24-Remove NAC in Close Circuit	
<b>Total:</b>	<b>11 SEL 351 Relays</b>	<b>21 Electro Switches</b>	<b>6 Toggle Switches</b>

### TSS

Breaker	Relay MFG	ElectroSwitch	
Feeder 2	SEL 351 (1 shared)	Series 24	
Feeder 2 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Feeder 3	SEL 351 (1 shared)	Series 24	
Feeder 3 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Feeder 4	SEL 351 (1 shared)	Series 24	
Feeder 4 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Feeder 5	SEL 351	Series 24	
Feeder 6	SEL 351	Series 24	
Main Breaker	SEL 351	Series 24	
W1 Transmission Breaker	Direct Wire to Breaker TC and CC.	Series 24	
MO7- Motor Operated Switch	Direct Wire to Breaker TC and CC.	Series 24	
MO5- Motor Operated Switch	Direct Wire to Breaker TC and CC.	Series 24	
MO6- Motor Operated Switch	Direct Wire to Breaker TC and CC.	Series 24	
<b>Total:</b>	<b>6 SEL 351 Relays</b>	<b>13 Electro Switches</b>	<b>3 Toggle Switches</b>

### CKS

Breaker	Relay MFG	ElectroSwitch	
Feeder 2	SEL 351 (1 shared)	Series 24	
Feeder 2 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Feeder 3	SEL 351 (1 shared)	Series 24	
Feeder 3 Spare		Series 24	Rewire in parallel with primary feeder toggle switch
Feeder 4	SEL 351	Series 24	
Main 1 Breaker	SEL 351	Series 24	
Main 2 Breaker	SEL 351	Series 24	
W1 Transmission Breaker	Direct Wire to Breaker TC and CC.	Series 24	
W2 Transmission Breaker	Direct Wire to Breaker TC and CC.	Series 24	

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<b>Total:</b>	<b>5 SEL 351 Relays</b>	<b>9 Electro Switches</b>	<b>2 Toggle Switches</b>
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Example drawings are provided as an attachment within this specification to show the current configuration and the desired configuration.

The Contractor shall give seven (7) days' notice of testing that requires system switching to isolate a device for testing. No switching can be performed during blackout periods.

### **MATERIAL AND EQUIPMENT**

All testing equipment and materials are required to be provided by the contractor to perform testing and modifications of the project specifications.

### **SAFETY**

Contractor personnel must provide their own PPE. PPE shall consist of at least the following:

- Electrically Rated Hard Hat
- Long Sleeve FR Shirt and Pants
- Safety Footwear
- Safety Glasses

All work shall be in compliance with and conform to the requirements of the National Electrical Safety Code, OSHA, EPA, DOT, and any other applicable safety standards.

### **DELIVERABLES**

The Contractor shall provide one (1) hard copy and one (1) electronic copy in pdf format of test data and results as well as one (1) hard copy and one (1) electronic copy in pdf and cad format of all revised drawings. Reports shall be provided no later than 30 days of completed testing.

### **SCHEDULE**

KEYS Project Tentative Schedule				
Task	By	Description	Start Date	Completion Date
1	KEYS	Project Advertised	08/02/2022	09/09/2022
2	KEYS	Question Period	08/02/2022	08/19/2022
3	KEYS	Bid Opening	09/09/2022	
4	KEYS	Contract Award by Utility Board	Tentative 10/12/2022	
5	KEYS	Project Acceptance and Sign-Off	03/10/2023	

**\*Engineering drawings shall be 100% completed and approved by KEYS at least three weeks prior to arrival on-site, otherwise work will not be permitted.**

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### **BLACK OUT DATES**

The work will be planned and scheduled by the Contractor subject to the limitations of the distribution system and electrical load. Limitations are the result of electrical load during peak hours in the summer months. In addition, system switching shall not be done during the following blackout periods (see below schedule):

