

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE <b>J</b>	PAGE OF PAGES <b>1   25</b>
2. AMENDMENT/MODIFICATION NO. <b>0002</b>	3. EFFECTIVE DATE <b>13-May-2015</b>	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO.(If applicable)
6. ISSUED BY REGIONAL CONTRACTING OFFICE (RCO) BOGOTA CARRERA 45 NO. 24B-27 USMILGP CONTRACTING BOGOTA	CODE <b>W913FT</b>	7. ADMINISTERED BY (If other than item 6) ASTRID PARDO AMERICAN EMBASSY COLOMBIA; CRA. 45 # 24B-27 BOGOTA		CODE <b>W9094</b>
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)			<input checked="" type="checkbox"/> 9A. AMENDMENT OF SOLICITATION NO. <b>W913FT-15-T-0020</b>	
			<input checked="" type="checkbox"/> 9B. DATED (SEE ITEM 11) <b>08-Apr-2015</b>	
			10A. MOD. OF CONTRACT/ORDER NO.	
			10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE			
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>				
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended.				
Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
<b>12. ACCOUNTING AND APPROPRIATION DATA (If required)</b>				
<b>13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>				
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).				
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.				
<b>14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)</b>				
TO UPDATE THE PWS BASED ON SITE VISIT OBSERVATIONS. OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.				
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.				
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
			TEL:	EMAIL:
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)		<b>13-May-2015</b>

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

**SUMMARY OF CHANGES**

SECTION SF 1449 - CONTINUATION SHEET

SOLICITATION/CONTRACT FORM

The required response date/time has changed from 06-Jan-2002 10:00 AM to 02-Jun-2015 10:00 AM.

The following have been modified:

EXHIBIT A.

**STATEMENT OF WORK (SOW)  
BACK-UP POWER GENERATOR FOR CMSE HOUSING  
AT TUMACO-NARIÑO DEPARTMENT, COLOMBIA**

**PART 1**

**1. GENERAL.** Under this contract, the Contractor shall furnish all labor, transportation, equipment, materials, and any other items and services necessary to provide and install power generator for the US Civil Military Special Element (CMSE) team housing located in the Colombian Marines Installation (Armanda Nacional-Cuarta Brigada de Infanteria de Marina-Batallon Fluvial de Infanteria de Marina No. 70) (BRIM 4) in Tumaco Nariño Department, Colombia in accordance with (IAW) the Statement of Work (SOW). The Government shall not exercise any supervision or control over the contract providers performing the tasks herein. Any services provided under this contract are considered non-personal in nature.

**1.1 Scope of Work.** The Contractor shall provide all personnel, equipment, supplies, facilities, transportation, tools, materials, supervision, and other items and non-personal services necessary to execute the terms of this statement of work. At this location power, water, and sewer utilities are available but it is contractor responsibility to request and pay for these utilities. Contractor needs to coordinate with base and/or facility engineer to arrange for the connections if needed. The power generator will serve as a backup power source for the CMSE team housing. This generator will allow for CMSE team to operate during power disruptions which are very common in this location. The exact location for the generator installation will be provided by ARSOUTH to the contractor during the site visit to be held on May 05 2015 (see FAR Clause 52.236-27). Work executed by the contractor shall include but is not limited to:

- Site preparation (i.e. cut, fill, level, drainage);
- Generator (25 kW) and reserve fuel tank shacks (include slab construction, perimeter wall, and roofing);
- Electrical infrastructure to install generator;
- Grounding and lightning protection systems for both generator and fuel tank;
- Provide and install generator and transfer switch;
- Provide and install generator fuel tank reserve;
- and
- Any other related works for the power generator, and fuel tank reserve.

**Note: The Contractor shall verify all dimensions and/or quantities on site before providing proposal and commencing works. Provided quantities are approximated and it is contractor responsibility to verify these dimensions during the site visit. If discrepancies are found, he shall immediately notify contracting officer and contracting officer representative.**

The Contractor and their subcontractors shall comply with Colombian Safety regulations and laws. Where project activities are not governed by Colombian regulation, the contractor shall comply with safety and health requirements as established by EM 385-1-1, by U.S. Army Corps of Engineers.

**1.2 Background.** The project is part of US Army South Anti-Terrorism/Force Protection program in support to Colombia Security Cooperation Office (SCO).

**1.3 Objectives.** The objective of this project is to improve physical security conditions at the CMSE team housing at the Colombian Marines Base (BRIM 4) located in Tumaco, Nariño Department, Colombia. The CMSE team house is currently connected to the BRIM 4 electrical grid. The BRIM 4 electrical grid experiences continuous power disruptions due to weather, poor infrastructure of the existing public electrical network, and potential vandalism by insurgents. The lack of power and proper housing conceal can jeopardize CMSE team missions and US assets.

**1.4 Scope.** The Contractor shall provide electrical load study for the CMSE team house to determine and/or validate required power generator capacity. Contractor shall also provide design for the power generator shack and fuel tank leakage containment pool. Contractor shall provide specifications and labor required for the power generator, shack and containment pool in the Tumaco, Nariño, Colombia.

**1.5 Required Delivery.** The work shall begin within five (5) days after the Contractor receives the contract award, and the project shall be completed in **60 days** or less from receipt of contract award. This delivery time includes clean-up of the site area.

#### **1.6 General Information.**

**1.6.1 Quality Control (QC).** The Contractor shall develop and maintain an effective quality control program to ensure services are performed in accordance with this SOW and applicable regulations. The Contractor shall develop and implement procedures to identify, prevent, and ensure non-recurrence of defective services. The Contractor's quality control program is the means by which he assures himself that his work complies with the requirement of the contract. Contractor shall deliver Quality Control Plan (QCP) to the Contracting Officer's Representative (COR) and Contracting Officer (KO) for approval within 30 days of contract award. The Contractor shall have five (5) working days to submit any changes for COR and KO acceptance.

**1.6.2 Quality Assurance (QA).** The Government shall evaluate the Contractor's performance under this contract in accordance with the Quality Assurance Surveillance Plan. This plan is primarily focused on what the Government must do to ensure that the Contractor has performed in accordance with the performance standards. It defines how the performance standards will be applied, the frequency of surveillance, and the minimum acceptable defect rate(s).

**1.6.3 Recognized Holidays:** The Contractor is not required to perform work on Colombian holidays.

New Year's Day	Feast of Saints Peter and Paul
Epiphany	Independence Day
St. Joseph's Day	Battle of Boyacá
Holy Thursday	Assumption Day
Good Friday	Discover of America
Labor Day	All Saints Day
Ascension Day	Cartagena's Independence Day
Corpus Christi	Immaculate Conception
Fest of the Sacred Heart	Christmas Day

**1.6.4 Hours of Operation:** The Contractor shall execute work within the following work schedule: Monday through Friday, 7:00 a.m. through 5:00 p.m. and Saturdays 8:00 a.m. through 3:00 p.m., except Colombian holidays or when the local Government facilities are closed due to local or national emergencies, administrative closings, or similar Government directed facility closings. The Contractor must at all times maintain an adequate workforce for the uninterrupted performance of all tasks defined within this SOW when the Government facility is not closed.

When hiring personnel, the Contractor shall keep in mind that the stability and continuity of the workforce are essential.

**1.6.5 Place of Performance:** The work to be performed under this contract will be performed at the 4<sup>th</sup> Colombian Marine Installation or BRIM 4 (Armanda Nacional-Cuarta Brigada de Infanteria de Marina-Batallon Fluvial de Infanteria de Marina No. 70) located in Tumaco, Nariño, Colombia.

**1.6.6 Type of Contract:** The Government plans to award a Firm Fixed Price contract for this requirement.

**1.6.7 Security Requirements.** The Contractor and/or associated subcontractor employees shall comply with applicable installation access and local security policies and procedures.

**1.6.7.1 AT Awareness Training for Contractor Personnel Traveling Overseas.** Upon award of the contract, or within 30 days of employment of new personnel performing services under this contract, the Contractor will coordinate with the supporting DoD Agency AT Officer through the Government Representative, for AOR specific AT awareness training for U.S. based contractor employees and associated subcontractor employees. This training will be updated as required by the supporting installation AT policies. Verification of the training will be made available to the Government Representative upon request.

