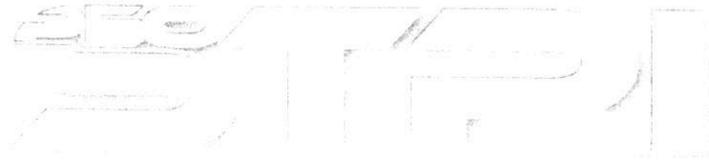


**Statement of Work  
For  
National Training Center – Instrumentation System (NTC-IS)  
Power Element Component, Phase III**



**U.S. Army Program Executive Office for  
Simulation, Training, and Instrumentation (PEO STRI)  
12350 Research Parkway  
Orlando, FL 32826-3276**

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**STATEMENT OF WORK  
FOR  
TECHNOLOGY REFRESH OF THE POWER ELEMENT COMPONENT (PEC), PHASE III  
OF THE NATIONAL TRAINING CENTER – INSTRUMENTATION SYSTEM (NTC-IS)**

**1.0 SCOPE**

This Statement of Work (SOW) defines the effort required for the technology refresh of generators and automatic transfer switches at the LaGore Mountain site, High Gain site, Eastern Expansion Fiber Optic Network (FON) site and Uninterruptable Power Supply (UPS) Systems (fixed site) at Tiefert and Granite Mountains. This equipment is part of the Power Element Component (PEC) of the National Training Center – Instrumentation System (NTC-IS).

**2.0 EXISTING SYSTEM**

**2.1 LaGore Mountain Site Generators and Automatic Transfer Switch (ATS)**

The LaGore Mountain site has two 22 KW prime power diesel generators and one ATS; 225 Amp, 3 pole, 60HZ, 208 Volts, Genset to Genset that were initially installed in 2009. These diesel generators and ATS are currently supported by their respective vendors; however, they do not meet the current California (CA) Environmental Protection Agency (EPA) Emission Standards. The diesel generators and ATS provide power to the Single Channel Ground and Airborne Radio System (SINCGARS) Transmit site, which is a critical “remote” transmit site for the C-2 facility.

**2.2 High Gain Site Generator and ATS**

The High Gain site has two 60 KW prime power diesel generator and one ATS; 225 Amp; 3 Pole, 60 HZ, 480 Volts, Genset to Genset that were initially installed in 2012. These diesel generators and ATS are currently supported by their respective vendors; however, they do not meet the current CA EPA Emission Standards. The diesel generators and ATS provide power to the 12KV high volt system and provides the power service to the High Gain Communications shelter and the Live Fire Fixed After-Action Review (FAAR) facility

**2.3 Eastern Expansion FON Site Generators and ATS**

The Eastern Expansion FON site has two 35 KW prime power diesel generator and one ATS; 100 Amp; 3 Phase, 60 HZ, 208 Volts, Genset to Genset that were initially installed in 2012. These diesel generators and ATS are currently supported by their respective vendors; however, they do not meet the current CA EPA Emission Standards. The diesel generators and ATS provide power to the Eastern Expansion FON site.

**2.4 Tiefert and Granite Mountains Uninterruptable Power Supply (UPS)**

Tiefert Mountain and Granite Mountain 30KVA UPS’s were initially installed in 2012. These UPS’s are currently supported by their respective vendor; however they were originally scheduled for replacement in 2018. Since the above generators were also scheduled to be replaced in 2018, the government desires to replace the UPS’s during this cycle of technical refresh with the generators. The UPS’s provide backup power to the Tiefert and Granite Mountain shelters.

## 2.5 Generator Site Locations

The generator sites listed above are located at the following locations:

Site Name	GRID
LaGore Mountain	NV492294
High Gain	NV476276
Eastern Expansion	NV752146

*NOTE: For access to these sites, a four wheel drive vehicle is required.*

## 3.0 REQUIREMENTS

The contractor shall provide all required software and hardware to include wiring, installation, and configuration efforts for the replacement of the existing generators and ATS at the LaGore Mountain site, High Gain site, and Eastern Expansion FON site. All generators shall meet the State of California's emission control standards for primary power generators.

The contractor shall provide all required software and hardware, installation, and configuration efforts for the replacement of the existing UPS's at Tiefert and Granite Mountains.

Prior to purchasing the equipment, the contractor shall complete the System Verification Review. Government approval is required prior to ordering any equipment.

