



Government of  
Northwest Territories

**IDENTIFICATION**

Department		Position Title	
Northwest Territories Health and Social Services Authority		Chief Biomedical Engineering Technologist	
Position Number(s)	Community	Division/Region(s)	
17-11393	Yellowknife	Informatics and Health Technology	

**PURPOSE OF THE POSITION**

The Chief Biomedical Engineering Technologist (Chief Tech) is an expert resource that provides day to day leadership, training and work prioritization to the Northwest Territories Health and Social Services Authority's (NTHSSA) Biomedical Engineering Technologists. In addition, the Chief Tech along with the Biomedical Technologists ensure that all NTHSSA, Hay River Health and Social Services Authority (HRHSSA), Tlicho Community Service Agency (TCSA) and other contracted entities' biomedical assets are maintained and operated in optimal condition for the safe and accurate application and interpretation of patient care. This position along with the Biomedical Technologists repairs and maintains all NTHSSA and other contracted health entities' (i.e., HRHSSA, TCSA, Kitikmeot Region in Nunavut, GNWT Department of Transport, etc.) biomedical assets, which include diagnostic, lifesaving/sustaining and therapeutic electronic patient care equipment. This position provides client support to meet operational needs such as user guidance, medical alerts, equipment management and emergency responses.

**SCOPE**

Located in Yellowknife at the Stanton Territorial Hospital, the Chief Biomedical Engineering Technologist reports to the Territorial Manager, Biomedical Engineering (Territorial Manager). The Chief Tech is the lead responsible for the day to day technical work prioritization and allocation through the application of the processes and systems developed and authorized by the Territorial Manager.

The NTHSSA is the single provider of all health and social services in the NWT, with unique collaborative arrangements in the HRHSSA and TCSA. It covers 1.2 million square kilometers and serves approximately 43,000 people, including First Nations, Inuit, Metis, and non-aboriginals. Health and social services include a full range of primary, secondary and tertiary

health services and social services including family services, protection services, care placements, mental health, addictions, and developmental activities, delivered by more than 1,400 health and social services staff.

The scope of activities undertaken or managed by the Chief Tech includes but is not limited to:

- Provide day to day technical leadership and specialized technical work assignment prioritization for the Biomedical Technologists.
- Provide technical specific training, technical skills development and orientation of four (4) Biomedical Engineering Technologists as well as Biomedical Technologist interns and students.
- Provides expert technical advice or coordinates the appropriate Biomedical Technologist to provide expert technical advice to the Territorial Manager, NTHSSA leadership, Department of Health and Social Services (DHSS) on medical technology when planning facilities, programs and services.
- Service contract technical coordination, service contractor visit coordination and tracking for service contract compliance along with Biomedical Technologists.
- Performs direct Biomedical Engineering Technologist services on over 3000 medical devices ranging from basic biomedical technologies (e.g., scales, centrifuges, etc.) to complex life critical biomedical technologies (e.g., dialysis machines, anaesthesia machines, x-ray units, etc.).
- With the Territorial Manager develops and leads the day to day technical deployment of staff to regional facility support.
- Provides expert advice and support in incident investigations involving medical technology.

This position is required to provide the full scope of responsibilities as defined under the duties and responsibilities of the Biomedical Technologists positions, in addition to providing a lead role for the technical day to day activities of the Biomedical Engineering team as well as supporting the Territorial Manager by applying and ensuring the application of all approved processes and procedures.

On an annual basis each Biomedical Technologist is assigned lead responsibility over a specific complex or high risk technology area. Specifically technologies in environments such as but not limited to: Anaesthesia and Operating Room environment; diagnostic imaging and laboratory environment; and dialysis environment. The designated lead Biomedical Technologist will be expected to prioritize work and become a specialist on the technology in their designated area. The Chief Tech is expected to be proficient in the majority of these areas and rapidly become proficient in all complex/high risk areas and be able to support all areas with technical leadership and be able to on a day to day basis reassign resources to support technical problems that may arise.

Within the scope of services this position has responsibility to determine, prioritize and lead the most effective means to achieve approved end results to meet the clients' needs within predetermined budgets, standards, and processes. The overall value of the assets within this scope of services is approximately \$20,000,000.00. This position is directly responsible and

accountable for maintaining patient care biomedical equipment in a safe and optimal condition, which has a direct impact on the safety and comfort of patients, staff and visitors. The unique nature of the NWT environment requires a high degree of technical capability, a broader than normal range of skills in highly complex medical technologies, know-how, unique troubleshooting and problem solving skills to ensure maximum availability of medical technologies.

