



Request for Quotations (RFQ)

RFQ Number: [RFQ-WIG-01147](#)

Issuance Date: [05-August-2017](#)

Deadline for Offers: [15-August-2017](#)

Description: [Electrical Upgrade to Baghe Zanana building, Directorate of Women Affairs \(DOWA\), Mazar-e-Sharif, Balkh Province](#)

For: USAID Promote: Women in Government

Funded By: United States Agency for International Development (USAID),
Contract No. AID-306-TO-15-00044/AID-306-I-14-00012

Implemented By: Chemonics Afghanistan Limited Management and Implementation Services.

Point of Contact: Subcontracts/Procurement Department
Email: subcontracts@promotewig.com
Phone: +93 (0) 794 388-351 and +93 (0) 799 019-643

***** ETHICAL AND BUSINESS CONDUCT REQUIREMENTS *****

Chemonics is committed to integrity in procurement, and only selects suppliers based on objective business criteria such as price and technical merit. Chemonics expects suppliers to comply with our Standards of Business Conduct, available at <http://www.chemonics.com/OurStory/OurMissionAndValues/Standards-of-Business-Conduct/Pages/default.aspx>.

Chemonics does not tolerate fraud, collusion among offerors, falsified proposals/bids, bribery, or kickbacks. Any firm or individual violating these standards will be disqualified from this procurement, barred from future procurement opportunities, and may be reported to both USAID and the Office of the Inspector General.

Employees and agents of Chemonics are strictly prohibited from asking for or accepting any money, fee, commission, credit, gift, gratuity, object of value or compensation from current or potential vendors or suppliers in exchange for or as a reward for business. Employees and agents engaging in this conduct are subject to termination and will be reported to USAID and the Office of the Inspector General. In addition, Chemonics will inform USAID and the Office of the Inspector General of any supplier offers of money, fee, commission, credit, gift, gratuity, object of value, or compensation to obtain business.

Offerors responding to this RFQ must include the following as part of the proposal submission:

- Disclose any close, familial, or financial relationships with Chemonics or project staff. For example, if an offeror's cousin is employed by the project, the offeror must state this.
- Disclose any family or financial relationship with other offerors submitting proposals. For example, if the offeror's father owns a company that is submitting another proposal, the offeror must state this.
- Certify that the prices in the offer have been arrived at independently, without any consultation, communication, or agreement with any other offeror or competitor for the purpose of restricting competition.
- Certify that all information in the proposal and all supporting documentation are authentic and accurate.
- Certify understanding and agreement to Chemonics' prohibitions against fraud, bribery and kickbacks.

Please contact ragner@promotewig.com with any questions or concerns regarding the above information or to report any potential violations. Potential violations may also be reported directly to Chemonics' Washington office through the contact information listed on the website found at the hyperlink above.

Section 1: Instructions to Offerors

1. **Introduction:** The USAID Promote: Women in Government Project is a USAID program implemented by Chemonics Afghanistan Limited Management and Implementation Services in Afghanistan. As part of project activities, the project requires the procurement of electrical upgrades to Baghe Zanana building at the Directorate of Women Affairs (DOWA) to provide adequate electricity for project-led trainings. The purpose of this RFQ is to solicit quotations for these items.

Offerors are responsible for ensuring that their offers are received by Chemonics in accordance with the instructions, terms, and conditions described in this RFQ. Failure to adhere with instructions described in this RFQ may lead to disqualification of an offer from consideration.

2. **Offer Deadline and Protocol:** Offers must be received no later than 04:00 P.M. local Kabul time on August 15, 2017 by email to subcontracts@promotewig.com.

Please reference the RFQ number in any response to this RFQ. Offers received after the specified time and date will be considered late and will be considered only at the discretion of Chemonics.