The project actions associated with this effort cannot interfere with NTC training; therefore, the contractor shall consider the impact of having to work around the training rotation schedule and the limited availability of NTC assets to support this project when preparing the technical approach.

### 3.1 LaGore Mountain Site

#### 3.1.1 LaGore Mountain Generators

The contractor shall perform technology refresh of the existing outdoor, prime, diesel generators and fuel tanks for the LaGore Mountain site. The replacement generators shall be 18.2kW Prime (20KW Standby), 60HZ, Diesel Genset, 3 Phase 120V/208 60Hz Diesel with 330 Gallon sub-base fuel tank. The specifications for the existing generators are listed in Attachment A, Table 1: Existing LaGore Mountain Generators. The replacement generators shall be delivered with the following accessories; block heaters, battery chargers, environmental and sound enclosures and load banks. All delivered generators shall meet the State of California's emission control standards for primary power generators, which may require Diesel Exhaust Fluid (DEF) and associated DEF fuel tanks. The contractor shall be responsible for the air quality permit application and the associated permit fees.

#### 3.1.2 LaGore Mountain ATS

The contractor shall perform technology refresh of the existing ATS for the LaGore Mountain site. The replacement ATS shall meet the requirements listed in Attachment A, Table 2: Existing LaGore Mountain ATS.

### 3.2 High Gain Site

#### 3.2.1 High Gain Site Generators

The contractor shall perform technology refresh of the existing outdoor, prime, diesel generators and fuel tanks for the High Gain site. The replacement generators shall meet or exceed the requirements listed in

Attachment A, Table 3: Existing High Gain Generators. The replacement generators shall be delivered with the following accessories; block heaters, battery chargers, environmental and sound enclosures and load banks. All delivered generators shall meet the State of California's emission control standards for primary power generators, which may require Diesel Exhaust Fluid (DEF) and associated DEF fuel tanks. The contractor shall be responsible for the air quality permit application and the associated permit fees.

### **3.2.2 High Gain ATS**

The contractor shall perform technology refresh of the existing ATS for the High Gain site. The replacement ATS shall meet the requirements listed in Attachment A, Table 4: Existing High Gain ATS.

### **3.3 Eastern Expansion FON Site**

#### **3.3.1 Eastern Expansion FON Site Generators**

The contractor shall perform technology refresh of the existing outdoor, prime, diesel generators and fuel tanks for the Eastern Expansion FON site. The replacement generators shall meet or exceed the requirements listed in Attachment A, Table 5: Existing Eastern Expansion FON site Generators. The replacement generators shall be delivered with the following accessories; block heaters, battery chargers, environmental and sound enclosures and load banks. All delivered generators shall meet the State of California's emission control standards for primary power generators, which may require Diesel Exhaust Fluid (DEF) and associated DEF fuel tanks. The contractor shall be responsible for the air quality permit application and the associated permit fees.

#### **3.3.2 Eastern Expansion FON Site ATS**

The contractor shall perform technology refresh of the existing ATS for the Eastern Expansion FON site. The replacement ATS shall meet the requirements listed in Attachment A, Table 6: Existing Eastern Expansion FON site ATS.

### **3.4 Tiefert and Granite Mountain Sites**

#### **3.4.1 Tiefert and Granite Mountain UPS**

The contractor shall procure and install two UPS's, one at Tiefert Mountain site and one at Granite Mountain. The UPS's, one at each site, shall meet or exceed the requirements listed in Table 7: Existing Tiefert and Granite Mountains UPS.

### **3.5 Program Management**

The contractor shall maintain program management and administrative support to ensure the requirements of this SOW are successfully implemented. The contractor shall provide a monthly status report regarding program status and accomplishments, upcoming activities, identified issues and their planned or actual resolution, a top level program schedule or any other items that should be brought to Government attention.

