New

Ministry

Public Safety and Emergency Services

Describe: Basic Job Details

Position

Position ID

Position Name (30 characters)

Requested Class

Job Focus

Supervisory Level

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Vacant

Organizational Structure

Division, Branch/Unit

☑ Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

Design: Identify Job Duties and Value

Job Purpose and Organizational Context

Why the job exists:

The Alberta First Responders Radio Communications System (AFRRCS) is a province wide, two-way voice public safety grade radio solution. AFRRCS improves the safety of first responders and all Albertans. It enables interoperability between all first responders. The availability, reliability and effectiveness of AFRRCS can directly impact the speed to response and the level of safety for these professionals. AFRRCS is a resilient and disaster-ready P25 communication system for Alberta.

Reporting to the Manager, AFRRCS Engineering & Technical Support Services, the P25 System Performance Data Analyst plays a critical role in providing insight on the health of the complex AFRRCS system by collecting and analyzing vast amount of data generated by the network, system, devices, telecom companies and agencies. These data analytics can provide information to:
- prevent service degradation;
- reduce unscheduled outages;
- improve system performance and reliability; and
- provide data and evidence-informed decision-making recommendations on maintenance, equipment life cycle, optimization, capacity, and coverage enhancement plans.

This position helps to ensure that AFRRCS is in alignment with Public Safety and Emergency Services (PSES) and Alberta Emergency Management Agency(AEMA) objectives.

Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

1. Manage data required to support AFRRCS by:
   • Defining data analysis goals, reports, metrics and key performance indicators (KPIs) to support real-time and proactive fault detection and resolution, network optimization, equipment life-cycle management, cost reduction, and enhance network planning and design.
   • Collecting data from various sources including but not limited to the P25 system, IT servers, telecom providers and user agencies.
   • Analyzing and Visualizing data.
   • Implementing and monitoring changes.

2. Ensure the AFRRCS system is operating as designed and ready to provide reliable P25 communications to first responders who serve Albertans with a minimal operational disruption 24x7x356 by:
   • Monitoring, collecting, processing, aggregating and displaying real-time quantitative data about the AFRRCS system health (what's broken or what's about to break).
   • Parsing and analyzing log files for relevant metrics.
   • Analyzing trends and patterns.
   • Developing and maintaining a metrics dashboard.
   • Exploring metrics through graphs and dashboards.
   • Designing and creating reports and visualizations to effectively communicate data findings.
   • Setting up alerts when problems arise.
   • Developing and implementing automatic alerts which are capable of interfacing with AFRRCS' work order system, System Control Centre, and Engineering team.

3. Utilize data and evidence-informed decision-making to support and ensure capacity and coverage enhancement, equipment life-cycling, and proactive maintenance plans are aligned with the strategic plans of AEMA by:
   • Maintaining and managing the databases used in AFRRCS.
   • Identifying and collecting data from different systems supporting and within AFRRCS.
   • Identifying and analyzing trends, patterns, and anomalies in data to drive process improvements.
   • Analyzing long-term data trends (traffic, equipment aging, cost of maintenance, etc.).
   • Designing and creating reports and visualizations to effectively communicate data findings.
   • Developing Key Performance Indicators.
   • Assisting in root cause analysis with Subject Matter Experts.
   • Providing trending data to the Engineering team in support of proactive site/system maintenance, equipment life-cycle, capacity, expansion and enhancement plans.
   • Developing and maintaining database queries.
   • Identifying trends, patterns, and anomalies in the data to drive process improvements.

4. Support the AFRRCS Operations team if required during an emergency response in the province to ensure minimal operational disruption by:
   • Working in the System Control Centre as an Operations Technician.
   • Supporting the deployment of the Site-on-Wheels (SOW).

5. Support the Provincial Emergency Coordination Centre (PECC) by:
   • Supporting the Logistics Section at the Provincial Emergency Coordination Centre during an activation where required.

Problem Solving

Typical problems solved:

• Be proactive instead of reactive by mining and analyzing data to identify any degradation of services, which are not currently detectable by existing monitoring systems or until users complain. Degradation of services include but not limited to degraded RF coverage, service interruptions due to wrong configuration, insufficient

capacity, etc.
• Collect and analyze data (failure rate, maintenance cost, Mean-Time-To-Repair (MTTR), impacts, replacement cost, etc.) to plan equipment life-cycling.
• Maintain, update and fix broken SQL queries.