3. **Mandatory Site Visit/Walk through and Questions:**

3.1 Mandatory Site Visit: A mandatory site visit to the Baghe Zanana at DOWA will be held on **August 13, 2017 at 10:00 am. The site visit is mandatory and only vendors who conducted the site visit will be considered for award. All interested vendors shall send a confirmation email for their attendance in site visit no later than August 12, 2017 at 02:00 pm to subcontracts@promotewig.com. Only vendors who confirmed attendance in site visit will be allowed for site visit on August 13, 2017 at 10:00 am.**

3.2 Questions: Questions regarding the technical or administrative requirements of this RFQ may be submitted no later than 2:00 PM local Kabul time on August 14, 2017 by email to subcontracts@promotewig.com. Questions must be submitted in writing; phone calls will not be accepted. Questions and requests for clarification—and the responses thereto—that Chemonics believes may be of interest to other offerors will be circulated to all RFQ recipients before closing date who have indicated an interest in bidding.

Participation in the site visit and the bidder's conference are the risk and responsibility of the Offerors. Chemonics will not reimburse Offerors for any costs associated with the site visit. Further, upon receipt of an award, the Offeror waives any claim arising from any errors, inconsistencies or ambiguities, that the Offeror or any person or entity working with or under the Offeror on the contract became aware of, or should have reasonably become aware of, prior to Offeror's submission of its proposal.

Only the written answers issued by Chemonics will be considered official and carry weight in the RFQ process and subsequent evaluation. Any verbal information received from employees of Chemonics or any other entity should not be considered as an official response to any questions regarding this RFQ.

4. **Specifications:** Section 3 contains the technical specifications of the required items. All commodities offered in response to this RFQ must be new and unused. In addition, all electrical commodities must operate on 220V, 50Hz.

Please note that, unless otherwise indicated, stated brand names or models are for illustrative description only. An equivalent substitute, as determined by the specifications, is acceptable.

5. **Quotations:** Quotations in response to this RFQ must be priced on a fixed-price, all-inclusive basis, including delivery and all other costs. Pricing must be presented in (AFN). Offerors must assess and include in their total cost of proposal any taxes required by Afghanistan income tax law. Chemonics will not allow an awarded entity to add taxes (including BRT taxes) or any previously unanticipated costs to the budget after an award is made.

Offers must remain valid for not less than **thirty (30)** calendar days after the offer deadline. Offerors are requested to provide quotations on their official quotation format or letterhead; in the event this is not possible, offerors may complete the table in Section 2.

Pursuant to FAR 52.228-3 Worker's Compensation Insurance (Defense Base Act Insurance (Apr 1984), offerors are required to budget for the cost of workers' compensation and any other insurance legally required in

Afghanistan. If Afghanistan does not require worker's compensation, then Offerors are required to budget for Defense Base Act (DBA) insurance in accordance with FAR 52.228-3 and as will be required under the awarded Subcontract. USAID's DBA insurance carrier is:

AON Risk Insurance Services West, Inc.
2033 N. Main St., Suite 760
Walnut Creek, CA 94596-3722
Hours: 8:30 A.M. to 5:00 PM, Pacific Time
Primary Contact: Fred Robinson
Phone: (925) 951-1856
Fax: (925) 951-1890
Email: Fred.Robinson@aon.com

In addition, offerors responding to this RFQ are requested to submit the following:

- Organizations responding to this RFQ are requested to submit a copy of their official registration or business license.
- Individuals responding to this RFQ are requested to submit a copy of their identification card.

6. **Delivery:** The delivery location for the items described in this RFQ is USAID Promote: Women in Government Project in Baghe Zanana building, Directorate of Women Affairs (DOWA), Mazar-e-Sharif, Balkh Province. As part of its response to this RFQ, each Offeror is expected to provide an estimate (in calendar days) of the delivery timeframe (after receipt of order). The delivery estimate presented in an offer in response to this RFQ must be upheld in the performance of any resulting contract.
7. **Source/Nationality/Manufacture:** All goods and services offered in response to this RFQ or supplied under any resulting award must meet **USAID Geographic Code 935** in accordance with the United States Code of Federal Regulations (CFR), [22 CFR §228](#). The cooperating country for this RFQ is Afghanistan.