DI-MGMT-80227 Contractor's Progress Status and Management Report

#### **3.5.1 Integrated Master Schedule (IMS)**

The Contractor shall develop, implement, manage, update, and maintain the contract IMS no later than System Verification Review. All contract schedule information delivered or presented at program reviews shall originate from the IMS and shall contain all critical events and exit criteria, accomplishments, predecessor and successor events, and their dependencies. The IMS shall address total program activities

including activities performed by major subcontractors. The Contractor shall develop an IMS that accurately portrays the sequence and relationship of activities defining the total program. The IMS shall be implemented on a computer based program management control system which utilizes critical path method network analysis, accepts parametric data input, and can be utilized to determine a probabilistic estimate of the program schedules for reporting project progress. The network activities time data shall be updated to reflect accomplished activities and any changes in activity time estimates. The Contractor shall conduct critical path analysis of the tasks and identify problem areas and corrective actions required to eliminate or reduce schedule impacts.

DI-MGMT-81861 Integrated Program Management Report (IPMR): IMS only

### **3.6 System Verification Review (SVR)**

The contractor shall perform a System Verification Review (SVR) to ensure that the system can proceed into procurement and deployment within cost, schedule, risk, and other system constraints. The SVR will assess the system functionality, and determine if the system meets the functional requirements of the existing system. The SVR will establish and verify the final product performance. The results of the SVR for the Generators, ATS and UPS replacement shall be documented in the meeting minutes. Attendees for the SVR, at a minimum, shall include the contractor, any subcontractors, and the Government (both NTC and PEO STRI). The purpose of the SVR is to present the following:

The SVR shall include:

- a. Results of internal technical design reviews.
- b. Results of site surveys.
- c. Results of technical interchange meetings (local and remote).
- d. Required software integration/modification, if software is required.
- e. Review of System Documentation specified for delivery.
- f. Results of the logistics support analysis.
- g. A schedule and inventory of all equipment being decommissioned and disposed of.
- h. A list of the proposed replacement equipment to include: Manufacturer, Manufacturer Part Number, Nomenclature, Quantity, and a brief description of proposed equipment.

The SVR shall ensure:

- a. Each subcomponent is sufficiently mature to meet Technology Readiness Level 9.
- b. The program schedule is executable within the anticipated cost and technical risks.
- c. Program risks are known and manageable.
- d. Electrical Design satisfies electrical design standards, best practices, and safety requirements.
- e. Design documentation reflects that the system requirements are understood.
- f. Component selections versus logistical tradeoffs have been conducted, to include results of the logistics support analysis.
- g. Life Cycle Cost estimates has been addressed to the maximum extent possible for a Final Design.
- h. The program is properly staffed.
- i. Procurement processes are in place to procure component hardware and software (if applicable).

### **3.7 Safety Assessment and Health Hazard Analysis**

The contractor shall ensure that the Tiefert and Granite Mountains, LaGore site, High Gain site and Eastern Expansion FON shelter technology refresh components are safe for personnel to transport, install, operate, maintain, support and dispose of. The contractor shall identify hazards, assess the risk, track hazards,

mitigate hazards, verify corrective actions have been implemented and verify hazards have been eliminated or reduced to acceptable risk levels.

DI-SAFT-80102B Safety Assessment Report (SAR)

### **3.8 Operator and Maintenance Manuals**

The contractor shall supply Commercial Off-the-Shelf (COTS) Operator's Manuals that provide instructions suitable for use by the intended audience of the systems. The COTS Operator's Manual shall also include operator maintenance tasks such as preventive maintenance checks and services, inspection, lubrication, adjustment, and operator level repair and replacement tasks as needed. The contractor shall supply COTS Maintenance Manuals that identify and document maintenance tasks to maintain the systems in an operational condition. The COTS Maintenance Manuals shall identify all required spare parts, consumables, tools, and test/support equipment associated with each task and identify the level of maintenance at which each task shall be performed. The contractor shall prepare supplemental data in accordance with MIL-PRF-32216A evaluation forms. MIL-PRF-32216 Appendix A, B, and C will be used for the evaluation of all COTS OEM documentation. The contractor shall compile a soft copy of all COTS Operation, Installation, and Maintenance Manuals and provide on CD or DVD. A hard copy of all COTS Operation, Installation and Maintenance Manuals shall be placed in tabbed binders with table of contents, indexed if necessary.

DI-TMSS-80527C Commercial Off-the-Shelf (COTS) manuals

### **3.9 Test Readiness Review (TRR)**

The contractor shall conduct a technical review to ensure the product is ready to proceed to verification and execution of the Test Procedures. The TRR will assess test objectives, test methods and procedures, scope of the test, and locations of test events. The TRR will confirm that required resources are identified and coordinated. The contractor shall schedule the TRR to provide sufficient time to correct issues prior to execution of the GAT.