**1.6.7.2 Background Checks.** At the time of award of the contract or when hiring new contract workers, the Contractor shall ensure contractor employees and subcontractor employees performing services under this contract have passed a security check done by the Host Nation and Security Force at the BRIM 4 and BRIM 15 Security Office. Security checks that have been completed as part of a security clearance background investigation, or a previous background check that was a condition of employment, meet this requirement. Documentation of these checks will be made available to the Government Representative upon request. The Government retains the right to exclude any employee from performance of duties under this contract if a security check reveals information an employee is a security risk. The exclusion of an employee for security reasons will not relieve the Contractor from performance of services required under this contract. If the Government determines additional background checks are required, at a minimum, and upon request from the Government, the Contractor shall provide to the Government Representative, the following information on any contractor or subcontractor employee performing services under this contract:

- Full birth name
- Married name (if applicable)
- SSN or local equivalent (ID card number)
- Date of birth
- Place of birth (city, country)

**1.6.7.2.1** If a background check on any employee performing services under this contract, whether the check was conducted as a condition of employment or as part of the contract with the Government, reveals any information from any source of criminal activity by Contractor employees, subcontractors, or subcontractor employees, the Contractor shall immediately:

- Notify the Government Representative of that information; and
- Any actions taken against Contractor employees, subcontractors, or subcontractor employees pursuant to this clause.
- Traffic violations, other than parking, will be reported to the Government Representative only if the contract is for drivers for the Government.

**1.6.7.2.2** The Contractor shall also immediately-

- Notify the Government Representative of any suspicious activity by Contractor employees, subcontractors, or subcontractor employees the Contractor believes may pose a risk to U.S. national security or imminent risk of deadly bodily harm to any person;

- Any actions taken against Contractor employees, subcontractors, or subcontractor employees pursuant to this clause.

**1.6.7.2.3 Remedies.** In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of this paragraph may result in-

- Requiring the Contractor to remove a Contractor employee or employees from the performance of the contract;
- Requiring the Contractor to terminate a subcontract;
- Suspension of contract payments;
- Loss of award fee, consistent with the award fee plan, for the performance period in which the Government determined Contractor non-compliance;
- Termination of the contract for default or cause, in accordance with the termination clause of this contract; or
- Suspension or debarment.

**1.6.7.2.4 Subcontracts.** The Contractor shall include the substance of this paragraph in all subcontracts.

**1.6.7.3 Employment Eligibility** Contractor will ensure that all contractor employees and sub-contractor employees who reside in the U.S. performing services under this contract have been pre-screened for employment eligibility using the E-verify Program on the Department of Homeland Security website <http://www.uscis.gov/e-verify>. Personnel that have not met the employment eligibility requirement on this website are not authorized to perform services under this contract. Verification of the eligibility check will be made available to the Government Representative upon request. This requirement is not in lieu of and does not relieve the Contractor from the I-9 Employment Eligibility Verification Forms for employment of personnel.

**1.6.7.4 Installation Access.** Contractor and all associated sub-contractor employees shall comply with applicable installation, facility and area commander installation/facility access and local security policies and procedures. The employee performing services under this contract shall also provide all information required for background checks to meet installation access requirements to be accomplished by installation Provost Marshal Office, Director of Emergency Services, Security Office or the host nation equivalent.

**1.6.7.5 Uniform.** The Contractor shall provide a standard uniform for all contractor and subcontractor employees performing services under this contract, and ensure they wear the uniform during appointed duty hours. The uniform may consist of the same type and color shirt and slacks for all workers. Company logo is optional.

**1.6.7.6 Identification.** If required by the Government, contract personnel and all associated sub-contractors employees accessing U.S. facilities or activities, shall present a valid picture ID provided by the Government while accessing Government owned or contracted facilities and shall adhere to facility security policies and restrictions. If applicable, Government issued access badges will not be worn outside designated facility where visible to the general public.

**1.6.7.7 Escorts:** The Contractor and all associated sub-contractor employees performing services under this contract shall be escorted at all times by an individual designated by the Host Nation Security Office or Security Force while performing work at this installation.

**1.6.7.8 Vetting.** The Contractor company and all associated sub-contractor companies, must have been vetted by the US Embassy in the country which the contract will be performed. For the purposes of this contract, the company is considered vetted if the company is located in the country which the contract will be performed unless the company has been previously barred from performing services for the Government. If during a previous vetting process the company was barred from performing service for the Government, then that is grounds for termination of the contract. If the company is located outside of the country which the contract will be performed, the company must be vetted by the US Embassy in the country of performance. Vetting will be coordinated through the US Embassy's DOD Security Cooperation Office in the country of performance. If during any previous vetting process

in other countries, the company was barred from performing services for the Government, that is grounds for termination of the contract.

**1.6.7.9 Force Protection Condition (FPCON).** In addition to the changes otherwise authorized by the changes of clause of contract, should the US Government FPCON at any individual installation change, the Government may require changes in contractor security matters or process. During FPCONs Charlie and Delta, only contract services that have been deemed “mission essential” by the Government will continue. Contract services will resume when the FPCON is reduced to Bravo or lower.

**1.6.7.10 iWATCH.** The Contractor will ensure that all contractor employees and sub-contractor employees performing services under this contract have been briefed on the iWATCH Program, or equivalent for their supporting DoD Agency, within 30 days of employment under the contract. The Contractor will coordinate with the supporting DoD Agency AT Officer through the Government Representative for the briefing. This training will be updated as required by the supporting installation AT policies. A copy of the training attendance will be maintained by the Contractor and made available to the Government Representative upon request.

**1.6.7.11 Operations Security.** If the contractor, or a sub-contractor, or employees of either disclose any information that disrupts or harms the Government's operations or activities, then the Government retains the right to exclude any employee from performance of duties under this contract. The exclusion of an employee for security reasons will not relieve the Contractor from performance of services required under this contract. By way of example, personnel shall not sketch or take photos of government facilities or activities, unless related to service to be provided. Personnel shall not post or discuss government facility activities on any unauthorized public access media. All government paper products and removable digital storage material that is received, generated, or stored during the contract will be destroyed completely when no longer needed to preclude recognition of information.

**1.6.7.11.1** The Contractor shall take appropriate security measures to protect Government critical and sensitive information. Contractor shall not disclose specifics of services to unauthorized personnel. Contractor will provide sub-contractors only required specifics to accomplish services and/or products delivery.

**1.6.7.11.2** Neither the Contractor nor the Contractor's personnel shall disclose, or cause disclosure of any information concerning DoD operations and activities which could result in, or increase the likelihood of, the possible breach of the activity's security or interrupt the continuity of DoD operations. Unauthorized disclosure of and/or failure to properly safeguard information, material, equipment, supplies, or proprietary data by the Contractor may subject the Contractor, its agent(s), or employees to criminal liability.

**1.6.7.11.3 Advertisement and Social Media.** The contractor shall NOT post information to public website or social media locations, personal or professional, that in any way disclose conference names, locations, hotel data, conference participants, discussions, pictures, etc. before, during or after the conference without the express consent of the Government.

**1.6.7.12 Medical.** Contractor will ensure that all contractor employees and subcontractor employees are medically, dentally, and psychologically fit for performance of their contracted duties.

**1.6.7.13 Security Clearance.** A security clearance for contracting personnel is not required for this project. Contractor personnel will not be accessing any restricted areas to accomplish this task.

**1.6. 8 Physical Security.** The Contractor shall be responsible for safeguarding all government equipment, information and property provided for Contractor use. At the close of each work period, all government facilities, equipment, and materials shall be secured.

**1.6. 8.1** Contractor and workforce shall take appropriate security measures to protect U.S. Government critical and sensitive information. The Contractor shall not disclose specifics of the project to unauthorized personnel. Contractor shall provide their sub-contractors with only the required information to enable them to accomplish project delivery. All work related paper products and removable storage material that is received, generated, or stored during the contract shall be completely destroyed when no longer needed. Installation access badges will not be worn outside of the Government facility where visible to the general public. The Contractor and workforce

personnel shall not sketch or take photos of Government facilities or activities, unless directly related to service to be provided. The Contractor shall not post or discuss government facility activities on any unauthorized public access media. The Contractor shall immediately report suspicious activities to security personnel.

