



## IDENTIFICATION

Department	Position Title	
Northwest Territories Health and Social Services Authority	Junior Biomedical Engineering Technologist	
Position Number	Community	Division/Region
48-16496	Yellowknife	Informatics & Health Technology / Territorial Operations

## PURPOSE OF THE POSITION

The Junior Biomedical Engineering Technologist ensures that Northwest Territories and other contracted regions' and jurisdictions' health technology assets are maintained and supported in an optimal condition; thus, allowing the safe and accurate application of the technology in the delivery of patient care. This position provides client support and user guidance on health technologies, as well as repairs and maintains the health technology assets of the Northwest Territories Health and Social Services Authorities, Hay River Health and Social Services Authority, Tłı̨chǫ Community Services Agency, and other contracted governmental jurisdictions.

## SCOPE

The Northwest Territories Health and Social Services Authority (NTHSSA) is the single provider of all health and social services (HSS) in the Northwest Territories (NWT), with the exception of HRHSSA and TCSA, covering 1.2 million square kilometers and serving approximately 43,000 people, including First Nations, Inuit, Metis, and non-aboriginals. HSS includes the 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 HSS staff.

Under the direction of the Minister of Health and Social Services, the NTHSSA is established to move toward one integrated delivery system as part of the government's transformation strategy.

While the Tłı̨chǫ Community Services Agency (TCSA) will operate under a separate board and Hay River Health and Social Services Authority (HRHSSA) will in the interim, the NTHSSA

Biomedical Engineering team provides full health technology management support to all NWT regions and authorities. The NTHSSA Biomedical Engineering team also provides health technology management support to: the Kitikmeot Health Region of the Government of Nunavut (GNU); the Government of the Northwest Territories (GNWT) Department of Infrastructure (INF); the Yellowknife Fire Department; Hay River Fire Department, Fort Smith Fire Department; and Avens Manor. Service agreements are established with these entities to identify performance requirements and adherence to standards, policies, procedures, and guidelines as established by the NTHSSA.

NTHSSA Biomedical Engineering is part of the Informatics and Health Technology Division under NTHSSA Corporate and Support Services and is based at the Stanton Territorial Hospital (STH). Located in Yellowknife and reporting to the Territorial Manager of Biomedical Engineering, the Junior Biomedical Engineering Technologist (Junior BMET) provides support on biomedical patient care technology for two (2) hospitals and 27 health centers in the NWT and Nunavut. Services include:

- performing equipment preventative maintenance, general maintenance, incoming inspections and retirement;
- responding to hospital emergency response codes; and
- providing health technology related operational guidance, training and support for clinical user and clients.

This position is directly responsible and accountable for maintaining biomedical equipment in a safe and optimal condition, which has direct impact on the safety and comfort of patients, staff and visitors. Biomedical equipment that is not maintained in a safe condition and/or presents inaccurate patient data can be life threatening. This position works in accordance with standards and processes established by the NTHSSA, CSA, manufacturers, Health Canada, Accreditation and/or national Biomedical Engineering associations' recommendations. However, the position will travel to support technology in remote and isolated locations and in those situations is required to be able to assess, trouble shoot and develop often unique health technology service and support solutions in circumstances and with minimal guidance.

The Junior BMET is required to provide the full scope of Biomedical Engineering service responsibilities on a range biomedical equipment, such as but not limited to: infant warming, physiotherapy, infusion technology, physiological and vital signs monitoring, electrosurgical technology, small scale steam sterilizers, small scale lab analyzers and general minor medical (i.e. thermometers, pulse oximetry, oto/ophthalmoscopes, aspirators, laryngoscopes). This position will have exposure to high risk technologies such as defibrillation, single phase x-ray, dialysis, anesthesia and ventilation and will be required to service and support these technologies once trained. This position is required to do first-call and inspection services on equipment such as but not limited to endoscopy systems, laparoscopy systems, audiology and ultrasound.

## **RESPONSIBILITIES**

### **1. Provides Preventive Maintenance Service on Biomedical Equipment Assets.**

- Coordinates and performs regular scheduled and when appropriate unscheduled PM

services on biomedical assets assigned by the Chief BMET.

- Documents all PM work in the NTHSSA Health Technology Management database.
- Under the direction of BMETs or Chief BMET, educates self and/or recommends possible updates to NTHSSA, and manufacturer's documented Preventive Maintenance (PM) procedures.
- Completes all purchases, billing, invoices as per documented processes.

## **2. Provides General Maintenance Services on Biomedical Equipment Assets**

- Trouble shoots a range of biomedical equipment assets which users or preventive maintenance have identified as having service issues.
- Coordinates and performs all repairs including the ordering and installation of any parts.
- Confirms biomedical equipment functionality prior to returning to service.
- Documents all General Maintenance services in the NTHSSA Health Technology Management database brought to Biomedical Engineering for service.
- The complexity and scope of technologies and devices that this position must perform general maintenance on, requires skill development on a continual basis.
- Completes all purchases, billing, invoices as per documented processes.