Offerors may not offer or supply any commodities or services that are manufactured or assembled in, shipped from, transported through, or otherwise involving any of the following countries: Cuba, Iran, North Korea, Syria.

8. **Warranty:** Warranty service and repair within the cooperating country is required for all commodities under this RFQ. The warranty coverage must be valid on all commodities for a minimum of at least six (6) months after delivery and acceptance of the commodities, unless otherwise specified in the technical specifications. At the time that any commodity is transferred to the Government of Afghanistan, the counterpart, or another entity within the cooperating country, all rights to warranty support and service shall be transferred with the commodity to that entity's end-user.
9. **Taxes:** Prices must be quoted on a fixed-price, all-inclusive basis. Pursuant to Article 72 of the Afghanistan Income Tax Law, Chemonics is required to withhold taxes from the gross amounts payable to all Afghan subcontractors. In accordance with this requirement, should an award be made to a successful offeror and an agreement is successfully negotiated with that offeror, Chemonics will withhold two percent (2%) tax from the entity's gross invoices if the entity is in possession of an active business license issued by any of the following entities - the Ministry of Commerce and Industry, Afghanistan Investment Support Agency (AISA), Ministry of Information and Culture, Ministry of Education or Ministry of Public Health - at the time the awarded entity submits invoices for payment, and the invoices are successfully reviewed and approved by Chemonics. If the entity provides services contrary to approved by-laws or it does not possess a business license issued by any of the aforementioned public entities, but possesses licenses issued by other local or national government entities or municipalities, Chemonics will in this case withhold a seven percent (7%) fixed tax on the gross amount payable to the awarded entity, subject to Chemonics' review and approval of the subcontractor's invoices. In either case, this tax is withheld by Chemonics from the gross amount payable to the awarded entity and subsequently remitted to the Ministry of Finance. Chemonics will maintain records of all of such remittances. Chemonics reserves the right to directly verify all licenses with the relevant authorities.
10. **Eligibility:** By submitting an offer in response to this RFQ, the offeror certifies that it and its principal officers are not debarred, suspended, or otherwise considered ineligible for an award by the U.S. Government. Chemonics will not award a contract to any firm that is debarred, suspended, or considered to be ineligible by the U.S. Government.

Offerors who submitted proposals or are engaged by Chemonics in the assessment and survey of the electrical upgrade work for DOWA will not be eligible for implementation of the electrical upgrade work under this Request for Quotation.

11. **Evaluation and Award:** The award will be made to a responsible offeror whose offer follows the RFQ instructions, meets the eligibility requirements, and is determined via a trade-off analysis to be the best value based on application of the following evaluation criteria. The relative importance of each individual criterion is indicated by the number of points below:

- *Work Plan/Delivery* – 25 points: the Offeror’s work plan to complete the electrical upgrade work and the speed of delivery. The work plan will be evaluated based on timeliness, realism and sequencing of the tasks/deliverables.
- *Past Performance* – 15 points: Offerors must have prior experience in electrical work, particularly in providing electrical upgrades and other relevant construction works in Afghanistan of a similar size and scope during the last three to five years. Offeror shall provide past performance evidence: copies of three contracts which they had during last 3-5 years. The copies of contract shall be attached with quotation and should also include contact information for reference checks. Chemonics will have the right to verify their past performance and conduct reference check from Offeror’s former clients and employers.
- *Key Staff* – 20 points: Qualification of the Offeror’s Engineer who will provide technical leadership during the electrical upgrade work. Chemonics requires an electrical engineer with at least a Bachelor’s degree in Engineering with at least 5 years of relevant experience. A copy of the CV/s shall be attached with the proposal.
- *Price* – 30 points: The overall cost presented in the offer.
- *After-Sales Service* – 10 points: The ability of the offeror to provide after-sales services, including warranty and routine maintenance.