### **3.10 Government Acceptance Testing (GAT)**

The contractor shall conduct a Government-witnessed acceptance test of the technology refresh systems installed at the NTC at Tiefert Mountain, Granite Mountain, LaGore site, High Gain site and Eastern Expansion FON shelter to verify that the delivered capability meets the technology refresh requirements for the respective sites. The contractor shall develop test procedures for the GAT, which shall be approved by the Government prior to beginning government acceptance testing. The contractor shall document the results of the GAT in a test report.

DI-NDTI-80603A Test Procedures

DI-NDTI-80809B Test Reports

### **3.11 Physical Configuration Audit (PCA)**

After the completion of the GAT, the contractor shall plan and conduct a PCA to inventory the system equipment with the PM CTIS Government representative and NTC Property Book Representative. The PCA shall also include a review of the Product Drawings, a representative number of drawings from the Commercial Drawings/Models and Associated Lists, associated commercial manuals, and the Item Unique Identification (IUID) tags. The review shall determine their accuracy in accordance with the final product configuration design. The results of the PCA shall be documented.

DI-MISC-80711A Scientific and Technical Reports (PCA Report)

### 3.12 Decommissioning

The contractor shall provide a schedule and inventory of all equipment being decommissioned at SVR. The contractor in coordination with the Government shall coordinate the schedule and inventory with the NTC-IS Operations Group Property Book Officer for hand receipt control of property being removed.

The contractor shall decommission, and turn-in for disposition, the existing generators, automatic transfer switches and uninterruptible power supply systems in coordination with the PEO-STRI Customer Service Representative (CSR). Removed equipment shall be turned-in to a designated warehouse to be stored in a secure location, tagged and marked IAW property disposition guidelines until such time as disposal.

DI-ILSS-81251 Existing Equipment Inventory Report

### 3.13 Item Unique Identification (IUID) of Tangible Items

The contractor shall coordinate with PEO STRI and identify IUID type, the IUID to be used, and items requiring IUID, including embedded subassemblies, components and parts. IUID means a set of data marked on items that is globally unique, unambiguous, and robust enough to ensure data information quality throughout life and to support multi-faceted business applications and users. The format of the IUID labels shall be IAW MIL-STD-130N. These requirements apply to developed and commercial items. IUID marking of items shall be both machine readable and human readable in accordance with MIL-STD-130N. The contractor shall provide unique IUID labels, or a DOD recognized IUID equivalent for all identified items delivered. The contractor shall submit required IUID data to the IUID central registry via Wide Area Workflow (WAWF) Receiving Report (DD250). New procurement end items may not be submitted to the Registry directly via XML, Flat File, or web entry.

DI-MGMT-81804A Unique Identification (IUID) Marking and Verification Report

### 3.14 Warranty

The contractor shall ensure the replacement equipment, other than the equipment specified below, has a replacement warranty of two (2) years, at a minimum. The contractor shall provide all associated warranty information for each of the generators and automatic transfer switches of the PEC equipment to include the start and end dates of the warranty and the point of contact information for the warranty to include: name, company, telephone number, and email address. Specific equipment warranty requirements are:

UPS

Year 1: Onsite Warranty, 24 x 7 response, parts and service

Year 2 – 5: Onsite Warranty, 24 x 7 Service, 8 hour response

Generators (6 each)

2 Year, Unlimited Hours, Parts

Automatic Transfer Switches

5 Year Basic

### 3.15 Cable Labeling

All cables shall be labeled IAW ANSI/TIA-606-B Administration Standard for Commercial Telecommunications Infrastructure. IAW ANSI/TIA-606-B, labels should be resistant to environmental conditions at the point of installation (such as moisture or heat), and should have a design life equal to or

greater than that of the labeled component. All text on labels shall be printed or generated by a mechanical device.