Contractor will have two means of getting access to the Colombian Marines Installations. Contractor will be introduced to the Colombian Marines Installations security office during the pre-construction meeting. Also contractor can contact Mr. Anibal Melendez (anibal.melendez.civ@mail.mil, Aniba.Melendez@tcsc.southcom.mil, Office #: 031-275-2525, or Cell #: 310-817-2461).

**1.6.8.2 Key Control.** Not applicable.

**1.6.8.3 Lock Combinations.** Not applicable.

**1.6.9 Post Award Conference/Periodic Progress Meetings:** The Contractor agrees to attend any post award conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation Subpart 42.5. The KO, COR and other Government personnel, as appropriate, may meet periodically with the Contractor to review the Contractor's performance. At these meetings the KO will apprise the Contractor of how the government views the Contractor's performance and the Contractor will apprise the Government of problems, if any, being experienced. Appropriate action shall be taken to resolve outstanding issues. These meetings shall be at no additional cost to the Government. **Contractor shall provide minutes of these meetings 2 days after the meetings are concluded.**

**1.6.10 Contracting Officer Representative (COR):** The COR will be identified by separate letter. The COR monitors all technical aspects of the contract and assists in contract administration. The COR is authorized to perform the following functions: assure that the Contractor performs the technical requirements of the contract, perform inspections necessary in connection with contract performance: maintain written and oral communications with the Contractor concerning technical aspects of the contract, issue written interpretations of technical requirements, including Government drawings, designs, specifications: monitor Contractor's performance and approves progress payments on a monthly basis and notifies both the KO and Contractor of any deficiencies; coordinate availability of government furnished property, and provide site entry of Contractor personnel. A letter of designation issued to the COR, a copy of which is sent to the Contractor, states the responsibilities and limitations of the COR, especially with regard to changes in cost or price, estimates or changes in delivery dates. The COR is not authorized to change any of the terms and conditions of the resulting order.

**1.6.11 Key Personnel:** The following personnel are considered key personnel by the government: The quality control representative, project electrical engineer, field engineer, project superintendent/foreman and any other engineers leading design (plans or calculations) efforts related to the project. The Contractor shall provide a project engineer/architect who shall be responsible for the performance of the work. The name of this person and an alternate who shall act for the project engineer/architect when they are absent shall be appointed in writing to the KO within ten (10) days of contract award. The project engineer/architect shall have full authority to act for the Contractor on all contract matters relating to daily operation of this contract. The project engineer/architect or alternate shall be available between 8:00 a.m. to 4:30 p.m., Monday thru Friday except Federal and Colombian holidays or when the government facility is closed for administrative reasons.

Minimum qualifications for all key personnel are listed below: The project electrical engineer shall have a bachelor's degree in electrical engineering and maintain a valid Colombian government professional registration, and at least **ten (10) years** of experience. Field and design engineers shall have a bachelor's degree in engineering and maintain a valid Colombian professional registration, and at least **five (5) years** of experience with projects of a similar type and magnitude. The project superintendent/foreman shall have at least three (3) years or three (3) projects of experience with projects of a similar type and magnitude. The Contractor's quality control representative shall have at least five (5) years as a quality control inspector in the construction field.

**1.6.12 Identification of Contractor Employees:** The Contract personnel attending meetings, answering Government telephones, and working in other situations where their Contractor status is not obvious to third parties are required to identify themselves as such to avoid creating an impression in the minds of members of the public

that they are Government officials. They must also ensure that all documents or reports produced by Contractors are suitably marked as Contractor products or that Contractor participation is appropriately disclosed.

**1.6.13 Contractor Travel.** Not applicable.

**1.6.14 Other Direct Costs.** Not applicable.

**1.6.15 Data Rights:** The U.S. Government has unlimited rights to all documents/materials produced under this contract. Any documents, designs, drawings, study and test outcomes, survey maps, belong to the U.S. Government and shall be turned over to the COR upon completion of the project. All documents and materials produced under this contract shall be US Government owned and are the property of the US Government with all rights and privileges of ownership/copyright belonging exclusively to the Government. These documents and materials may not be used or sold by the Contractor without written permission from the KO. All materials supplied to the Government shall be the sole property of the Government and may not be used for any other purpose. This right does not abrogate any other Government rights. Electrical license engineer shall approve the final electrical load study and electrical design. A structural license engineer shall approve the final generator shack designs.

**1.6.16 Organizational Conflict of Interest:** (If applicable): Contractor and subcontractor personnel performing work under this contract may receive, have access to or participate in the development of proprietary or source selection information (e.g., cost or pricing information, budget information or analyses, specifications or work statements, etc.) or perform evaluation services which may create a current or subsequent Organizational Conflict of Interests (OCI) as defined in FAR Subpart 9.5. The Contractor shall notify the Contracting Officer immediately whenever it becomes aware that such access or participation may result in any actual or potential OCI and shall promptly submit a plan to the Contracting Officer to avoid or mitigate any such OCI. The Contractor's mitigation plan will be determined to be acceptable solely at the discretion of the Contracting Officer and in the event the Contracting Officer unilaterally determines that any such OCI cannot be satisfactorily avoided or mitigated, the Contracting Officer may affect other remedies as he or she deems necessary, including prohibiting the Contractor from participation in subsequent contracted requirements which may be affected by the OCI.

**1.6.17 Laws and Regulations.**

**1.6.17.1 Compliance Required.** The Contractor shall, as a minimum, and without additional expense to the U.S. Government, be responsible for complying with all Colombian laws, codes, ordinances, and regulations applicable to the performance of the work, including those of the host country, and with the lawful orders of any governmental authority having jurisdiction. In the event that a Colombian law or regulation does not exist for a particular event, then the U.S. version of at least equal coverage will be specified by the U.S. Government in the particular section of this SOW. In the event of a conflict between the contract and such laws, regulations and orders, the Contractor shall promptly advise the KO of the conflict and of the Contractor's proposed course of resolution.

**1.6.17.2 Labor, Health and Safety Laws.** The Contractor shall comply with all local labor laws of Colombia, regulations, customs and practices pertaining to labor, safety, and similar matters, to the extent that such compliance is not inconsistent with the requirements of this contract. The practices outlined in the Colombian regulation "Normatividad Salud Ocupacional y Seguridad Industrial" are the minimum acceptable standards. The Contractor is responsible for training all personnel on fire and safety hazards. Contractor personnel in the performance of their duties shall immediately report fire hazards, safety hazards and unsafe conditions to their supervisor. In the event that a Colombian law or regulation does not exist for a particular event, then the U.S. version that covers that particular event will be specified in the particular section of this SOW.

The Contractor and their subcontractors shall comply with Colombian Safety regulations and laws. Where project activities are not governed by Colombian regulation, the contractor shall comply with safety and health requirements as established by EM 385-1-1, by U.S. Army Corps of Engineers.

**1.6.18 Licenses and Permits.**

**1.6.18.1 Contractor Licenses and Permits.** The Contractor shall, at no additional cost to the U.S. Government, obtain all licenses and permits required for performance of work. Contractor shall comply with all applicable Colombian laws, rules, and regulations. The Contractor shall submit proper documentation and evidence satisfactory to the KO or the COR demonstrating compliance with this requirement when directed by the KO or COR.

**1.6.18.2 Subcontractor Licenses and Permits.** The Contractor shall inform the COR and KO in writing that all subcontractors and others performing work at Tumaco worksites have obtained all requisite licenses and permits. The Contractor shall submit a copy of the licenses and permits (if applies) to the KO and COR demonstrating compliance with this requirement when directed by the KO and/or COR.

**1.6.19 Environmental Protection.**

**1.6.19.1** In order to present and provide for abatement and control of any environmental pollution arising from the activities in the performance of this contract, the Contractor shall comply with all applicable pollution control and abatement policies, and all applicable provisions of the Colombian Codes and Military Base regulations/laws.