In order to be technically acceptable, Offerors need to complete the terms and conditions in section 2 of the Request for Quotation.

Please note that if there are significant deficiencies regarding responsiveness to the requirements of this RFQ, an offer may be deemed “non-responsive” and thereby disqualified from consideration. Chemonics reserves the right to waive immaterial deficiencies at its discretion.

Best-offer quotations are requested. It is anticipated that award will be made solely on the basis of these original quotations. However, Chemonics reserves the right to conduct any of the following:

- Chemonics may conduct negotiations with and/or request clarifications from any offeror prior to award.
- While preference will be given to offerors who can address the full technical requirements of this RFQ, Chemonics may issue a partial award or split the award among various suppliers, if in the best interest of the USAID Promote: Women in Government Project.
- Chemonics may cancel this RFQ at any time.

Please note that in submitting a response to this RFQ, the offeror understands that USAID is not a party to this solicitation and the offeror agrees that any protest hereunder must be presented—in writing with full explanations—to the USAID Promote: Women in Government Project for consideration, as USAID will not consider protests regarding procurements carried out by implementing partners. Chemonics, at its sole discretion, will make a final decision on the protest for this procurement.

Subcontract award is contingent on successful vetting of the awarded offeror by USAID. Pursuant to the Mission Order 201.06, vetting is required for all non-U.S. recipients proposed for any award (as specified in MO 201.06) under a USAID contract, including subcontracts, 2nd-tier subcontracts, or any other similar award instrument.

12. **Terms and Conditions:** This is a Request for Quotations only. Issuance of this RFQ does not in any way obligate Chemonics, the USAID Promote: Women in Government Project, or USAID to make an award or pay for costs incurred by potential Offerors in the preparation and submission of an offer.

This solicitation is subject to Chemonics' standard terms and conditions. Any resultant award will be governed by these terms and conditions; a copy of the full terms and conditions is available upon request. Please note the following terms and conditions will apply:

- (a) Chemonics' standard payment terms are net 30 days after receipt and acceptance of any commodities or deliverables. Payment will only be issued to the entity submitting the offer in response to this RFQ and identified in the resulting award; payment will not be issued to a third party.
- (b) Any award resulting from this RFQ will be firm fixed price, in the form of a purchase order.
- (c) No commodities or services may be supplied that are manufactured or assembled in, shipped from, transported through, or otherwise involving any of the following countries: Cuba, Iran, North Korea, Syria.
- (d) Any international air or ocean transportation or shipping carried out under any award resulting from this RFQ must take place on U.S.-flag carriers/vessels.
- (e) United States law prohibits transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. The supplier under any award resulting from this RFQ must ensure compliance with these laws.
- (f) The title to any goods supplied under any award resulting from this RFQ shall pass to Chemonics following delivery and acceptance of the goods by Chemonics. Risk of loss, injury, or destruction of the goods shall be borne by the offeror until title passes to Chemonics.
- (g) Suppliers providing incidental services will be required to maintain worker's compensation insurance covering each employee to the extent required by the Defense Base Act of the United States.

13. **Governing Language:** The award will be executed in the English language, which shall be the binding and controlling language for all matters relating to the meaning and/or interpretation of this RFQ.