## **3. Provides Incoming Inspections/Retirements Services on Biomedical Equipment Assets.**

- For new health technologies, familiarizes self with service manuals and biomedical equipment asset operations (i.e., prior to any health technology being used for patient care it must undergo several condition and acceptance tests).
- Performs incoming inspection test to confirm all normal operations of new biomedical equipment assets.
- Performs electrical safety checks of new biomedical equipment assets.
- Coordinates resolution with the Vendor and/or the Territorial Manager of Biomedical Engineering and Chief BMET to resolve any incoming inspection failures.
- Documents new biomedical equipment assets and work in the NTHSSA Health Technology Management database.
- Safely decommission and dispose of retired biomedical equipment assets.
- Document the retirement of biomedical equipment assets in the NTHSSA Health Technology Management database.
- Completes all purchases, billing, invoices as per documented processes.

## **4. Provides Emergency Health Technology Service Response.**

- Respond to emergency healthcare technology service events.
- Supports clinical professionals in managing the risk to patient and themselves while resolving technical service issues.
- Provision of loaner technology or relocation of required technology to assist in management of the service issue.
- Documents emergency response/repair/incident and all associated biomedical equipment asset changes in the NTHSSA Health Technology Management database.
- Completes all purchases, billing, invoices as per documented processes.

## **5. Coordinates and Provides Community Service Travel.**

- Coordinate all aspects of scheduled travel for assigned trips to communities in the NWT and Nunavut to perform scheduled preventative maintenance work, incoming inspections, retirements and repairs (note: most of the communities are fly-in only while a few are accessed by driving and there are over 30 scheduled trips annually ranging from one (1) day to two (2) weeks in duration)
- Coordinate all aspects of emergency repair and off-cycle incoming inspection travel on an as and when basis as assigned by the Chief BMET.
- Documents scheduled and emergency travel and associated work in the NTHSSA Health Technology Management database.
- Completes all purchases, billing, invoices as per documented processes.

## **6. Supports Program Development and Special Projects.**

- Under the direction of the Chief BMET or other experienced BMETs educates self on all Biomedical Test equipment, tools, processes, work instructions, guidelines and recommends improvements and alternatives.
- Actively recommends and promotes the safety of the Biomedical Engineering work environment, self, colleagues, patients and NTHSSA staff.
- As directed, supports the commissioning and relocation of health technology for new healthcare facilities.
- As directed, supports Health Facility and Operational Management staff in the support of Health Facility technology or other Health and Social Services technologies not normally supported by Biomedical Engineering.
- Works collaboratively with Health Facility/Operations staff, Informatics and Health Technology staff and GNWT Technology Service Centre (TSC) staff on assigned health technology projects.

## **WORKING CONDITIONS**

### **Physical Demands**

Position frequently requires heavy lifting and incumbent will be required to lift and move a minimum of 50lbs. The Hospital's physical size requires a substantial amount of walking on a frequent basis. Equipment being serviced can require the incumbent to crawl or lie on health facility floors and occasionally enter confined spaces. The position must assemble and service items which require a high degree manual dexterity to replace broken parts successfully.

### **Environmental Conditions**

This position is exposed to substantial electrical, chemical, mechanical, thermal and biological hazards on a frequent basis. In addition, the normal safety features of technology, to prevent injury from these environmental conditions and hazards, must be overridden in order to service equipment.

## **Sensory Demands**

This position routinely works with complex biomedical equipment and systems. Operational condition checks, repairs, and maintenance services require simultaneous concentrated levels of attention, touch, hearing, smell and site in order to discern conditional discrepancies, and safely conduct corrective actions.

## **Mental Demands**

Responsibility and accountability for the technology in sometimes patient life critical situations contributes to mental demands.

This position travels on a quarterly basis for up to two weeks to remote northern communities; coordinates all aspects of scheduled travel for assigned trips to communities in the NWT and Nunavut to perform preventative maintenance work, incoming inspections, retirements and repairs (note: most of the communities are fly-in only while a few are accessed by driving and there are over 30 scheduled trips annually ranging from one (1) day to two (2) weeks in duration).

## **KNOWLEDGE, SKILLS AND ABILITIES**

- Knowledge and ability to acquire skills with a range of health technology platforms.
- Ability to acquire knowledge relating to human physiology and the interaction of technology with the delivery of care.
- Ability to acquire knowledge and skill with human physiological, clinical, nursing and general healthcare terminology.
- Information seeking and communications skills.
- Analytical and technical trouble shooting skills.
- Technical skills on the use of a wide range of computers, software, diagnostic equipment, and hand / power tools.
- Skilled in the application of maintenance processes, specialized tools, software and materials.
- Ability to self-train and develop the skills to respond to new, developing and changing technology, systems, equipment, and emergency responses.
- Organization, logistics, planning and time management skills to manage the diverse workload and travel requirements.
- Ability to record, format and compile information accurately.
- Ability to multi task and work accurately within deadlines.
- Knowledge of productivity software programs including Microsoft Office Word, Excel, Outlook, and Publisher.
- Ability to be sensitive to the geographical and cultural diversity of the Northwest Territories.
- Ability to acquire knowledge and the skills to ensure patient confidentiality requirements in healthcare environments.
- Ability to maintain a high degree of tact, discretion, and diplomacy in a fast paced, changing environment.

**Typically, the above qualifications would be attained by:**

A 2 year diploma in Biomedical Engineering Technology from a recognized technical institute, and the successful completion of a minimum one (1) month Biomedical Engineering Technology practicum in a Canadian or equivalent healthcare setting.

Other combinations of post-secondary education, healthcare technology factory training, and healthcare technology environment work experience, GNWT/Northern health technology environment work experience will be considered.

**ADDITIONAL REQUIREMENTS**

**Position Security**

- 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**

- 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

**Indigenous Language:**

- Required
- Preferred