Position Description: Engineering Technician
(Building Automation Systems)

👀 Basic Function of Position:

The Building Automated Systems Engineering Technician (BASET) will report directly to the Senior/Deputy Facility Manager and be responsible for the operation and maintenance, which may include a Reliability Centered Maintenance program (RCM), of computer and microprocessor-controlled systems located throughout the New Embassy Compound/New Consulate Compound (NEC/NCC).

👀 Major Duties and Responsibilities:

Serves as an expert in planning, organizing and maintaining large and complex mechanical and electrical systems and their control equipment. The incumbent is employed as a Building Automated Systems Engineering Technician (BASET) to carry out skilled analysis and diagnostic maintenance work on all major systems and critical equipment throughout the NEC/NCC building and grounds. Work assignments will be directed by the Senior/Deputy Facility Manager.

1. Operational Support – 40%

A. The BASET sets up and/or validates setup for all microprocessor controlled equipment and maintains a log of system set-points in a format specified by the Senior/Deputy Facility Manager and system design protocols. In addition to set-points, the BASET maintains a log of sensors and calibration requirements. The BASET will provide periodic reviews/updates of system setups and control set-points. Equipment and systems that are supported range in scale and complexity from advanced, such as building systems automation, to remote controls for split system air conditioners. In addition to working normal duty hours, the incumbent responds to 24-hour emergency calls, including those during off-duty hours, as directed by the Senior/Deputy Facility Manager.

B. Performs preventive maintenance on the Heating, Ventilation and Air Conditioning (HVAC) Control System and related components to maintain system operation and reliability to ensure uninterrupted power and continuous air supply to critical facilities, equipment and systems. Responds to scheduled, unscheduled and preventive maintenance work orders generated by the computerized Maintenance Management System (CMMS).

C. The BASET shall work closely with the Electrical and HVAC Controls Technicians diagnose faults, failures and alarms on general electrical and mechanical systems to ensure all equipment is functioning effectively and properly maintained.

D. Will respond to after hour and weekend/holiday call outs when assigned as the –on-call duty technician to make emergency repairs to the BAS equipment and components in order to keep the facilities operational, safe and secure.
2. Maintenance and Project Support – 50%

A. Equipment, Sensor, and Cabling Systems Maintenance: The BASET is responsible for maintain all equipment, sensors, actuators, cabling, and other components of the Building Automation System (BAS) system functions as designed at the optimal level. This will require a constant high degree of preventive maintenance on the critical components.

B. Normal computer maintenance (windows system maintenance, disk cleanup, backup, installation of software upgrade, virus/spyware protection, computer cleaning, etc.). Shall coordinate system maintenance with post’s Information Management Officer (IMO) and Department of Stated (DOS) established standards.

C. Maintenance of microprocessors (upload, replacement of hardware, reprogramming, battery replacements, running program diagnostics, communication with manufacturer representatives, troubleshooting faults, testing, replacement, and cleaning).

D. Uninterruptible Power Supply Maintenance to include, routine test, verification of communications between the UPS and the computer, battery maintenance.

E. Intelligent programmable sensor troubleshooting and maintenance work includes performance evaluation, troubleshooting, cleaning, periodic testing and recalibration, and replacement. Sensors include: water/air flow, high and low temperature, and pressure; thermostats, digital and analog valve and damper controllers, heat and smoke detection; fuel level, flow, and leakage, traffic controls; water chemistry (pH and Chlorine content); carbon dioxide and monoxide; equipment run status.

F. Remote controls and status annunciations (troubleshooting, reprogramming, repair, replacement for remote control LAN status annunciation of generators, fire alarm systems, chillers and ventilation systems, fuel distribution, systems, gates and perimeter controls).

G. Signal and fiber optics cable (troubleshooting and correcting faults with underground and building signal cables including fiber, coax, and analog).