Section 2: Offer Checklist

To assist offerors in preparation of proposals, the following checklist summarizes the documentation to include an offer in response to this RFQ:

- Cover letter, signed by an authorized representative of the offeror (see Section 4 for template)
- Official quotation, including specifications of offered equipment (see Section 3 for example format)
- Section 3 minimum terms and conditions (Please complete section 3.3 from 1-9)
- Past Performance Evidence: Copies of three contracts (see section 1, evaluation criteria)
- Work Plan (see section 1, evaluation criteria)
- CV of the Electrical Engineer: (see section 1, evaluation criteria)
- Copy of offeror's registration or business license (see Section 1 for more details)

Section 3: Offeror and Business Detail Information

1. Offeror Information:

Vendor name per Business License	
Vendor Address:	
Vendor Contact person and Phone Numbers	
Vendor email addresses	

2. Items Specifications and Price:

The table below contains the technical requirements of the commodities/services. Offerors are requested to provide quotations containing the information below on official letterhead or official quotation format. In the event this is not possible, offerors may complete this Section 3 and submit a signed/stamped version to Chemonics.

Description of Items/Services	Unit	Estimated Quantity	Unit Price (AFN)	Total Price (AFN)	Time Required to Complete (Work Days)
Site preparation (removal of extra material, cleaning, and restoring the area back to its original shape)	LS	1			
Supply and installation of Simplex Receptacles (Sockets), 16A, 220V, 50Hz, Type CEE 7/4 (Schuko)	Each	25			
Supply and installation of Duplex Receptacles (Sockets), 16A, 220V, 50Hz, Type CEE 7/4 (Schuko)	Each	27			
Supply and installation of six-way receptacles (sockets), 220V, 50Hz	Each	20			
Supply and installation of wire 1x4mm ²	m	700			
Supply and installation of Yellow/Green Strip 1x4mm ²	m	350			
Supply and installation of Wire 1x6mm ²	m	100			

Supply and installation of Yellow/Green Strip 1x6mm ²	m	50			
Supply and installation of Wire 1x16mm ²	m	160			
Supply and installation of Yellow/Green Strip 1x16mm ²	m	40			
Supply and installation of Wire 1x25mm ² from meter box to the building to compensate the voltage drop	m	300			
<p>Supply and installation of Panel Board, IP10, Surface Mounted including:</p> <ul style="list-style-type: none"> • 63A, Main Circuit Breaker type MCCB • Eight (08) 16A, Circuit Breakers for Branch Circuits, type MCB • Two (02), 32A, Circuit Breakers for Branch Circuits, type MCB • Three (03), 40A, Circuit Breakers for Branch Circuits, type MCB • Three (03), 16A, Circuit Breakers as spare, type MCB • 25% spare space 	Each	1			
Supply and installation of Copper Clad Ground Rod; Ø20mm, 3m	Each.	3			
Supply and installation of Copper Bare Ground Conductor, 1x6mm ²	m	50			
Welding Power	Can	1.00			
Supply and installation of Copper Bare Ground	m	12			

Conductor for Tripod, 1x120mm ²					
Supply and installation of PVC Pipe Ø20mm	m	3			
Supply and installation of Clamps for PVC Pipe	Each	50			
Supply and installation of Nonmetallic Rectangular Duct 60mm x 40mm	m	180			
Supply and installation of Nonmetallic Rectangular Duct 40mm x 40mm	m	300			
Supply and installation of Disconnect Switch, 32A, 220V, Single Phase, 50Hz, for ACs	Each	5			

Note: Please provide the unit prices inclusive of tax, tax shall not be provided as a separate line item.

Delivery time (after receipt of order): _____ calendar days

Length of warranty on offered equipment: _____ years

Location of service center(s) for after-sales service, including warranty repair: _____