**1.6.19.2** Environmental protection action required by this section shall consist of furnishing all labor, materials, and equipment and performing all work required for the abatement and prevention of pollution during and as the result of construction operations under this contract. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; detrimentally impact on biological species and/or their habitat; or degrade the aesthetic and recreational value of the area.

**1.6.19.3** The Contractor shall not pollute storm or sewer lines; or swales with fuels, oils, bitumen, calcium chloride, acid, construction wastes; or other harmful materials. It is the responsibility of the Contractor to investigate and comply with all applicable Colombian laws concerning pollution of river and streams. All work under this contract shall be performed in such a manner that objectionable conditions shall not be created in streams through or adjacent to the project areas.

**1.6.19.4** Waste material is defined as any material for which no use or reuse is intended and which is to be discarded. Disposal of hazardous waste, containers or components thereof, shall be in a hazardous waste disposal site only and no other location shall be utilized for such disposal. Only hazardous waste sites which are permitted by the US Environmental Protection Agency (EPA), and/or the Government of Colombia shall be utilized for such disposal actions. Contractor shall coordinate with Colombian environmental agencies for disposal/storage activities. The Contractor shall maintain all required documentation related to hazardous material use and waste disposal in accordance with the Government of Colombia regulations and requirements.

**1.6.20 Personnel Safety.** The Contractor shall ensure the safety of their personnel in accordance with Colombian law section Normatividad Salud Ocupacional y Seguridad Industrial. The Contractor shall immediately correct all safety deficiencies upon notification of such deficiencies by the KO/COR and shall notify the KO/COR of the corrective action taken. The Contractor shall be responsible for the safety of their workers and all visitors at each work site; and ensure that all personnel are wearing appropriate safety gear at all times (i.e. safety glasses, helmet, harness, gloves, and safety shoes).

**1.6.20.1 Accident Protection (AP) and Emergency Medical Treatment (EMT).** The Contractor shall have personnel licensed by the Colombian government to be trained and capable of dealing with minor personnel injuries. The personnel shall be qualified to provide first aid in case of emergency. The number of AP and EMT shall be sufficient to care for the number of employees at the site in the case of an emergency.

**1.6.20.2** All work crews, Contractor management personnel, and the COR shall be provided with information pertaining to the Contractor's arrangements for emergency medical treatment five (5) days prior to the start of work. This information shall include the following:

Local Hospital:	Name	Phone No.
Local Ambulance:	Name	Phone No.

Local Doctor:                      Name                                      Phone No

**1.6.21 Marking of Work Zones.** The Contractor shall mark all work zones using two lines of plastic yellow security ribbon. Yellow security ribbons shall be 8 cm wide and supported on very stable wood stakes. Likewise, the project excavation or high accident risk zones shall be signaled with warning signs or fences as protective measurements by the Contractor.

#### **1.6.22 Construction Operations and Storage Areas.**

**1.6.22.1 Confinement to Authorized Areas.** The Contractor shall confine all operations (including storage of materials) on to areas authorized or approved by the COR from information received by local authorities. U.S. Government agencies shall have access to the premises for official fire, safety, and security inspections and/or to conduct site visits as authorized by the COR.

**1.6.22.2 Access to Contractor Storage Yard.** The Contractor shall only store materials and equipment for this at a designated location in the Colombia Marines. The specific worksite location will be coordinated with Colombia Marines Public Works or equivalent office during the pre-performance conference or at a later date.

#### **1.6.23 Contractor Vehicles.**

**1.6.23.1 Vehicular Access.** The Contractor shall, and in accordance with any regulations specified by the municipal and Colombian Marines authorities, use only established site entrances and roadways at both worksite locations.

**1.6.23.2 Vehicle list.** The Contractor shall provide a list of all vehicles used in the performance of this contract to include vehicle description, valid vehicle registration number, and identification ID card numbers to the contracting officer representative within ten (10) days after contract award and update as the changes occur. ID information will be used by the installation to verify credentials and issue access permits. Contractor shall coordinate Colombian Marines security office to access installations.

**1.6.24 Unforeseen Conditions:** The Contractor shall conduct aerial, surface, underground or embedded interference survey to avoid damage to pipes, boxes, cables, utility poles, hoses, wells or other elements in the work area. If a potential interference is found, the Contractor shall promptly give written notice to the KO/COR in accordance with FAR Clause 52.236-2, and prepare information for possible alternatives.

## **PART 2**

### **2. DEFINITIONS AND ACRONYMS:**

#### **2.1 Definitions.**

**2.1.1 AREA OF RESPONSIBILITY.** The U.S. Southern Command (USSOUTHCOM) area of responsibility (AOR) includes the geographic areas of Antigua and Barbuda, Argentina, Aruba, Barbados, Belize, Bolivia, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Curacao, Dominica, Dominican Republic, Ecuador, El Salvador, Falkland Islands, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mayotte, Montserrat, Nicaragua, Panama, Paraguay, Peru, Saint Barthélemy, Saint

Martin, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sint Maarten, Suriname, Trinidad and Tobago, Turks and Caicos Islands, Uruguay, and Venezuela.

**2.1.2 Calendar Days.** Any reference in the Statement of Work to “days” refers to calendar days, rather than business days, unless otherwise specified.

**2.1.3 Contractor.** A supplier or vendor awarded a contract to provide specific supplies or service to the Government. The term used in this contract refers to the prime.

**2.1.4 Contracting Officer (KO).** A person with authority to enter into, administer, and or terminate contracts, and make related determinations and findings on behalf of the government. Note: The only individual who can legally bind the government.

**2.1.5 Contracting Officer's Representative (COR).** An employee of the U.S. Government appointed by the contracting officer to administer the contract. Such appointment shall be in writing and shall state the scope of authority and limitations. This individual has authority to provide technical direction to the Contractor as long as that direction is within the scope of the contract, does not constitute a change, and has no funding implications. This individual does NOT have authority to change the terms and conditions of the contract.

**2.1.6 Defective Work.** A task output that does not meet the standard of performance associated with the SOW.

**2.1.7 Deliverable.** Anything that can be physically delivered, but may include non-manufactured things such as meeting minutes or reports.

**2.1.8 Key Personnel.** Contractor personnel that are evaluated in a source selection process and that may be required to be used in the performance of a contract by the Key Personnel listed in the SOW. When key personnel are used as an evaluation factor in best value procurement, an offer can be rejected if it does not have a firm commitment from the persons that are listed in the proposal.

**2.1.9 Local National.** For the purpose of this clause or provision, a local national (LN) is defined as any person who is performing services under a contract and is a resident of any country within the USSOUTHCOM AOR.

**2.1.10 Physical Security.** Actions that prevent the loss or damage of Government property.

**2.1.11 Quality Assurance (QA).** The Government procedures to verify that tasks being performed by the Contractor are performed according to acceptable standards.

**2.1.12 Quality Assurance Surveillance Plan (QASP).** An organized written document specifying the surveillance methodology to be used for surveillance of Contractor performance.

**2.1.13 Quality Control (QC).** All necessary measures taken by the Contractor to assure that the quality of an end product or service shall meet contract requirements.

**2.1.14 Subcontractor.** One that enters into a contract with a prime Contractor. The Government does not have privity of the prime’s contract with the SubContractor.

**2.1.15 Third Country National.** A third country national (TCN) is defined as any person, regardless of citizenship, who travels into the USSOUTHCOM AOR from outside of the USSOUTHCOM AOR. This includes personnel who are citizens of the country where performance of the contract is being conducted, but reside outside of the USSOUTHCOM AOR. For this purpose, non-DOD contractor personnel are considered traveling under DOD sponsorship.

**2.1.16 Work Day.** The number of hours per day the Contractor provides services in accordance with the contract.

**2.1.17 Work Week.** Monday through Friday, unless specified otherwise.

**2.1.18 Project Engineer (PE)/Architect:** The person who is the technical representative for the Contractor in all phases of the project, from design to final execution. This person will be responsible for design and materials submittals and will attend meetings as required for the project. The experience required is defined in Section 1.6.10.