The position works with the Territorial Manager to develop: training plans for the Biomedical Engineering Technologists; rotation schedules of Biomedical Engineering Technologists to take lead support on specialized complex technology areas; and new or refinement of existing Biomedical Engineering policies and procedures.

The Chief Tech will take a team lead role on ensuring the support, data integrity and usability Computerized Maintenance Management System (CMMS) and all required data is entered in a timely fashion and consistent with policies and procedures.

The position is not on-call but can be called back and/or must coordinate the call back and subsequent coverage of other Biomedical Technologist to meet the needs of the health system.

Any intern-biomedical technologist or student biomedical technologist will report to the Chief Technologist to ensure direct technical supervision, training and development.

## **RESPONSIBILITIES**

### **1. Leads, Coordinates and Prioritizes Day to Day Technical Biomedical Engineering team activities.**

#### **Main Activities:**

- Uses approved processes and procedures and expert judgement in the prioritization of incoming inspections, preventive maintenance, unscheduled maintenance, emergency service needs, retirement of technology and general health technology service.
  - Directly assists as an expert resource the Territorial Manager with the development of all Biomedical Engineering program policies and procedures.
- When needed, prioritizes, assigns and coordinates the work of Biomedical Technologists.
  - Leads, assigns and coordinates the incoming inspection of new technologies.
  - Leads and coordinates the preventive maintenance of technologies.
  - Leads and coordinates unscheduled and emergency maintenance of technologies.
  - Leads and coordinates the inventory and retirement of technologies.
- Leads and coordinates the planning of the regional service technical travel for self and all Biomedical Technologists.

### **2. Leads, Coordinates and Prioritizes and provides expert advice on Contracted Services**

#### **Main Activities:**

- Works with Territorial Manager and other NTHSSA Managers responsible for health technology service contracts to build processes to ensure all service visits are routed through and tracked by Biomedical Engineering and data is entered in CMMS.
- Is the Biomedical Engineering technical lead to prioritize response from external service providers to meet contracted health technology service problems (i.e., technical coordination of contracted and un-contracted external service resources).
  - Ensures all health technology service contract work is correctly tracked in the CMMS by Biomedical Technologists.
- Ensures annual service contract technical visit data is compiled and a summary of technical performance is brought forward to Territorial Manager for contract management review and discussions with contractor.
- Sits as expert resource and/or as assigned, leads any service contract tendering processes.
- Where expert technical judgement indicates contracts could be taken in-house, provides preliminary analyses and recommends removal of contract against resource demands, training and specialized equipment requirements to Territorial Manager.

**3. Leads, Coordinates and Prioritizes Biomedical Engineering integration and collaboration with internal Informatics Technology (IT), Information Systems (IS) and Health Infrastructure Service technical staff.**

**Main Activities:**

- Develops and maintains positive working relationships with Regional Managers of Operations, Health Facility Managers and technical staff, GNWT Public Works and Services (i.e., both Facility Service staff and Information Technology Service – Technical Services Center staff).
- Works with other Informatics and Health Technology IS/IT technical staff to ensure expert technical advice is provided to interface biomedical technologies with information systems, information technologies, health infrastructure.
- For Territorial Manager approved inter-divisional, inter-authority, inter-departmental work, either directly supports or assigns Biomedical Technologists to support work between Biomedical Engineering technologists and other GNWT or NTHSSA technical service entities.
- With the Manager, ensures all assigned Biomedical Engineering responsibilities on inter-related service requirements are completed in a timely fashion and as per any coordinated work plans.

**4. Incoming Inspection, Inventory and Retirement.**

**Main Activities:**

- Ability to perform incoming inspections on all new Biomedical Engineering supported technologies as per Biomedical Technologist responsibilities.
  - Follows all manufacturer recommended processes and/or based on expert advice and engineering approval, NTHSSA recommended processes.
  - Works with Manager, procurement and appropriate managers to coordinate the correction of any noted deficiencies.