3. Minimum Terms and Conditions

No	Description/Question	Response
1	<p>Valid Business License: Only companies who are in the field of construction and electrical engineering will be eligible for evaluation, any other company who are not in the related field and Scope will not be considered. Expired business license will be disqualified.</p>	<input type="checkbox"/> Attached <input type="checkbox"/> Not attached
2	<p>Offer Cover letter: Did you fill in and submit the cover letter? The cover letter must be signed and stamped by offerors. <i>See Section 4 for template.</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Attached <input type="checkbox"/> Not attached
3	<p>Evidence of Past performance: Offerors must have completed at least three contracts for electrical engineering or constructions related work. <i>Please provide your past performance information in annex A.</i> Copies of the past performance contracts and reference information will be requested prior issuance of award. Did you submit copies of your past performance contracts?</p>	<input type="checkbox"/> Attached <input type="checkbox"/> Not attached <input type="checkbox"/> Yes <input type="checkbox"/> No
4	<p>Mandatory Site Visit Requirement: Did you conduct a site visit to the electrical upgrade location?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
5	<p>Cost for all line items and currencies: Did you include the cost for each item in AFN currency?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
6	<p>Work plan and CV: Did you provide the work plan for the electrical upgrade work and the CV for the electrical engineer? The work plan shall include each step to complete the requested electrical upgrade work and the duration for each step. Please see attached SOW for more details. The maximum period of performance is 30 working days. Can you complete the work in 30 working days? Please attach your work plan.</p>	<input type="checkbox"/> Attached <input type="checkbox"/> Not attached <input type="checkbox"/> Yes <input type="checkbox"/> No
7	<p>Warranty: Please provide your warranty period for the Electrical upgrade work, this includes both services and goods provided.</p>	<input type="checkbox"/> 6 months <input type="checkbox"/> 9 months <input type="checkbox"/> One year
8	<p>Validity of Bid Price: Bid must be valid for at least 30 days. Please choose only one checkbox.</p>	<input type="checkbox"/> 30 Days <input type="checkbox"/> 60 Days <input type="checkbox"/> 90 Days <input type="checkbox"/> Other:
9	<p>Payment Terms: Payment will be paid to the vendor within 30 days after the delivery of goods and submission of signed invoice. No advance payment is authorized under this procurement. The bank account of the company shall be under company's name in Business license in AFN currency. Do you accept these terms and conditions?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No

Business Name:

Authorized Representative Name (print)

Authorized Representative Title (print)

Authorized Representative Signature

Date

Section 4: Offer Cover Letter

The following cover letter must be placed on letterhead and completed/signed/stamped by a representative authorized to sign on behalf of the offeror:

To: USAID Promote: Women in Government/The Baron/Dreshak, Hawa Shanasi Road
Khawaja Rawash, Kabul Afghanistan

Reference: [RFQ No. RFQ-WIG-01147 Electrical Upgrade to Baghe Zanana building, Directorate of Women Affairs \(DOWA\), Mazar-e-Sharif, Balkh Province](#)

To Whom It May Concern:

We, the undersigned, hereby provide the attached offer to perform all work required to complete the activities and requirements as described in the above-referenced RFQ. Please find our offer attached.

We hereby acknowledge and agree to all terms, conditions, special provisions, and instructions included in the above-referenced RFQ. We further certify that the below-named firm—as well as the firm’s principal officers and all commodities and services offered in response to this RFQ—are eligible to participate in this procurement under the terms of this solicitation and under USAID regulations.

Furthermore, we hereby certify that, to the best of our knowledge and belief:

- We have no close, familial, or financial relationships with any Chemonics or USAID Promote: Women in project staff members;
- We have no close, familial, or financial relationships with any other offerors submitting proposals in response to the above-referenced RFQ; and
- The prices in our offer have been arrived at independently, without any consultation, communication, or agreement with any other offeror or competitor for the purpose of restricting competition.
- All information in our proposal and all supporting documentation is authentic and accurate.
- We understand and agree to Chemonics’ prohibitions against fraud, bribery, and kickbacks.
- We understand that all documents provided, including a business license are authentic and that Chemonics may conduct verification at its own discretion

We hereby certify that we have read Chemonics ethical and business conduct requirements included on the first page of this RFQ and that the enclosed representations, certifications, and other statements are accurate, current, and complete. Furthermore, we understand that failure to comply with the above will lead to disqualification of the quote, possible disbarment from future opportunities or immediate termination of the contract if awarded.