**2.1.19 Field Engineer/Architect.** It is the onsite technical representative overseeing the engineering aspects of the project. This person will ensure proper work execution with regards to project designs, technical standards and project schedule. This person can also establish quality control construction processes. The experience required is defined in Section 1.6.10.

**2.1.20 Project Superintendent/Foreman (Maestro de Obra).** Person trained in all aspects of construction management with specific knowledge of construction processes. The experience required is defined in Section 1.6.10.

## 2.2. Acronyms:

ACI	American Concrete Institute
AFARS	Army Federal Acquisition Regulation Supplement
AISC	American Institute of Steel Construction
AR	Army Regulation
ASTM	American Society for Testing Materials
AWS	American Welding Society
CFR	Code of Federal Regulations
CONUS	Continental United States (excludes Alaska and Hawaii)
COR	Contracting Officer Representative
CPM	Critical Path Method
DA	Department of the Army
DD250	Department of Defense Form 250 (Receiving Report)
DFARS	Defense Federal Acquisition Regulation Supplement
DMDC	Defense Manpower Data Center
DOD	Department of Defense
FAR	Federal Acquisition Regulation
IAW	In Accordance With
HID	High-intensity discharge
KO	Contracting Officer
NSR	Norma Sismo Resistente
NTC	Normas Técnicas Colombianas
OCI	Organizational Conflict of Interest
OCONUS	Outside Continental United States (includes Alaska and Hawaii)
PERT	Program Evaluation & Review Technique
POC	Point of Contact
QA	Quality Assurance
QAP	Quality Assurance Program
QASP	Quality Assurance Surveillance Plan
QC	Quality Control
QCP	Quality Control Program
RETIE	Reglamento Técnico de Instalaciones Eléctricas
SOW	Statement of Work
TCN	Third Country National
TE	Technical Exhibit
UL	Underwriters Laboratories

**PART 3**

**3. GOVERNMENT FURNISHED ITEMS AND SERVICES.**

**3.1 Services.** Not applicable.

**3.2 Facilities.** Not applicable.

**3.3 Utilities.** Not applicable.

**3.4 Equipment.** Not applicable.

**3.5 Materials.** Not applicable.

## PART 4

### **4. CONTRACTOR FURNISHED ITEMS AND RESPONSIBILITIES.**

**4.1 General.** The Contractor shall furnish all supplies, equipment, facilities and services required to perform work under this contract as outlined within this SOW. All work shall be performed in accordance with manufacturer specifications and instructions for the products and/or materials to be used, and performed by certified personnel such as professional electrical engineers, electricians, architects, and civil engineers. The Contractor shall verify existing conditions prior to actual installation of the equipment. The Contractor shall comply with special considerations, safety program, required insurance and Military Base regulations.

**4.2 Secret Facility Clearance.** Not applicable.

**4.3 Materials.** The Contractor shall provide cement, aggregates, concrete, reinforced steel, metallic structure, welding materials, masonry, electrical materials, power generator, and all related materials for the generator installation.

**4.4 Equipment.** The Contractor shall provide all required material, tools, and equipment to install power generator back up and construct a generator shack and leakage containment pool.

#### **4.5 Responsibilities of Contractor.**

**4.5.1 Damage to Persons or Property.** The Contractor shall be responsible for all damages to persons or properties at the worksite that occur as a result of the Contractor's own fault or negligence. The Contractor shall take proper safety and health precautions to protect the work sites, the workers, the public, and the property of others. It is highly recommended to the contractor to properly document existing conditions prior to commencement of work by taking photos and having base official or representative to walk the work site. **He should formalize the existing conditions in a report with an official memo. This report and officio shall be signed by the Colombia Marines POC, contractor, KO, and COR.**

**4.5.2 Responsibility for Work Performed.** The Contractor shall be responsible for all materials delivered and work performed until final completion and acceptance of the entire project, except for any completed unit of work which may have been accepted in writing under the contract.

**4.6 Contractor Records/Progress Reports.** The Contractor shall certify all completed work on bi-weekly basis and provide bi-weekly progress report to the COR and KO. Bi-weekly report is due **every other Tuesday**, no later than **1300 hrs** (1:00 p.m. CST).

**4.7 Contractor Work Schedules.** Offerors shall include in their technical proposal a complete project management schedule utilizing the Critical Path Method (CPM), Program Evaluation & Review Technique (PERT) or Gantt Chart showing major construction phases (i.e. clearing site, site prep, slab, electrical system, masonry, stucco, windows, doors, roof, generator installation, tests, cleaning, final inspection and punch list corrections). These items will become part of the contract at award. Sufficient float time shall be incorporated in the schedule to account for down days due to inclement weather. Contractor shall include quality assurance inspections performed by QA rep at each worksite.

**4.8 Progress Meetings.** The Project Engineer/Architect may be required to meet at least weekly with the KO and/or the COR during the first month of construction and then as required throughout the period of performance. The Contractor shall be responsible for keeping minutes of these meetings. The written minutes of these meetings shall be signed by the Project Engineer/Architect and any other individuals in attendance, and be submitted to the COR for approval.

**4.9 Repair.** The Contractor shall repair any damage to the existing grounds, facilities or property incurred during the course of construction at Tumaco to its original pre-existing conditions. Refer to section 4.5.1 Damage to Persons or Property for additional info.

**4.10 Safety.** The Contractor is responsible for the safety of workers and visitors to the work sites. The Contractor shall ensure that all personnel wear appropriate safety gear at all times in compliance with all Colombian Occupational Safety & Health regulations and ensure all local safety regulations are followed at all times. The Contractor shall provide sanitation for workers in accordance with the latest edition of Corps of Engineers Safety and Health Manual EM 385-1-1 and Colombian safety and health laws. Contractor shall comply with safety and health requirements as established by EM 385-1-1. Information about how to obtain electronic and/or hard copies of this manual is located at the following website: <http://www.usace.army.mil/CESO/Pages/EM385-1-1.aspx>.

**4.10.1 Prohibition on Asbestos and Lead Based Paints.** The Contractor shall not use materials containing Asbestos or Lead Based Paints in this construction project. Upon completion of each construction project, the Contractor shall submit two copies of a Certified Letter to the COR stating that no lead based paints or materials containing asbestos were used in this project at Tumaco. One copy of the letter shall be filed with project documents in the Resident Engineer's Office and second copy filed in the COR's project folder.

#### **4.11 Utilities Connections and Excavations**

**4.11.1** The U.S. Government will not provide any utility connections. It is the Contractor's responsibility to provide any generators required to operate any of its own equipment at its own expense. The Contractor shall be also responsible for providing potable water daily at the construction worksite for all employees at Contractor's own expense. If a water tank truck is planned for this purpose, the Contractor shall be responsible for providing registration information that must be included with Contractor's equipment listing.

**4.11.2** The Contractor shall be responsible for coordinating excavation with local utility companies and shall take every precaution to avoid damage to underground utilities. The Contractor shall be responsible for any damages they incur to the underground utilities and shall repair any construction damages at the Tumaco worksite at own expense. The Contractor shall be responsible for coordinating the connection of potable water, sewage (if available), and electrical power with local utility companies.

**4.12 Interruption of Utility Services.** Any planned interruptions of utility services (electrical power, water, natural gas, etc.) shall be detailed and coordinated by the Contractor. If the outage affects only the facilities in this contract, the request shall be submitted at least three (3) working days before the planned outage. The Contractor shall not interrupt service(s) until approval has been granted by the Colombian Marines Public Works or equivalent entity. Requests shall include facility/facilities affected, date of scheduled outage, and duration. Requests for interruption of service(s) will not be approved unless all equipment and materials required for the applicable/ particular phase of work are on the job site (s). Interruptions will be granted Monday through Friday for the following times: 7:15 A.M. until 11:00 A.M. and 12:30 P.M. until 4:00 P.M. If weekend (Saturday and Sunday) outages are required or are preferred, such outages shall be coordinated as specified above.

**4.13 Contractor Personnel** The Contractor shall provide sufficient number of personnel, properly trained and qualified (i.e. civil engineer, architect, geotechnical engineer, electrical engineer, certified electricians and foremen), to perform the requirements of this contract at the worksite location. All non-laborer Contractor employees on this project shall maintain a proficiency license from the Colombian or an equivalent license from a foreign entity if the Contractor is based in a country other than Tumaco worksite location.