- Works with appropriate internal agency, as appropriate, to ensure correct installation and or interface with other facility, infrastructure or technical systems.
- Drafts and recommends any preventive maintenance procedures and schedules for new technologies.
- Recommends and ensures acquisition and training on any specialized tools, hardware or software to support technologies.
- Recommends and ensures acquisition of any necessary spare parts.
- Leads or assigns a Biomedical Technologist to ensure any service contracted technologies incoming inspections are verified by the Biomedical Engineering program and documented.
- Ensures all information from incoming inspections are entered in the CMMS by self or Biomedical Technologists and as per procedures.
- After incoming inspection, ensures all financial capital asset and asset inventory tracking information is forwarded to appropriate manager for documentation in Financial Information System capital asset inventory as per procedure.
- Leads or coordinates periodic inventory verifications all health technologies tracked in the CMMS and general condition inspections as per defined procedures and schedules.
- Where equipment is no longer in service ensure it is retired in the CMMS.
- Where equipment is being retired ensure the equipment is being retired in a safe and correct fashion.
  - Where parts or retired device has value to the NTHSSA system make recommendations to the Manager of Biomedical Engineering for its optimum management.

## **5. Preventative Maintenance**

### **Main Activities:**

- Ability to perform preventive maintenance procedures on all Biomedical Engineering supported technologies as per Biomedical Technologist responsibilities and documented procedures.
- Leads the technical coordination and/or directly performs the preventive maintenance services on all assigned biomedical technologies.
- Ensures preventive maintenance procedures and schedules are suitable and comply with manufacturer requirements, expert technical judgement and unique Northern Environment.
  - Draft or re-draft recommended preventive maintenance schedules and procedures and have them reviewed and approved by Territorial Manager of Biomedical Engineering.
  - Ensures training to all Biomedical Technologists and technical competency on new or revised procedures.
- Ensures all preventive maintenance and resulting service repairs are documented in the CMMS.

## **6. General Maintenance and Emergency Repairs**

### **Main Activities:**

- Ability to perform general maintenance and emergency repairs on all Biomedical Engineering supported technologies as per Biomedical Technologist responsibilities.
- Leads the technical coordination, assignment and reprioritization of day to day general maintenance and emergency repair work to the other Biomedical Technologists.
  - Follows all approved risk score processes as well as expert technical judgement in determining prioritization.
- Ensures NTHSSA staff and Territorial Manager are made aware of any delay general maintenance and emergency repairs on mission critical and life critical technologies.
- Coordinates the day to day restocking of repair part inventories and advises the Territorial Manager to order critical parts and supplies.
- Ensures all Biomedical Technologists are trained and follow proper standard infection control procedures and NTHSSA site specific procedures when entering sterile or special environments to provide general maintenance support and emergency repairs.
- Ensures all general maintenance and repairs are documented in the CMMS.

## **7. Community Travel Service Trips**

### **Main Activities:**

- Leads the day to day coordination of established community travel work commitments.
  - There are over 30 scheduled trips defined annually based on the scope of services provided by Biomedical Engineering.
  - Technical service trips ranging from one (1) day to two (2) weeks in duration.
- Community Travel Service Trips include incoming inspection, inventory, preventive maintenance, general maintenance, emergency repairs, and retirement of technology work.

## **8. Models excellence by providing direct hands-on Biomedical Engineering Technologist training and development.**

- Recommends to Territorial Manager, technical training priorities for the Biomedical Engineering team and specific technologists.
- Recommend to the Territorial Manager the rotation of Biomedical Technologist through these complex/high risk areas to ensure Biomedical Technologist training, capacity development and sustainable future support coverage.
  - Where required the Chief Tech can also be assigned a specific complex environment to lead in addition to the overall day to day technical team leadership.
- Instructs users on proper operational procedures of medical devices for the safety of patients and staff.

## **9. Additional Responsibilities**

### **Main Activities:**

- Provide technical expertise to NTHSSA and DHSS committees and working groups on health technologies.
- Directly supports and is involved in any incident investigation involving health technologies.

- Performs other duties as assigned by Territorial Manager or Director of Informatics and Health Technology for the purposes of ensuring the smooth and efficient operation of the NTHSSA's, HRHSSA and TCSAs health technologies.
- Provides support in hospital emergency codes: Missing patient, Missing infant and Mass casualty as requested and required.
- Ability to act in the Territorial Biomedical Engineering management and supervisory role.