All cable labels for IT equipment shall contain the following information:

One End:

From: Rackxx\_Levelxx\_Portxx (Example: Fr: R01\_A22\_P01)

To: Rackxx\_Levelxx\_Portxx (Example: To: R05\_A11\_P02)

Other End:

From: Rackxx\_Levelxx\_Portxx (Example: Fr: R05\_A11\_P02)

To: Rackxx\_Levelxx\_Portxx (Example: To: R01\_A22\_P01)

All cable labels for Generator and Power equipment shall contain the following information:

Generator:

From: Generator #, port/connector or switch #

To: Generator #, port/connector or switch #

Power:

From: Power/Switch #, port/connector or switch #

To: Power/Switch #, port/connector or switch #

### **3.16 Logistics Support Analysis**

#### **3.16.1 Supportability**

The contractor shall ensure supportability of the systems through planning, implementation, and verification of material and services to meet operational requirements. Readiness, availability, and supportability shall be the primary design factors. Results of the logistics support analysis shall be presented at SVR.

#### **3.16.2 Sparing**

The contractor shall provide sparing of equipment as stated on Tables 1 through 4 and any spares identified in the COTS Maintenance Manuals.

#### **3.16.3 Technical Data Package (TDP)**

The contractor shall replace or update existing documentation with documentation that reflects the replaced equipment for Tiefort and Granite Mountains, NASA facility, FSS facility, FON Terminus Shelters and associated ATS. If there is no existing documentation, the contractor shall produce and maintain, for the duration of the program, a TDP that accurately and completely depicts the life cycle replaced site equipment. For all elements of this program and for modifications to commercial and non-developmental program elements, the contractor shall develop, produce, and maintain a production level TDP IAW MIL-STD-31000A that provides design, engineering, manufacturing and quality assurance requirements information sufficient to procure or manufacture an interchangeable item that duplicated the physical and performance characteristics of the original product, without additional design engineering effort or recourse to the original design activity. For existing commercial and non-developmental program elements, the contractor shall develop, produce, and maintain commercial documentation IAW MIL-STD-31000A containing the engineering, and manufacturing information necessary to assemble and integrate these items

into the remote sites and verify performance. The contractor shall utilize existing commercial drawings, documentation and specifications where possible. The contractor shall verify, validate, and maintain a TDP that includes all required documents, drawings, and information required to support and maintain the Tiefert and Granite Mountains generators, NASA facility generator, FSS facility generator, FON Terminus Shelters generators and associated ATS. The TDP will include, at a minimum, the following:

1. Product Drawings and Associated Lists (PDAL) (DI-SESS-81000D)
2. Technical Data Package Index (TDP) (DI-EGDS-80918)
3. Commercial Drawings and Associated Lists (DI-SESS-81003D)
4. Logistics Product Data (DI-SESS-81758A) consisting of:
  - a. LSA 080-Bill of Materials
  - b. LSA-030- Indentured Parts List
5. Logistics Product Data Summaries (DI-SESS-81759A)

The TDP shall be verified, kept current, and shall be available to the Government for review at any time.

### **3.17 Contractor Training**

#### **3.17.1 AT Level I Training**

All contractor employees, to include subcontractor employees, requiring access to Army installations, facilities and controlled access areas shall complete AT Level I awareness training within 90 calendar days after contract award. The contractor shall submit certificates of completion for each affected contractor employee and subcontractor employee, to the COR or to the contracting officer, if a COR is not assigned, within 15 calendar days after completion of training by all employees and subcontractor personnel. AT Level I awareness training is available at the following website: <https://atlevel1.dtic.mil/at>.

#### **3.17.2 Access and General Protection/Security Policy and Procedures**

All contractor and all associated sub-contractors employees shall comply with applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative). The contractor 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 or Security Office. All contractor workforces must comply with all personal identity verification requirements as directed by DOD, HQDA and/or local policy. In addition to the changes otherwise authorized by the changes clause of this contract, should the Force Protection Condition (FPCON) at any individual facility or installation change, the Government may require changes in contractor security matters or processes.

#### **3.17.3 Contractors that do not require CAC, but require access to a DoD facility or installation**

Contractor and all associated sub-contractors employees shall comply with adjudication standards and procedures using the National Crime Information Center Interstate Identification Index (NCIC-III) and Terrorist Screening Database (TSDB) (Army Directive 2014-05/AR 190-13), applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative), or, at OCONUS locations, in accordance with status of forces agreements and other theater regulations.

#### **3.17.4 Contracts that require OPSEC Training**

For contracts that require OPSEC Training. Per AR 530-1 Operations Security, the contractor employees must complete Level I OPSEC Awareness training. New employees must be trained within 30 calendar days of their reporting for duty and annually thereafter.