#### **4.13.1 Project Engineer/Architect Superintendent/Foreman.**

**4.13.1.1** The Contractor shall provide a Project Engineer/Architect who shall be a licensed engineer or architect and responsible for the performance of all work. The name of this person and an alternate(s), who shall act in behalf of the Contractor when the Project Engineer/Architect is absent, shall be designated in writing to the KO at least ten (10) days prior to contract performance. The Contractor shall not replace, substitute, or remove key personnel without prior written consent from the KO. In the event that the Contractor removes key employees, replacement personnel must be equally or better qualified.

4.13.1.2 The Field Engineer/Architect and Superintendent/Foreman shall be designated in writing to the KO at least ten (10) days prior to contract performance. These key personnel shall be physically present at the worksite between the hours of 7:30 am to 4:30 p.m., excluding Colombian holidays, and any other time work is being performed at the site, as coordinated between the Contractor and COR. The Contractor shall provide to the KO and COR the phone numbers of the Project Engineer/Architect and alternate(s), Field Engineer/Architect and Superintendant/Foreman to be available during duty and non-duty hours (to include evenings, holidays, and weekends).

**4.13.1.3** The Project Engineer/Architect shall be responsible for overall management and coordination of this contract; directing the onsite work; acquiring materials; able to resolve construction issues; and provide information about work progress to the COR. The Project Engineer/Architect shall be highly knowledgeable of the project progress and have a good working knowledge of Spanish be able to communicate effectively. By Good Working Knowledge the employee should be able to read/speak English and understand agency regulations, operating instructions, memoranda, and related material concerning the field of work, to prepare correspondence and standardized reports, and to communicate effectively with Spanish speaking staff members and the general public, including both Spanish speaking and non-Spanish speaking persons. The Project Engineer/Architect or their designated alternate shall be available to meet with U.S. Government personnel, or the KO, within 30 minutes unless otherwise coordinated with such designated personnel. After duty hours, the Project Engineer/Architect or designated alternates shall be available within two (2) hours in case of emergency.

#### **4.13.2 Personnel Listing.**

**4.13.2.1** After award of the contract, the Contractor shall have five days to submit to the KO a list of workers and Project Managers assigned to work at Tumaco sites (Biographic Data on Personnel). Required information for each individual on the personnel list for Tumaco sites shall include:

- Full Name
- Place and Date of Birth
- Current Address
- Identification number

**4.13.2.2** Failure to provide any of the above information may be considered grounds for rejection and/or re-submittal of the application(s).

**4.13.3 Contractor Employee Uniforms.** The Contractor shall provide to each employee a shirt (all shirts must be the same style and color) with the Contractor's name/logo and contract number. The shirt shall be worn at all times while working at the project site.

## PART 5

### 5. SPECIFICATIONS

**5.1 General.** The Contractor shall furnish all labor, transportation, equipment, materials, and any other items and services necessary to provide and install power generator, construct a containment pool and shack. The Contractor shall be responsible for the development of a material list for COR review. **The Contractor shall provide a draft list with corresponding technical information for review with his proposal.** Upon approval of the material list by Government, the contractor shall provide sample materials as identified in the approved material list. The Contractor shall submit all material under this section for COR approval and ensure that materials for project shall be environmentally friendly in accordance with paragraph 1.6.18.

The Contractor developed plans and works shall comply with “Norma Sismo Resistente” (NSR) – 2010 code, Colombian codes “Norma Tecnica Colombiana” (NTC) – 1500, “Reglamento Técnico del Sector de Agua Potable y Saneamiento Básico” (RAS)-2000, NTC 2050 and RETIE. Designs shall include the electrical design and generator shack design. The Contractor shall verify that the value of the resistance is the required value of (<25 ohms) or as required by code.

The Contractor shall include a Lightning Protection System Study IAW NTC 4552. ARSOUTH acceptance of the drawings does not waive the contractor’s responsibility to comply with the corresponding codes and rules for the design and construction. **The contractor shall submit within 10 days with after contract award, the construction and electrical designs/drawings, and diagrams based on the codes, signed and certified by a licensed structural and electrical engineers. He shall provide electric load study results. The Contractor shall also provide electrical load calculations to substantiate a capacity increase of 20 percent.** Formats for the drawings shall be submitted in AutoCad 2010 and pdf. The U.S. Army South engineer will approve the design. Neither the U.S. Government’s review, approval or acceptance of, nor payment for the requirement required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of actions arising out to the performance of this contract, and the Contractor shall be and remain liable to the U.S. Government in accordance with applicable law for all damages to the U.S. Government caused by the Contractor’s negligent performance under this contract.

The work will be executed based on the following requirements: The contractor shall be responsible for the professional quality, technical accuracy, and the coordination of designs, drawings, and specifications, furnished by the contractor under this contract. The contractor shall, without additional compensation, correct or revise any errors or deficiencies in its designs, drawings, and specifications to meet local and national codes and standards.

Once the design is approved, any design changes will be submitted to U.S. Army South Engineer for approval. Contractor shall not proceed without prior approval of the U.S Army South Engineer. If the design changes imply cost to the government, the Contractor shall immediately notify the Contracting Officer.

All drawings, specifications, operations and maintenance handbooks, manufacture’s information, and other documents derived from the work, will belong to U.S. Army South and should be turned over as well as an original and two copies of the final construction and architectural drawings (as-builts). Format for the drawings shall be AutoCad 2010 and pdf. All designs required in this contract (new constructions and fabrication) shall be validated and approved by contractor professional license engineer and submitted to the COR for final approval.

**5.2. Electrical Load Studies.** The electrical load calculation for the CMSE house shall show electrical demand load in accordance with Article 220 of the 2011 National Electrical Code or equivalent Colombian Electrical Code. The load demand will helps to provide an accurate, consistent, and simplified method of determining the minimum size

electrical service for the power generator. The demand loads shall take into account various probabilities of simultaneous operation of electrical appliances, equipments, computers, air conditioner units, and potential future demand of 20 percent. The recommended load studies shall include solutions that are safety/fire hazard free.

**5.3. Back-up power generator.** The back-up power generator system shall be designed and installed in accordance with NFPA 30, Flammable and Combustible Liquids Code, NFPA 37, Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines, NFPA, National Electric Code, and NFPA 110, Standard for Emergency and Standby Power Systems. Back-up power system shall consist of a diesel-engine (or a fuel sources common in the area of Tumaco) generator set with an automatic transfer switch. Generator set shall be completely enclosed in a weather resistant, corrosion resistant enclosure produced by the generator set manufacturer. The generator shall support the following loads: emergency lighting, computer, refrigeration and freezer, furnace, air conditioning, lighting – inside and outside, clean water for drinking and bathing, water pump, sump pump, kitchen appliances, cell phone chargers, Televisions, radios, washer, dryer, security system, fans, and other electric items. Minimum generator capacity shall be 25 KW. Voltage and frequency shall match that of the house power supply. The generator and power supply provided by the Contractor must have a factory representative and part supplies warehouse located in Colombia. The generator shall provide backup power for the entire house during emergencies only.

**5.3.1 Reserve fuel tank.** The generator shall contain a sub-base day tank and a reserve fuel tank. The reserve fuel tank shall be sized to store the volume of fuel required to run the generator at full load for 168 hours (seven 24-hour days). The main tank shall be above ground, single wall type with full concrete containment pad and curbing. Designer shall calculate specific equipment loads for the generator. The system shall be capable of powering the emergency lighting and power loads within 10 seconds of power failure. Automatic transfer switch shall be supplied to switch power from normal electrical distribution system and the emergency generator. Generator and service shall be sized for full load of the equipment and 20 percent spare capacity. The preferred generating voltage shall be the highest utilization voltage proposed for the facility. The set shall conform to NFPA 37 Standard for the Installation of Combustion Engines and Gas. The set shall include automatic start-and stop equipment, solid state battery charger, and tanks and radiator as required. Manual test switch shall be provided for automatic transfer switch. Automatic transfer switch shall be of double throw construction. Switch shall be equipped with by-pass isolation for maintenance purposes. The engine-generator shall be **quiet operation**. Engine-generator set shall be provided with a vibration-isolation system in accordance with the manufacturer's standard recommendation. Vibration isolation systems shall be designed and qualified (as an integral part of the base and mounting system) to the seismic zone specified in previous sections.