## **WORKING CONDITIONS**

### **Physical Demands**

There are frequent times when heavy lifting is required. The Hospital's physical size requires a substantial amount of movement on a frequent basis. This position is expected to work with professional tools on a frequent basis, some of which are very hazardous if not applied correctly. Due to the nature of biomedical devices and their application this position is expected, on a frequent basis, to enter, function and work in stressful situations with life and death events occurring around them. This position routinely travels to several remote Northern Communities under harsh environmental conditions.

### **Environmental Conditions**

This position is expected to work on technology with standard device safety interlocks overridden and shields removed for the purposes of servicing and consequently is exposed to substantial biological, electrical, chemical, mechanical, thermal and radiation hazards on a frequent basis.

### **Sensory Demands**

This position routinely works with very complex biomedical equipment and systems. Operational condition checks, repairs, and maintenance services require concentrated levels of attention in order to discern conditional discrepancies, and safely conduct corrective actions. The position is also exposed to full range of sound frequencies and levels, light (laser or bright surgical), smells and tactile extremes and limits for the purposes of troubleshooting biomedical technologies.

## **KNOWLEDGE, SKILLS AND ABILITIES**

- Effective interpersonal, training negotiation, collaboration and communication skills.
  - Effective leadership and management skills in developing, managing and leading effective technologist teams.
  - Demonstrated skills in building and maintaining service support relationships within health facility departments.
  - Demonstrated ability to manage conflict.
  - Effective human relations and motivational skills to deal with day-to-day staff issues as well as the interests of stakeholders within and outside the NTHSSA.
  - Demonstrated writing, training and presentation skills.
  - Strong human resources skills for supporting the recruitment and leading the

retention and development of technical staff.

- Effective leadership and management skills required to lead, coordinate health technology vendors and contractors.
- Effective financial analysis and budget review and coordination skills.
  - Effective skills in ensuring control of parts and supplies.
  - Effective skills in managing day to day team expenses (e.g., travel costs, over time, etc.).
  - Effective skills in contract review and analysis to ensure contract compliance and value for money.
- Ability to work in life critical patient situations and provide steady support and solutions to manage and resolve technology challenges.
- Knowledge on the operation and support of health technology used in hospitals, health centers, clinics and long term care facilities.
- Information seeking skills are required to ensure an adequate understanding of the technical and client issues that are routinely experienced so that effective actions can be carried out for the safety and comfort of patients, staff and visitors.
- Ability to operate information technology and information systems applications to a high degree both for internal service management and specific health technology management purposes.
- Knowledge of human physiology in order to clearly understand the operation of medical technology and its interaction with human anatomy.
- Knowledge of health facility infrastructure and systems (e.g., medical gas, medical electrical distribution systems, etc.) in order to understand, trouble shoot and correct interfacing health technology management problems.
- Solid project management skills to ensure the coordination of new/replacement health technology roll outs.
- Demonstrated skills in health technology incident investigation and risk management.
- Demonstrated ability to work under pressure with compressed deadlines and multiple deliverables.

**TYPICALLY, THE ABOVE QUALIFICATIONS WOULD BE ATTAINED BY:**

- A Biomedical, Electronics or Mechanical Technology Diploma.
- A minimum of five (5) years of experience as a Biomedical Engineering Technologist working in a hospital setting. Which includes as a part of the five years' experience a minimum of:
  - Experience leading the service support in at least two complex health technology areas (e.g., diagnostic imaging, laboratory technology, dialysis, anaesthesia) for a minimum of 1 year, plus
  - At least factory training courses in at least two of these complex areas.
- Certification in a nationally or internationally-recognized Engineering Technologist professional association or be able to obtain within 1 year.
- Other combinations of post-secondary education, Biomedical Engineer Technology certification, health technology factory training, Northern or equivalent isolated environment technology service support experience will be considered.



- Combinations of experience, training and education of 7 years or greater will be required based on the types of equivalent experience or education.

### **ADDITIONAL REQUIREMENTS**

#### **Position Security (check one)**

- ☐ No criminal records check required
- ☒ Position of Trust – criminal records check required
- ☐ Highly sensitive position – requires verification of identity and a criminal records check

#### **French language (check one if applies)**

- ☐ French required (must identify required level below)

Level required for this Designated Position is:

##### **ORAL EXPRESSION AND COMPREHENSION**

Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐

##### **READING COMPREHENSION:**

Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐

##### **WRITING SKILLS:**

Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐

- ☐ French preferred

#### **Aboriginal language: Choose a language**

- ☐ Required
- ☐ Preferred