Types of guidance available for problem solving:

• Parameters and expectations as well as guidance for problem solving will be provided by the Engineering manger and other Subject Matter Experts on the team.

Direct or indirect impacts of decisions:

• Utilize data to provide evidence-informed decision-making recommendations directly impacting system availability, grade of service, maintenance, future expansion and equipment life-cycle plans.
• This data analysis directly leads to enhanced system performance, that contributes to AFRRCS meeting the service level agreement targets that are specified with first and secondary responder agencies.
• Through assistance with planning efforts related to expansion and equipment life-cycle plans, this positions indirectly supports the maintenance and reputation of AFRRCS as a highly reliable, leading land mobile radio network, that first responder agencies can rely upon when conducting their routine operations.

Key Relationships

Major stakeholders and purpose of interactions:

• Senior and Executive managers within GOA - as required, AFRRCS status briefing.
• Manager - weekly, to provide advice on or respond to issues; provide updates; raise awareness of improvement opportunities or significant threats; and support leadership work on broader unit and branch initiatives that connect to AFRRCS.
• System engineer, LMR engineer, Radio technicians, Network and Information Technology team - daily, provide advice on or respond to issues; provide updates; and raise awareness of improvement opportunities.
• System Control Centre - daily, respond to issues; provide updates; coordination of schedule and work order creation; and network status.
• Business Service team - as required
• Business Analyst - as required
• Maintenance Contractors - as required, coordination of maintenance activities and schedule; provide advice on or respond to issues; and provide updates.
• Technical Advisors - as required - coordination of update/upgrade schedules.
• User Agencies - as required

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Bachelor's Degree (4 year)	Science		Other

If other, specify:

Computer Science or Information Technology

Job-specific experience, technical competencies, certification and/or training:

Knowledge:
The AFRRCS P25 System Performance Data Analyst requires the following knowledge to be successful.
○ Data analytical skills.
○ Strong SQL experience for queries including working with multiple databases and complex SQL solutions
○ Design and create reports and visualizations to effectively communicate data findings
○ Identify trends, patterns, and anomalies in the data to drive process improvements
○ Database administration knowledge in Microsoft SQL and SYBASE
○ Knowledge of P25 Land Mobile Radio systems or communication systems

• Must have experience in dealing with communication systems data analysis.

Skills and Abilities:
The position requires the following skills and abilities.

• Proficient in
  ○ Microsoft SQL Server 2016 and above
  ○ Microsoft SQL Reporting Services 2016 and above
  ○ Sybase 15 and above
  ○ T-SQL
  ○ Data analytics
• Advanced interpersonal communications skills, leadership, facilitation, team building and consensus-making in both routine and stressful conditions such as during a provincial emergency
• Good at working with various Data Visualization softwares
• Ability to conduct research toward a specific problem
• Excellent written and oral presentation skills to prepare briefings and present technical information update briefs
• Expert abilities in analyzing technical problems across a network and employing a system approach to troubleshooting
• Advance skills with common information technology office tools
• Class 5 driver's license with an acceptable driving history
• Ability to hold Government of Canada security clearance	

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level A B C D E	Level Definition	Examples of how this level best represents the job
Systems Thinking	○ ◉ ○ ○ ○	Considers inter-relationships and emerging trends to attain goals: • Seeks insight on implications of different options • Analyzes long-term outcomes, focus on goals and values • Identifies unintended consequences	Capacity to understand operation fundamentals of the complex AFRRCS system which consists of information technology, computing servers, networking, radio frequency, backup power, HVAC, user agencies, etc. and incorporate them into decision making to align with the organization's strategic goals.
Creative Problem Solving	○ ◉ ○ ○ ○	Focuses on continuous improvement and increasing breadth of insight: • Asks questions to understand a problem • Looks for new ways to improve results and activities • Explores different work methods and what made projects successful; shares learning • Collects breadth of data and perspectives to make choices	Assesses and evaluates information provided by logs from different systems to improve performance and reliability, provide data and evidence-informed decision-making recommendations.
Agility	○ ◉ ○ ○ ○	Works in a changing environment and takes	The analyst must adapt to change and constructively