

Position Description

Broadcast Network Engineer

Information Systems Network Services Senior

Educational Communications Board

Position Summary

This position supports the ongoing operation of the Education Communication Board's (ECB) wide area network (WAN) and oversees deployment of upgrades to equipment and system capabilities. This position provides advice and recommendation to the unit's supervisor and agency leadership on the adoption and procurement of new and emerging technologies. This position also provides key network security services, as well as support for and acquisition of existing and legacy telecom communications equipment for field installation and use.

This position reports to the Director of Core Engineering, however the agency-wide integration of this position also requires considerable coordination with, and direction from, the operations center manager and the director of field engineering. Work is performed and reviewed under general supervision. This position represents the Educational Communications Board with civil, professional, and positive actions and demeanor and helps to ensure a workplace free of harassment and discrimination.

Goals and Worker Activities

35% Goal A: Design, configure, install, troubleshoot, and diagnose network devices on ECB's wide area network (WAN) infrastructure to ensure continuous and uninterrupted, or limited interruptions of, service to all stakeholder facilities (radio, weather, tv).

1. Monitor WAN performance and operational capabilities of servers, equipment, and software for performance drops or malfunctions.
2. Make network adjustments to ensure the availability and security of all centralized and decentralized systems and equipment for optimal reliability and continuous operation.
3. Document all equipment configurations and network setups in accordance with prescribed procedures, including all network components and locations.
4. Coordinate planned updates to network equipment and capabilities. This includes network configuration, but also the replacement of equipment due to planned or unplanned maintenance/lifecycle updates.
5. Update all networks' software and firmware revisions and coordinate with others for task completion at remote locations.

6. Interact with network service providers and constituents to maintain network security, accountability, and performance.
7. Maintain and operate remote management facilities for network equipment and systems.
8. Provide afterhours emergency support to resolve network outages.

35% Goal B: Install, replace, modify, and troubleshoot facility equipment for ECB supported facilities and systems across the entirety of the ECB's supported facilities and systems that support the agency's public media/broadcast, National Weather Service, and Emergency Alert System functions.

1. Install, replace, or modify telecommunications equipment in accordance with requirements and standards set forth by ECB or regulating authority/agencies.
2. Support field personnel (predominately Media Telecom Techs) with consultation and troubleshooting on installation and upgrade problems and of new/replacement equipment at tower locations.
3. Ensure proper configuration of new equipment prior to distribution for installation.
4. Repair faulty equipment and test replacement, or repaired, equipment to ensure proper operation prior to distribution/reinstallation.
5. Provide comprehensive maintenance and installation support on advanced telecommunication and broadcast systems.
6. Perform emergency repairs on all equipment and systems.
7. Work independently and in conjunction with teams to construct, install, test, calibrate, modify, and troubleshoot traditional broadcast systems and equipment such as transmitters, towers, antennas, and transmission lines.
8. Design, improve and maintain microwave radio-based communications systems.

15% GOAL C: Research specifications for future implementation of ECB implementation of new and emerging technologies to support current infrastructure needs while planning for future upgrades.

1. Review and recommend implementation of new technologies and equipment and advise unit supervisor of findings.
2. Facilitate agency's adoption of new technologies and equipment by providing instructions and procedures for installation and upgrade within existing lifecycle plan after adoption of change by approving authority.
3. Provide all requested information, and participate, when necessary, in the procurement process for new equipment or software or related bid development.

10% GOAL D: Support maintenance and operation of security systems

1. With coordination from unit supervisor, helps ensure most up-to-date industry security standards and best practices are implemented to maintain security of the network.
2. Investigate and respond to security incidents and threats.
3. Help ensure adherence to network security policies, standards, and procedures.
4. Maintain network user access through administration of user identification, passwords, and authentication.
5. Support agency point of contact for internet service providers (ISPs), customers, and DOA/DET to maintain network usability, security, and related external infrastructure requirements.

5% GOAL E: Perform miscellaneous job duties.

1. Perform all job duties with prescribed industry-standard and ECB health and safety procedures and guidelines.
2. Lead by example in demanding a high level of organization and cleanliness at facilities of responsibility.
3. Supervise the work of outside contractors.
4. Perform other duties as assigned.

Knowledge, Skills and Abilities

1. Broad knowledge with Broadcast Engineering concepts and technology.
2. Broad knowledge of IT and networking standards as they pertain to broadcast infrastructure, systems, and equipment.
3. Broad knowledge of current LAN/WAN architectures, Client/Server technology, distributed database and data communications technology and capabilities.
4. Broad Knowledge of telecommunications systems and technology.
5. Broad knowledge of Network security best practices.
6. Broad knowledge of Windows and Linux server administrator operations and privileges.
7. Basic Programming skills for Python, Bash, and PLC ladder logic.
8. Broad knowledge of Industry standard safety and security procedures and practices as applied to broadcast facilities (OSHA, FCC, FAA, etc.).
9. Ability to communicate clearly, effectively, and accurately in both written and verbal communications.
10. Ability to provide clear, concise, and effective technical training.

11. Ability to maintain effective working relationships with other professionals internal and external to the organization.
12. Ability to work on multiple tasks simultaneously and independently.
13. Ability to complete complicated tasks under time constraints.

Special Requirements

1. Requires a variable, non-traditional work schedule including some nights and weekends.
2. May require regular standby or on-call status.
3. Requires frequent in-state travel.