#### **3.17.5 Threat Awareness Reporting Program**

For all contractors with security clearances. Per AR 381-12 Threat Awareness and Reporting Program (TARP), contractor employees must receive annual TARP training by a CI agent or other trainer as specified in 2-4b.

#### **3.18 Contractor Manpower Reporting Application (CMRA)**

The contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services under this contract for the Power Element Technology refresh program via a secure data collection site. The contractor is required to completely fill in all required data fields using the following web address: <http://www.ecmra.mil/>. Reporting inputs will be for labor executed during the period of performance during each Government Fiscal Year (FY) which runs October 1 through 30 September. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year. Contractors can find User Guides, Frequently Asked Questions and may direct questions to the help desk at <http://www.ecmra.mil/>.

#### **3.19 Period of Performance**

The period of performance is twelve (12) months from Contract Award Date (CAD).

**Appendix A: Existing Equipment Specifications:**

**1. LaGore Mountain Equipment**

**Table 1: Existing LaGore Mountain Generators**

<b>Description:</b> LEGORE GENERATOR, primary power units <b>Quantity:</b> 2 <b>Date Installed:</b> 2009 <b>Make:</b> CUMMINS <b>Manufacturers Part Number:</b> 25DSKCA-A029B86 <b>Hardware Spec:</b> 22KW; 60HZ <b>Software:</b> N/A <b>FAMILY:</b>					
Nomenclature	Manufacturer	MFR P/N	QTY	Serial #	Location
Cummins Generator	Cummins	25DSKCA-A029B86	1	B090233497	LeGore
Cummins Generator	Cummins	25DSKCA-A029B86	1	B090233496	LeGore
330 Gallon UL listed 142 Sub Base Fuel Tank		330 Gallon Sub Base fuel Tank	2	NA	1 mounted under each generator
<b>Generator Power Rating</b>					
	STANDBY			PRIME	
PHASE	1PH	3PH		1PH	3PH
RATED KW	16.8	25.0		15.2	22.7
POWER FACTOR	1	0.8		1	0.8
RATED KVA	16.8	31.3		15.2	28.3

**Table 2: Existing LeGore Mountain ATS**

<b>Description:</b> LEGORE ATS <b>Quantity:</b> 1 <b>Date Installed:</b> 2009 <b>Make:</b> CUMMINS <b>Manufacturers Part Number:</b> OTPC225 AUTOMATIC <b>Hardware Spec:</b> 225 AMPS, Voltage: 208, Frequency: 60 HZ, Poles: 3, Application: Genset to Genset <b>Software:</b> N/A <b>FAMILY:</b>				
Nomenclature	Manufacturer	MFR P/N	Serial #	Location
AUTOMATIC TRANSFER SWITCH	CUMMINS	OTPC225 AUTOMATIC	B090231157	LEGORE

2. High Gain Site Equipment

Table 3: Existing High Gain Generators

Description: HIGH GAIN GENERATOR, prime power generators Quantity: 2 Date Installed: 11/14/12 Make: CUMMINS Manufacturers Part Number: DFSAD-1204901 Hardware Spec: 60KW; 60 HZ; 500 gal fuel tank. Software: N/A FAMILY: TIER 3					
Nomenclature	Manufacturer	MFR P/N	QTY	Serial #	Location
HIGH GAIN GENERATOR	CUMMINS	DFSAD	1	E120334865	HIGH GAIN
HIGH GAIN GENERATOR	CUMMINS	DFSAD	1	E120334864	HIGH GAIN
500 Gallon UL 142 Sub Base Fuel Tanks		500 GAL DIESEL TANKS	2	NA	1 mounted under each generator
Generator Power Rating					
	STANDBY		PRIME		
PHASE	1PH	3PH	1PH	3PH	
RATED KW		60		54	
POWER FACTOR					
RATED KVA		75		68	

Table 4: Existing High Gain ATS

Description: HIGH GAIN ATS Quantity: 1 Date Installed: 2009 Make: ONAN Manufacturers Part Number: OTPCB-7596658 Hardware Spec: 225 AMPS; 480 VOLT; 3 POLE, 60 HZ, Application: Genset to Genset Software: N/A FAMILY:				
Nomenclature	Manufacturer	MFR P/N	Serial #	Location
AUTOMATIC TRANSFER SWITCH	CUMMINS	OTPCB-596658	B090231156	HIGH GAIN

