

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES ▼
HUMAN RESOURCES ENTERPRISE
TELECOMMUNICATIONS ENGINEER

DEFINITION

This job classification is used only by the Iowa Communications Network.

Performs technical engineering work in the design, provisioning, implementation and coordination of telecommunications systems, networks and services for the Iowa Communications Network (ICN); performs related work as assigned.

The Work Examples and Competencies listed are for illustrative purposes only and not intended to be the primary basis for position classification decisions.

WORK EXAMPLES

Performs design engineering, circuit engineering and provisioning of Asynchronous Transfer Mode (ATM), Frame Relay and other cell or packet switching services for ICN users; manages the network for these services, including the integration of equipment and service for ICN overall.

Designs and implements fiber optic synchronous optical network (SONET) based digital transmission systems and interactive distance learning video networks; keeps accurate records of network and system designs, facilities and bandwidth usage; designs and implements DC power plants at network fiber optic terminal sites.

Assists with Video Scheduling software vendor and the transmission engineering group on implementing interactive distance learning video over ATM using virtual path and circuit connectivity; assists in assuring overall integrity of the ICN transition design; integrates ATM devices and services into the Network.

Functions as assistant to Telecommunications Engineer Senior, providing assistance to other outside plant and ICN personnel; participates in developing and maintaining outside plant records, drawings, route information, permit packages, project plans, bid proposals, generation of as-built drawings and any other documents to include daily logs and updating of safety practices, ensuring that contractors and other personnel maintain such documentation.

Administers/manages relay rack and floor space assignments and requirements at network fiber optic terminal sites; participates in new technology research, development and testing projects; performs pre-engineering review functions for new customer service requests and identifies network build out needs.

Responds to requests for services, schedules and makes appropriate assignments for permanent vertical circuits (PVS's), switched vertical circuits (SVC's), and switched permanent vertical circuits (SPVC's) keeping traffic balanced across the network; creates a circuit layout record to be used by the maintenance technicians to install service; ensures personnel have proper maintenance and installation instructions.

Inspects aerial and underground fiber cable placement for quality control, ensuring compliance with approved plans, permits and easements, and state and federal standards; coordinates activities between ICN and its contractors; ensures appropriate prior approval or notification of plan changes necessitated by construction problems.

Performs Frame Relay/ATM traffic analysis, determines and initiates problem resolution; arranges for network upgrades to relieve or prevent congestion; maintains Frame Relay records.

Conducts pre-engineering review functions for new customer service requests and identifies network build out needs; manages relay rack and floor space assignments and requirements at network optic terminal sites.

Recommends alternatives to eliminate cable placement conflicts; reviews construction plans, investigates sites, and interfaces with engineers, contractors and project inspectors; develops alternative writes for new cable placement; develops bidding packages; provides direction for outside plant maintenance organization, reviewing repair and relocation estimates.

Participates in new technology research, development and testing projects; provides technical assistance for co-workers, contractors and customers; supports staff.

COMPETENCIES REQUIRED

Knowledge of telecommunications networking protocols, topologies, and technologies. (TDM, SONET, WAN, LAN, Ethernet, Token Ring, Lane, ATM, etc.)

Knowledge of the ICN product and services area assigned.

Knowledge of packet switching and Virtual circuit theory.

Ability to perform detailed work with a high degree of accuracy.

Ability to read and interpret equipment and site drawings.

Ability to use Microsoft Windows '95, Excel; Word and Visio as well as basic databases and spreadsheets.

Ability to interact with state employees and private contractors and maintaining a positive relationship.

Ability to interpret and write concise technical reports.

Ability to produce work that requires extreme accuracy with few errors in short time frames.

Ability to be creative with own ideas and to incorporate the ideas of others.

Ability to express ideas and facts to individuals or groups effectively; make clear and convincing oral presentations; listen to others; facilitate an open exchange of ideas.

Ability to meet customer needs in a consistently helpful and courteous manner.

Ability to work cooperatively with others as part of a team.

Ability to apply personal ethical standards such as honesty, responsibility and trustworthiness required to be a productive employee.

Ability to adapt and work effectively with a variety of situations, individuals or groups.

Displays high standards of ethical conduct. Refrains from dishonest behavior.

Works and communicates with all clients and customers providing quality professional service.

Displays a high level of initiative, effort, attention to detail and commitment by completing assignments efficiently with minimal supervision.

Follows policy, cooperates with supervisors and aligns behavior with the goals of the organization.

Fosters and facilitates cooperation, pride, trust, group identity and team spirit throughout the organization.

Exchanges information with individuals or groups effectively by listening and responding appropriately.

EDUCATION, EXPERIENCE, AND SPECIAL REQUIREMENTS

Experience equal to six years in telecommunications or outside plant construction and planning as a technical or associate engineer;

OR

an equivalent or a combination of education and experience, substituting thirty semester hours of accredited post high school education with major coursework in engineering, telecommunications technology or related area for each year of the required experience to a maximum of four years.

Effective Date: 09/12 BR