Power generation package and all components shall be provided by a single manufacturer and installed complete and totally functional, with all necessary ancillary equipment.

**5.3.2** The generator set shall include, at a minimum, the following components:

- A. Packaged diesel-engine generator set (Contractor shall ensure to search the fuel sources available in Tumaco and provide a generator that can be easily fueled).
- B. Generator main circuit breaker, instrumentation, controls, protection, and isolation
- C. Automatic transfer switch
- D. Factory provided corrosion resistant weather enclosure
- E. Starting system
- F. Air intake louvers, exhaust louvers, dampers, etc.
- G. Cooling system
- H. Fuel supply system with sub-base day tank
- I. Above ground main fuel storage tank (to sustain 24hr/7 for a week). This storage tank shall be installed in a self-contained spillage prevention pool. Pool shall be designed to contain potential leakage to the tank capacity.
- J. Exhaust system
- K. Lubrication system
- L. Concrete base structure for mounting the generator
- M. Vibration isolation
- N. Seismic protection

- O. Main fuel tank concrete base and 100% fuel containment area
- P. Shut-off valve with redundancy system
- Q. Framed Instructions
- R. Fire Extinguisher
- S. Grounding and lighting protection system for the back-up power generator, fuel tank, and generator and fuel tank shacks.

**5.3.3 Tests.** All systems shall be examined to determine their correct operation. Tests shall be performed when the project is finished to determine if there are possible short-circuits and grounding failures. The insulation resistance shall be the same or higher than what was demanded by NEC.

The impedance to ground of the electric system shall be approved at the end of the project and it shall not exceed the value of 25 Ohms. The Contractor shall provide all necessary testing equipment and perform the tests in the presence of the COR, who shall be given at least 7 days notice.

**5.3.4 Signage and Instructions.** All boards shall have permanent and weather resistant signs to identify each circuit or feeder. Outlets for 220 volts shall also have signs to identify them from other outlets. The Owner shall be given two sets of equipment instructions for operation and proper maintenances.

**5.3.5 Paint.** All metallic conduits to be installed underground shall be painted with an asphalt base paint before being covered with concrete. All exposed conduit shall receive two coats of anticorrosive paint, as well as the supports, accessories, and register boxes. All metallic surfaces of electronic equipment that arrives painted from the manufacturer and has scratches, shall be repainted and given a finish similar to the original.

#### **5.4 Garage door with electric operator. Deleted.**

**5.5 Training.** Training for operation and maintenance of the back-up generator and reserve fuel tank shall be provided to Colombian designated operators. This training shall include hand-on session and handout materials with emergency point of contact information (i.e. Name, phone, email, and address). Contractor will provide a detailed training agenda to the PE. Training packet shall include basic operations on assigned operators; checks before, during, and after operations; and immediate action in the event of a malfunction and conduct pre-set operations.

#### **5.6 Generator and fuel tank shacks.**

Contractor shall construct generator and reserve fuel tank shacks to provide protection against the salty environment and other weather elements. Contractor shall design a concrete slab, walls, roof, and containment pool. Approximately dimensions for the generator shack are 3 m x 3.5 m x 3 m. Approximately dimensions for the reserve fuel tank shack are 3 m x 3.5 m x 3 m.

**5.6.1. Foundation.** The Contractor shall design the foundation for the back-up generator and reserve fuel tank considering actual site conditions. The contractor shall clear, fill, and compact selected fill material to provide adequate site for construction.

**5.6.2 Cement.** The Contractor shall ensure that the cement used in the cement mixtures shall be Type 1 Portland cement (normal) and meet all ASTM C150/C150M-09. If the project site has high sulfate content, Type V Portland cement shall be used. The Contractor shall provide additive specifications where required, before cement work is initiated. If maritime conditions are present, contractor shall use the cement type for such conditions.

**5.6.3 Concrete.** The Contractor shall ensure that all recommendations of the ACI Committee Report 301M-99 (Specifications for Structural Concrete for Buildings) or equivalent Colombian specification (NSR-10) shall be followed. All other concrete operations shall follow the Building Code Requirements for Reinforced Concrete ACI 318M-08. All the standards of the ASTM are mandatory. The specified compression resistance shall be measured at the rupture in cylinders measuring 15cm x 30 cm (6 in x 12 in), after 28 days, according to the ASTM C39/C39M-10 standards. The concrete shall have an overlap no greater than three (3) inches. Concrete used for the foundation formworks, columns, pedestals, retaining walls, joints tied to the foundation, load and tie joints and

remaining structural elements, shall have a compression resistance of 210 Kg/cm<sup>2</sup> (3000 lb/in<sup>2</sup>). The resistance to fluid concrete for filling the reinforced masonry blocks shall guarantee a minimum resistance of 140 Kg/cm<sup>2</sup> (2000 lb/in<sup>2</sup>).

**5.6.4 Aggregates.** The aggregates used in the concrete mixture shall be classified according to size and stored orderly to avoid being mixed, dirtied, or mixed with foreign matter. They shall meet all the specifications of ASTM class C-33-67 for concrete aggregates. Sand shall be free of all vegetable, mica, slime, organic matter, etc. It shall contain deleterious substance in excess of the following percentages: Clay clods - 1%, Pit Coal and Lignite - 1%, Material passing #200 Screen - 3%. The sand quality and granulometry shall be such that it meets the requirements of the corresponding specifications and allows for thick concrete without excess cement, as well as the required resistance. The size of the crushed stone shall not be larger than 1/5 than the greatest separation from the sides of the formwork; 1/3 of the slab, or 3/4 of the free space between individual rebar or rebar ties, except when the contrary is indicated. It shall meet the ASTM C-33 standards and its maximum dimension shall be according to Section 33 of the ACI 318 – 83 Regulation.

**5.6.5 Reinforced Steel.** The reinforcing steel shall meet the ASTM-A-615 specifications. Contractor shall provide deformed mild steel rebar. Deformed refers to patterns rolled onto the rebar to help the concrete get a grip on the bar. All steel shall be new billet steel conforming to ASTM A615 Grade 60. Rebar grade shall be 60 (420 for metric). Minimum yield strength shall be 420 MPa (60,900 psi). All dirt and non-adhered oxidation in an advanced state shall be cleaned from reinforced steel. The rebar shall be bent cold, adjusting them according to the project plans and specifications, with no mistakes greater than one centimeter.

**5.6.6 Roof.** Contractor shall provide treated-structural wooden structure with galvanized steel connectors. Contractor shall provide clay tiles for the roof panels. The roof system shall be designed considering Tumaco wind and seismic conditions.

**5.6.7 Masonry Unit Blocks.** Concrete Blocks shall be the same size, and color with uniform texture. The block compression resistance shall be  $f_m = 95 \text{ Kg/cm}^2$  (1,350 ksi). The block shall be totally cured before leaving the plant and during their transportation; precautions shall be taken to avoid flaking and cracks. Contractor shall provide concrete block accordingly with ASTM standard specification C90 and UBC standard specification 24-1. The specification covers hollow concrete masonry units (CMU) made from Portland cement, water, and aggregates. The CMUs shall be suitable for load bearing applications. CMUs shall be made from lightweight aggregates and non-moisture controlled. Cementations materials and aggregates used for the manufacturing of the CMUs shall conform to ASTM C150, ASTM C33, and ASTM C331. The average CMU compressive strength for three units shall be 13.1 MPa (1,900 psi) and individual unit shall be 11.7 MPa (1,700 psi). CMU grade shall be ASTM grade "N," Type 2 with core area equal to 40% to 50% of gross area. Six sacks per cubic yard concrete mix and 18 to 23 Kg (40 to 50 lb) weight per block. These specs apply to CMU 2-core and bond beam ("U") block styles. Contractor shall cut 2-hole block if U-block are not readily available. A sample of a cut block shall be provided for approval.