- October – 10/21-10/31
- November – Election Day
- November – Week of Thanksgiving
- December – Week of Christmas
- December – New Year's Eve 31<sup>st</sup>
- January – 1st & 2nd

### **ATTACHMENTS**

1. Transmission One-Line Diagram
2. 15kV Feeder Breaker Schematics
3. 69 kV Transmission Breaker Schematic

### **DOCUMENTATION**

The Contractor shall provide a detailed schedule with their proposal. This shall include and estimated start and completion date of drawing deliverables, on-site personnel arrival, on-site working duration, estimated start and completion date of functional testing, and requested dates for switching to support functional testing.

The Contractor shall provide the proposed project personnel's resumes and relevant experience with their proposal.

### **PROPOSAL CONTENTS & EVALUATION**

The proposal should include a description of the firm's capabilities and experience with providing the requested services, including a description of any special qualifications which are indicative of working familiarity with similar projects.

The proposals will be evaluated by a review team. The evaluation criteria will include a variety of considerations, including, but not limited to:

- a. Experience with similar projects;
- b. Range and suitability of services provided;
- c. Project management approach;
- d. Pricing;
- e. References.
- f. In-house Resources

### **BID SUBMITTAL**

Proposals shall be submitted electronically via VendorLink or DemandStar prior to the opening date and time. Emailed proposals will not be accepted. Should a vendor not be able to submit via VendorLink or DemandStar, paper submittals will be accepted. Paper submittals must be received prior to the opening date and time in order to be considered.

## KEYS BID 23-22 SPECIFICATIONS FOR ELECTROSWITCH WIRING MODIFICATIONS

Bid bonds and/or cashier's checks must be sent via **FedEx or UPS only** to:

Keys Energy Services  
Bid Opening Committee  
6900 Front Street Extended  
Key West, Florida 33040

Bidders must submit the following to be found responsive:

1. Bid Bond or Cashier's Check for 5% of Total
2. Proposal Pages 1 & 2
3. Bidder's Statement
4. Public Entity Crimes Sworn Statement
5. Drug-Free Workplace Statement
6. Safety Compliance Affidavit
7. Insurance Agent's Statement
8. Hourly Rates for Labor and Equipment – to be used should additional work/material outside of the scope of work is required
9. Detailed schedule
10. Personnel's resumes including relevant experience
11. 3 References

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*(Please type or print all information)*

Pursuant to and in compliance with your advertisement for bids and other contract documents relating thereto, the undersigned bidder, having familiarized himself with the terms and conditions affecting the performance of the contract contained in the specifications, hereby proposes and agrees to perform within the contract documents, schedules, and specifications for the following amounts.

Description	Quantity	Total Cost
Minor Relay Settings Modification	22	\$
Electroswitch Wiring Modification and Functional Testing	43	\$
Toggle Switch Rewiring	11	
Engineering		\$
Mobilization/Demobilization		\$
Indemnity Fee		<b>\$10.00</b>
<b>Estimated Total Bid Cost</b>		<b>\$</b>

**Company:** \_\_\_\_\_

**Contact Person:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

**Submitted by:** \_\_\_\_\_

(Signature and Print Name)

**Bid Bond Enclosed (Yes / No) or Cashier's Check:** \$ \_\_\_\_\_

KEYS reserves the right to accept and/or reject any proposal or any portion of a proposal. Bidder shall submit with the proposal any constraints, if any.

**Please provide a response to the following questions:**

Are resumes of project personnel included in proposal?                      Yes                       No

Is a detailed schedule provided in proposal?                                      Yes                                       No

Is Engineering performed in-house or contracted out?                      In-House                       Contracted Out

If contracted, please list company: \_\_\_\_\_

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MODIFICATIONS**

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Are Electricians and Forman in-house or contacted out? In-House  Contracted Out   
If contracted, please list company:

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Is project management performed in-house or contracted out? In-House  Contracted Out   
If contracted, please list company:

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