Authorized Signature: _____

Name and Title of Signatory: _____

Date: _____

Company Name: _____

Company Address: _____

Company Telephone and Website: _____

Company Registration or Taxpayer ID Number: _____

Company DUNS Number: _____

Does the company have an active bank account (Yes/No)? _____

Official name associated with bank account (for payment): _____

Section 5: Specifications and Technical Requirements

The offeror shall provide the following for the electrical upgrades to the Baghe Zanana building at DOWA for the USAID Promote Women in Government Project:

Standard Panel

Installation of a new small standard panel with main breaker and new branch circuit breakers, to be fed from the main distribution area. The panel board shall have 25% load spare and space spare for future use. All new wiring will be run in PVC raceways. The panel will adhere to the following specifications:

- Panel board shall meet one of the following requirements:
 - UL67 listed; or
 - Tested and marked by another NRTL; or
 - BS/EN 60439 or IEC 60439-manufactured, and type tested assembly (TTA)
- Panel board shall be circuit breaker “bolt-on” type panels.
- Enclosures for exterior and interior application shall be NEMA type 3 (IEC Classification IP54) and NEMA type 1 (IEC Classification IP10) respectively.
- Circuit breakers shall be connected to copper bus bars within the panel boards. Daisy chain (breaker-to-breaker) connection(s) made with conductor or interconnecting bus-bars are not acceptable. A 3-pole circuit breaker shall be a single unit and not made up of 3 single pole circuit breakers connected with a wire or bridge to make a 3-pole breaker.
- All panel boards shall be surface mounted. All panels shall be provided with a minimum of 25% spare capacity for future load growth.
- All panel boards shall be provided with a nameplate including the following information:
 - Manufacturer’s Name or trade mark
 - Type designation or identification number, or other means of identification making it possible to obtain relevant information from the manufacturer
 - Mark of the NRTL (such as UL), IEC 60439-1, or BS/EN 60439-1
 - Rated current, operational voltage, and impulse withstand voltage
 - Short-circuit withstand strength
 - Degree of Protection
- All panel boards and load centers shall be provided with a panel schedule.
- All circuit breakers shall be labeled with an identification number corresponding to the panel schedule. The panel schedule shall identify the conductor color code present in the panel.
- All loads shall be coordinated to provide balanced loading. Phase imbalance at each panel shall not exceed 5%.

The panel board interior design shall have circuits for all new proposed EIT equipment and all the final connections. All cable and wire conductors shall be copper. All wiring, unless noted otherwise, shall be conductor-in-conduit. Conductor insulation shall be color coded to satisfy IEC requirements, as demonstrated in the chart below. For a three-phase system, phase A shall be brown, phase B shall be black, phase C shall be grey, the neutral shall be blue and the ground shall be green/yellow. All branch circuit wiring shall be copper, minimum #4 mm² (#12 AWG) installed in PVC raceways or raceways conduit.

Conductor Color Codes for Afghanistan Projects						
	Frequency	50Hz*		60Hz**		
	Phase	3Φ	1Φ	3Φ		1Φ
Conductor	Voltage	400/230V	220V	480/277V	208Y/120V	120/240V
A (left)		Brown	-	Brown	Black	-
B (middle)		Black	-	Orange	Red	-
C (right)		Grey	-	Yellow	Blue	-
Line		-	Brown	-	-	Black or Red
Neutral		Blue	Blue	White	White	White
Grounding Conductor (Earth GND)		Green with Yellow Stripe	Green with Yellow Stripe	Green with Yellow Stripe	Green with Yellow Stripe	Green with Yellow Stripe

* Based on current version of IEC 60446
** Based on 2008 NEC and UFGS 26 20 00 Aug 2008

The total number of duplex receptacles shall be limited to six (6) per 20-ampere circuit breaker, receptacles (outlets) shall be duplex type 16A, 220V, 50Hz, type CEE 7/4 (Schuko).