All units shall be sound and free of cracks or other defects. Minor cracks incidental to the usual method of manufacture or minor chipping resulting from customary method of handling in shipment and delivery are not grounds for rejections. Five percent of a shipment containing chips not larger than 25.4 mm (1 in) in any dimension, or cracks not wider than 0.5 mm (0.02 in) and not longer than 25% of the nominal height of the unit is permitted.

**5.6.8 Illumination.** Contractor shall provide illumination inside the generator and fuel shacks. Contractor shall use energy efficient light bulbs.

**5.6.9 Containment pool.** Contractor shall install reserve tank in a containment pool to collect potential leakage. The pool shall be constructed with leakage proof walls and floor. It shall also include required valves and collector fittings. Contractor shall provide alert system to announce leakage. The alert system shall be both visual and sound alerts.

**5.7 Underground utilities.** The work shall include but not limited to leveling of existing site, trench cut, selected material for filling, compaction, and surface restoration. The Contractor shall verify all dimensions and existing conditions prior to actual construction and notify the Contracting Officer (KO). All work shall be in accordance

with manufacturer recommendations for the products to be used, and done by certified personnel. The complete system shall meet American Society for Testing and Materials (ASTM) ASTM 7-05 and NEC article 690. The Contractor shall excavate trenches to install underground electrical cables for the back-up generator. Contractor shall provide a complete infrastructure to include, but not be limited to, connection to existing electrical grid, grounding, and any other accessory for a complete installation. Contractor shall excavate a 300 millimeter (mm) wide trench. The minimum depth of the trench shall be 762 mm (or as code dictates). A 152 mm layer of sand shall be placed in the bottom of the trench. Contractor shall then install a 51 mm long bell PVC schedule 40 conduit. The conduit shall be Underwriter Laboratory (UL) rated or Colombian Equivalent Underwriters Laboratory and it shall be labeled in the conduit. Contractor shall provide a conduit run for the electrical wires. Contractor shall then cover the conduits with the excavated materials (or as requested by code). Material shall be placed and compacted according to UFC and NEC electrical codes. An underground detection sign fabric shall be also installed according to code. Contractor shall provide and install inspection boxes as required by code. The inspection boxes shall be pre-fabricated boxes or masonry boxes constructed at the site approved for such purpose. Boxes shall have a cover lid with locking mechanism to avoid vandalism or tampering. Contractor shall provide with inspection boxes all connection accessories. Contractor shall provide submittals for inspection boxes, conduits, wires, detection sign fabric, and design 30 days after contract is awarded.

**5.8. Technical Exhibit.** Technical Exhibit 1 includes the deliverables schedule for this contract.

**5.9. Final Report.** The contractor shall submit final report, 2 Digital in English and 1 Digital in Spanish to include all maintenance manuals for all equipment installed, as-built drawings, bi-weekly reports, invoices, final construction schedule, and all other documentation required to turn over the construction project to COR for approval. Final payment will be withheld until final report is received and approved.

**IT IS CONTRACTOR RESPONSIBILITY TO VERIFY THE APPROXIMATED QUANTITIES IN THIS SOW.**

**5.10. Final clean up.** The Contractor shall do a final cleaning to include all debris and garbage, excavation materials, debris from the construction, as well as the garbage created by the containers for the materials, such as boxes and bags shall be removed.

## PART 6

**6. APPLICABLE CODES & STANDARDS.** The design and construction shall be in accordance with established construction practices, and the latest revision/edition of the following referenced codes and standards, where applicable. UFC 1-300-09N, Design Procedures, provides design guidance and contains references to other UFC's and codes that are to be used for this contract. UFC 1-200-1, General Building Requirements, is the building code guide and contains references to other UFC's and codes that are to be used in this contract.

- American National Standards Institute Standards (ANSI)
- American Society of Testing and Materials (ASTM)
- National Electrical Manufacturers Association (NEMA)
- International Building Code (IBC)
- Electronic Industries Alliance (EIA)
- Federal, State, County, and local environmental regulations.

- Federal Specification Cabinet, Security, Weapons Storage (AA-C-2859A).
- National Fire Protection Association (NFPA)
- IEEE2, National Electrical Safety Code
- National Electric Code 2011 (NEC)
- Norma Sismo Resistente 2010 (NSR 10)
- Normas Técnicas Colombianas (NTC)
- International Electrotechnical Commission (IEC)
- Reglamento Técnico de Instalaciones Eléctricas (RETIE)
- Reglamento Técnico de Iluminación y Alumbrado Público (RETILAP)
- Underwriters Laboratories (UL)
- Flammable and Combustible Liquids Code (NFPA 30)
- Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines (NFPA 37)
- National Electric Code (NFPA)
- Standard for Emergency and Standby Power Systems (NFPA 110)
- Lightning Protection System Study (NTC 4552)

Where discrepancies in the referenced standards and the contract requirements occur, the more stringent requirements shall govern. If this occurs, the contractor shall immediately notify the COR.

## **PART 7**

### **7. ATTACHMENT/TECHNICAL EXHIBIT LISTING**

7.1 Technical Exhibit 1 – The Deliverables schedule.

**Technical Exhibit 1 – DELIVERABLES SCHEDULE**

<u>Deliverable</u>	<u>Frequency</u>	<u># of Copies</u>	<u>Medium/Format</u>	<u>Submit To</u>
1. Contractor shall provide a copy of the QC plan. See paragraph 1.6.1 for additional information.	Deliverable after Contract Award	One copy, 30 days after contract award	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
2. Contractor shall provide meetings minutes. See paragraph 1.6.8 for additional information.	2 days after meeting	1 copy	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
3. Contractor shall provide license and permit documentation. See paragraph 1.6.17 for additional information.	Prior start construction	1 copy	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
4. Contractor shall provide a list of all vehicles. See paragraph 1.6.22 for additional information.	Within 5 days of contract award	1 copy	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
5. Contractor shall properly document existing conditions prior to commerce of works by taking photos and having base official or representative to walk the work site. See paragraph 4.5.1 Damage to Persons or Property for additional info.	Due 10 days after the contract.	1 copy	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
6. Contractor shall certify all completed work on bi-weekly basis and provide bi-weekly progress report. See paragraph 4.6 for additional information.	Due every other Tuesday, no later than 1300 hrs (1:00 p.m. CST).	1 copy	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
7. Prohibition on Asbestos and Lead Based Paints. See paragraph 4.10.1 for additional information.	Deliverable after Contract Award	One copy, 30 days after contract award	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
8. Personnel Listing. Contractor shall have five days to submit to the KO a list of workers and Project Managers assigned to work. See paragraph 4.13.2 for	Deliverable after Contract Award	One copy, 30 days after contract award	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a> ; <a href="mailto:jose.m.olivieriresto.civ@mail.mil">jose.m.olivieriresto.civ@mail.mil</a>

<u>Deliverable</u>	<u>Frequency</u>	<u># of Copies</u>	<u>Medium/Format</u>	<u>Submit To</u>
additional information.				
9. Design Plans and soil study results and recommendations. See paragraph 5 for additional information.	Within 15 days of Contract Award	1 original and 1 copy	Electronic copy, AutoCAD 2010 and pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
10. Submittal with the resume for all designers used for all drawings and calculations, before they start to work on those. See paragraph 1.6.10 for additional information.	Within 10 days of contract award	1 original	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
11. Submittal for all materials to be used for the project. See paragraph 5 and sections below it for additional information.	As indicated in SOW	1 original	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
12. Submittal for the Project Engineer/ Architect, Field Engineer/Architect and Superintendent/Foreman Section 1.6.10	10 days of contract award	1 original	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
13. Underground utilities submittal. Section 5.7	30 days after contract is awarded	1 original	Electronic copy, MS Word, Excel, or pdf.	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>
14. Final Report Section 5.8	For final payment	3 original	2 Digital in English and 1 Digital in Spanish	COR <a href="mailto:rosa.l.santoni.civ@mail.mil">rosa.l.santoni.civ@mail.mil</a> ; KO, <a href="mailto:Robert.r.devisser.civ@mail.mil">Robert.r.devisser.civ@mail.mil</a>

(End of Summary of Changes)