



## **High Definition Video Surveillance System over Private Infrastructure**

### **Introduction:**

National**grid** provides transmission and distribution of electric and gas service to regions in New England and New York. national**grid** utilizes private communications infrastructure to maintain the security of the electric power grid. Communications sites are typically remote locations with little or no means to monitor activity within or around these facilities.

### **Project Description:**

Students will design and implement a high definition video surveillance system to allow remote interrogation and monitoring of critical nationalgrid telecommunications facilities in New England. national**grid**'s private fiber and microwave infrastructure will be utilized in the overall design to provide connectivity to the New England Telecom Operations Center (NETOC) in Northborough, Massachusetts.

### **Task to be completed:**

- Conceptual Design
- Project Cost Estimate
- Product Specification, Technical Review and Procurement
- Detailed electrical connection drawings – 3 line drawing
- Design and configuration of system software, camera setup and alarm points
- Design and configuration of communications between NETOC and remote site(s)
- System installation and commissioning – including documentation
- System training for maintenance technicians
- Review of conceptual design and cost estimate to final design and actual cost

### **System Specifications:**

This pilot design and ultimate build of the project includes the conceptual design through to a fully operating system with financial accountability, system documentation and commissioning. The functional specification may change within the scope of the project to accommodate the various sites and weather conditions related to each installation.

### **Required Skills:**

General electronics, fiber or microwave knowledge or experience, video knowledge helpful but not required. Ability to read and understand technical manuals, software programs and drawings. Ability to work with vendors and other subject matter experts. Must be able to climb to summit of mountains during initial site surveys. Use of LIVE Meeting, working from remote locations as well as URI and nationalgrid's Providence and Northborough facilities.

**Security Clearance:**

Must have a clean driving record, and may be subject to a personal background check.

**Contact Information:**

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**Examples of site locations**



**Kearsage Mountain, New Hampshire**



**Bald Peak Microwave Site, Mass.**



**Lincoln Tower, Rhode Island**