Complete single line diagrams shall be provided for all systems installed. All major items in each system shall be identified and labeled for respective ratings. Grounding and bonding shall comply with the requirements of BS7671.

Classroom and Office Electrical Sockets and Surface Wiring

Electrical sockets will be installed in the USAID Promote: Women in Government project space at the Baghe Zanana building as follows:

- Classroom A&D Computer Lab
 - Fifteen (15) surface mounted simplex sockets, one receptacle for two computers to be used for multi-sockets.
 - Fifteen (15) six-way multi-sockets for two computers.
 - One (1) duplex receptacle for kettle and projector.
 - One (1) duplex receptacle for water dispenser
 - New surface-mounted wiring for mentioned receptacles.
 - Installed wiring shall be surface mounted in PVC raceways.
- Classroom C&F
 - One (1) duplex receptacle for kettle and projector.
 - One (1) duplex socket shall for dispenser.
 - Four (04) duplex receptacles for entire classroom.
 - Provide new surface mounted wiring for mentioned receptacles.
 - Installed wiring shall be surface mounted in PVC raceways.
- Classroom B&E
 - One (1) duplex receptacle for kettle and projector.
 - One (1) duplex socket shall be provided for dispenser
 - Four (4) duplex receptacles for entire classroom.
 - Provide new surface mounted wiring for mentioned receptacles.
 - Installed wiring shall be surface mounted in PVC raceways.
- Office
 - Ten (10) duplex receptacle for;

- heavy duty copier
- two (2) color and black/white printers.
- computers.
- kettle
- dispenser.
- Provide new surface mounted wiring for mentioned receptacles.
- Installed wiring shall be surface mounted in PVC raceways.

Voltage Regulating Measures

To prevent sudden drops in voltage due to AC hookups, the offeror shall upgrade the feeder with 4x16mm² cable and add the AC loads to the new panel. The AC wiring will be installed and upgrade with the new wiring and be placed on a special circuit in the panel board. The new wiring shall be run in nonmetallic rectangular raceways.

Grounding

The Offeror will provide grounding and bonding such that the new panel complies with the requirements of a 50Hz system. This includes any lack of electrical continuity between any normally non-carry metal parts, boxes, enclosures, or metal pipes that may become energized.

Technical Requirements

Technical specifications for circuit breakers, conductors, conduits, and receptacles are as follows:

- Circuit Breakers
 - Circuit breakers shall meet one of the following requirements:
 - UL 489 listed; OR
 - Tested and marked by another NRTL; OR
 - BS/EN 600947 or IEC 60947-manufactured; OR
 - BS/EN 60898 or IEC 60898-manufactured
 - Circuit breakers shall not be rated less than 15-amperes
 - All circuit breakers shall use down-stream coordination to ensure the breaker nearest a fault or overload is the first to trip
- Conductors
 - All cable and wire conductors shall be copper
 - All wiring, unless otherwise noted, shall be in conductor raceways.
 - Conductor jackets or insulation shall be color coded in line with IEC requirements. For a three-phase system, Phase A shall be brown, Phase B shall be black, Phase C shall be grey, the Neutral shall be blue, and the Ground shall be green/yellow. Conductor color coding shall be identified on the plans
 - Aluminum conductors and/or steel wire armored cables **shall not** be used
 - All branch circuit wiring shall be copper installed in PVC raceways
 - Conductors shall be sized in accordance with the AED Design Requirement entitled “Breaker and Conductor Sizing”
- Conduits
 - Nonmetallic raceway system shall be complete, to include but not limited to necessary junction and pull boxes for all surface mounted conduit systems.
 - Smallest conduit size shall be no less than 20mm (0.75in) in diameter
- Receptacles
 - Total number of duplex receptacles shall be limited to six (6) per 20-ampere circuit breaker
 - Receptacles (outlets) shall be duplex type 16A, 230V, 50Hz, type CEE 7/4 (Schuko)