H. Assists in analyzing HVAC and Electrical Control Systems, obtaining and documenting critical performance data to be reported to the Facility Manager (FM) detailing operational efficiency. Data consists of power consumption, evaluation and historical data reviews, and systems performance requirements. Reviews reports and logs generated by the HVAC Controls Technician to analyze the systems performance.

I. Assists in preparation of Statements of Work (SOW) and construction documents for repair, new construction and renovation work. Assistance includes obtaining telephone/written estimates and quotes on materials and equipment needed for repairs and the completion of job tasks. Monitors contractors work to ensure they are providing products and services that meet the terms and conditions of the contract. Assists in developing punch lists, testing, and inspections as required to ensure quality services and construction work. Assists Facility Management Locally Employed (LE) Staff in the performance of in-house projects.
3. Logistics Support – 10%

A. The BASET maintains all tools, specialty diagnostic devices and equipment required for effective maintenance of computers, microprocessors, sensors and cabling systems associated with the building automation controls. The incumbent is also responsible for identifying all critical spare parts and materials, keeping an adequate supply of these critical spare parts and materials for routine maintenance and repair, preventive maintenance, and emergency repairs.

B. The incumbent will deal with vendors and manufacturers to keep abreast of equipment updates. Will maintain current knowledge of industry trends, updates and best practices. Identifies additional equipment, specialty tools and diagnostic devices, parts and materials which will enhance maintenance effectiveness for presentation to the Senior/Deputy Facility Manager.

C. Collateral duty assignments will be at the discretion of the Senior/Deputy Facility Manager but could include the following: Assistant POSHO, Government Technical Monitor (GTM), and/or Escort. Participates in Facility Management LE Staff training programs sponsored by DOS, manufacturers, and private vendors.

D. Provides guidance and instruction to Facility Management LE Staff and other vendors/contractor in the correct operation of equipment and materials used to complete required maintenance activities, general operations, and future expansion projects.

E. Assists in the development and implementation of a comprehensive preventive maintenance program for the building automation system, critical equipment, and associated control devices within the FM area responsibility.

F. Contributes to the safety program of the Mission. Insures work does not present health problems or risk of injury to workers or other employee or visitors.

❖ Prior Work Experience:

Minimum of five (5) years field experience in the operation and maintenance of a Building Automation System, including computer and microprocessor control system installation and programming. The experience may have been gained as a result of performing general maintenance on computer controlled systems and equipment; however, at least two (2) years must have been spent in direct maintenance of BAS specific components in a similar environment in addition to three (3) years of experience with large, modern, commercial or Government office building operations and maintenance. Experience working with U.S. building, trade, construction, fire, and safety codes and standards is required.

❖ Job Knowledge:

The incumbent must have superior knowledge, exceptional technical skills, and a thorough understanding of building automation systems, their components including sensors and actuators. Must know how to make adjustments to the system and components to keep the building within the designed operating parameters. Must be able to interpret sensor readings, and fault and failure codes in order to diagnose and expedite repairs. Individual must be familiar with the operating parameters of specific building spaces and the specific systems that support each space so critical operations are not disrupted when performing maintenance and repairs.
Individual must have knowledge of local companies that can provide material or service support for the systems within his area of responsibility. Individual must have detailed technical knowledge of the control systems within his/her area of responsibility and basic knowledge of how the control systems interface with the operating systems. Incumbent knowledge base must be equipment specific; with the makes and models of the installed equipment.

Must have a good working knowledge and ability to use AutoCAD to develop and modify building drawings.

❖ **Skills and Abilities:**

The incumbent must have strong computer skills, able to navigate through the Microsoft Office Suite software (Word, Office, Excel, Outlook, Power Point, etc.), to create the various documents including reports, spreadsheets, cost estimates, inspection logs, utility consumption charts and graphs; write e-mails and research information on the Internet.

Must be proficient in AutoCAD, able to create usable engineering drawings to assist on the operations and maintenance process, or for use in renovation projects.

Must possess a valid class “B” driver’s license (formerly C, C1) with a clean driving record. Must have excellent interpersonal skills and be able to handle a large workload and multiple tasks simultaneously.