3. Eastern Expansion FON Site Equipment

Table 5: Existing Eastern Expansion FON Site Generators

Description: EASTERN EXPANSION GENERATOR, primary power units					
Quantity: 2					
Date Installed: 2012					
Make: CUMMINS 35KW DIESEL					
Manufacturers Part Number: DSFAB-9784861 (QSB5)					
Hardware Spec: 35KW; 60 HZ					
Software: N/A					
FAMILY:					
Nomenclature	Manufacturer	MFR P/N	QTY	Serial #	Location
EASTERN EXPANSION GENERATOR	CUMMINS	DSFAB-9784861	1	A120288612	EASTERN EXPANSION
EASTERN EXPANSION GENERATOR	CUMMINS	DSFAB-9784861	1	A120288613	EASTERN EXPANSION
1000 Gallon UL 142 Sub Base Fuel Tanks	JRS	1000GAL DIESEL TANKS	2	NA	1 mounted under each generator
<b>Generator Power Ratings</b>					
	STANDBY			PRIME	
PHASE	1PH	3PH		1PH	3PH
RATED KW	40	40		35	35
POWER FACTOR	1.0	0.8		1.0	0.8
RATED KVA	40	50		35	43.7

Table 6: Existing Eastern Expansion FON Site ATS

Description: EASTERN EXPANSION AUTOMATIC TRANSFER SWITCH				
Quantity: 1				
Date Installed: 2012				
Make: EMERSON				
Manufacturers Part Number: ASCO 7000				
Hardware Spec: 100 Amps, 208 Volts, 60 HZ, 3 Phase, Application: Genset to Genset				
Catalog Number: D07ATSA30100C5XF (see operators manual for code conversion)				
Software: N/A				
FAMILY:				
Nomenclature	Manufacturer	MFR P/N	Serial #	Location
Eastern Expansion TRANSFER SWITCH	Emerson	ASCO 7000	532365	Eastern Expansion

#### 4. Tiefert and Granite Mountains Site Equipment

**Table 7: Existing Tiefert and Granite Mountains UPS**

<b>Description: Tiefert and Granite Mountains UPS</b> <b>Quantity: 2</b> <b>Date Installed: 2012</b> <b>Make: EATON 9355 30KVA UPS</b> <b>Manufacturers Part Number: KB3013100000040</b> <b>Hardware Spec:</b> <b>Input:</b> <b>Input Voltage Range: 208/120 V (AC), 220/127 V (AC) +15, -20%</b> <b>Input Frequency: 45 - 65 Hz</b> <b>Input Connection Hardwire: 5 - wire (3PH + N + G)</b> <b>Output:</b> <b>VA Rating: 30000 VA</b> <b>Watts: 27000 W</b> <b>Output Voltage: 208/120, 220/120 V (AC) + / - 1% Static; + / - 4% dynamic with 100% step load recovery within 1 ms response time</b> <b>Outlets: 1</b> <b>Outlet Type Hardwire: 5 - wire (3PH + N + G)</b> <b>Battery:</b> <b>Battery Run Time: Full load, 1 internal battery: 11 minutes (27000W)</b> <b>Half load, 1 internal battery: 26 minutes (13500W)</b> <b>Battery ReplaceableField-replaceable</b> <b>Interface PortRS-232, Serial</b> <b>Software: N/A</b>				
Nomenclature	Manufacturer	MFR P/N	Quantity	Location
UNINTERRUPTABLE POWER SUPPLY	EATON	KB3013100000040	1	TIEFORT
MAINTENANCE BY-PASS	EATON	KBT00000000010	1	TIEFORT
NETWORK CONNECT UPS-X	EATON	116750221-001	1	TIEFORT
EATON 9335 EBC 36 BATTERY MODULE	EATON	103005183	1	TIEFORT
UNINTERRUPTABLE POWER SUPPLY	EATON	KB3013100000040	1	GRANITE
MAINTENANCE BY-PASS	EATON	KBT00000000010	1	GRANITE
NETWORK CONNECT UPS-X	EATON	116750221-001	1	GRANITE
EATON 9335 EBC 36 BATTERY MODULE	EATON	103005183	1	GRANITE