



IDENTIFICATION

Department	Position Title	
Infrastructure	Airfield Operations Specialist	
Position Number	Community	Division/Region
33-7788	Yellowknife	North Slave

PURPOSE OF THE POSITION

The Airfield Operations Specialist is responsible for maintaining airport operational surfaces, infrastructure, and airfield systems at Yellowknife Airport to support the safe, efficient, and continuous operation of aircraft and airport activities in accordance with Transport Canada regulations, Canadian Aviation Regulations, airport operational procedures, and Government of the Northwest Territories (GNWT) standards.

SCOPE

The GNWT owns and operates airports throughout the Northwest Territories. The Yellowknife Airport – Operations & Maintenance unit is responsible for ensuring airport infrastructure and operations comply with federal and territorial regulatory requirements.

This position is located at the Yellowknife Airport, the Northwest Territories' largest and busiest airport and a critical territorial transportation hub supporting passenger travel, cargo movement, medevac operations, military operations, emergency response activities, and essential supply chains for remote northern communities. The airport operates up to 22 hours per day, requiring employees to work rotating shifts consisting of days, nights, weekends, holidays, and extended operational periods during severe weather events.

The Airfield Operations Specialist reports to the Supervisor, Surface Structures and performs operational maintenance activities within active aircraft movement areas while coordinating with NAV CANADA Flight Service Specialists, air traffic services personnel, airport operations staff, contractors, emergency responders, and other operational stakeholders.

The Airfield Operations Specialist is responsible for airfield maintenance, inspection, reporting, heavy equipment operation, and operational support activities required to maintain runways, taxiways, aprons, airside roads, drainage systems, lighting systems, and associated airport infrastructure in a safe and serviceable condition year-round. This position is also responsible



for the provision of winter maintenance operations, runway condition reporting, emergency response activities, airside operational inspections, and infrastructure maintenance activities that directly affect aircraft operational capability, airport accessibility, operational continuity, and public safety.

The incumbent is required to operate specialized heavy equipment and perform operational decision-making in dynamic and rapidly changing aviation environments where operational conditions are directly affected by weather, runway surface conditions, aircraft activity, visibility, and operational priorities. In addition, the incumbent maintains the operational readiness of critical airport infrastructure by ensuring aircraft movement areas remain safe, operational, and compliant with aviation safety standards. The role supports continuous airport operations during severe weather events, emergency situations, and periods of high operational demand.

The Airfield Operations Specialist collects, evaluates, records, and reports operational information including runway surface conditions, contaminants, friction readings, hazards, deficiencies, and operational limitations that are used by pilots, dispatchers, airport operations personnel, and air traffic services to support aircraft operational decision-making.

Independent judgment, regulatory knowledge, operational awareness, and the ability to respond effectively to rapidly changing operational conditions with limited time for consultation is required of this role. Errors in judgment, inaccurate reporting, equipment misuse, or failure to maintain operational standards may result in unsafe operating conditions, aircraft operational restrictions, flight delays or cancellations, operational disruptions, damage to equipment or infrastructure, or temporary closure of aircraft movement areas.

This position operates in a high-risk aviation environment requiring continuous coordination, situational awareness, and compliance with airside operational procedures while operating heavy equipment in close proximity to active aircraft operations.

Personal protective equipment including hearing protection, respirators, gloves, face shields, protective footwear, high-visibility clothing, and seasonal protective gear must be worn regularly to reduce exposure to workplace hazards.

The Airfield Operations Specialist is required to maintain a Restricted Area Identity Card (RAIC), Airside Vehicle Operator's Permit (AVOP), Radio Operator Certificate, and other operational certifications required to perform duties within restricted airport operational areas.



RESPONSIBILITIES

1. Airfield Operations and Surface Maintenance.

- Maintain airport operational surfaces and infrastructure including runways, taxiways, aprons, infields, service roads, drainage systems, fencing, signage, lighting systems, and associated operational areas to support safe aircraft operations and regulatory compliance.
- Conduct daily, weekly, and monthly inspections of airfield movement areas and operational infrastructure to identify hazards, deficiencies, foreign object debris (FOD), wildlife hazards, surface deterioration, drainage issues, and operational risks affecting aircraft operations.
- Perform maintenance activities on aircraft movement surfaces including snow and ice removal, sweeping, crack sealing, asphalt tarring, pavement marking, vegetation control, grading, drainage maintenance, brush cutting, chainsaw operation, erosion control, and debris removal.
- Maintain airport operational areas in a safe and serviceable condition through corrective maintenance, hazard mitigation, contamination removal, and infrastructure maintenance activities.
- Support glycol management operations including hauling glycol and maintaining glycol containment ponds and recovery systems.
- Perform maintenance and operational support activities on authorized tenant and operational surfaces including sanding, traction control, pavement maintenance, and surface treatment activities.

2. Winter Operations and Aircraft Movement Support.

- Maintain aircraft movement surfaces during winter operations through snow removal, ice control, sanding, sweeping, contamination removal, and runway surface treatment activities to support safe aircraft arrivals and departures.
- Analyze runway, taxiway and apron surface conditions and assist in determining appropriate mitigation measures including snow removal priorities, chemical application rates, equipment deployment, and operational response strategies based on changing weather conditions and operational requirements.
- Observe, measure, record, and report Airfield Movement Surface Conditions (AMSCRs), Canadian Runway Friction Index (CRFI) readings, and other operational information used by flight crews and air traffic services to assess aircraft operational safe landing and takeoff performance requirements.
- Support the initiation, modification, monitoring, and cancellation of Notices to Airmen (NOTAMs) affecting airport operations and aircraft movement areas.
- Apply ice control chemicals and traction materials in accordance with Transport Canada regulations, manufacturer specifications, airport procedures, and operational requirements.



- Provide specialized snow removal, sanding, and ice control services for operational areas and airport tenants as authorized.

3. Summer Operations and Infrastructure Maintenance.

- Perform summer maintenance activities on operational surfaces and airport infrastructure including grading, sweeping, vegetation control, line painting, drainage maintenance, pavement maintenance, and surface restoration.
- Paint runways, taxiways, aprons, airside roads, centerlines, hold-short markings, and operational markings in accordance with Transport Canada standards and airport operational requirements.
- Maintain storm drainage systems, ditches, fencing, signs, windsocks, navigational markers, and associated airport infrastructure.
- Perform wildlife and bird hazard management activities to reduce risks to aircraft operations.
- Identify and report deficiencies affecting airport operational surfaces, infrastructure, and equipment requiring repair, maintenance, or operational mitigation.
- Support military operations and Department of National Defence (DND) operational requirements conducted at the airport.

4. Heavy Equipment and Specialized Equipment Operations.

- Operate specialized heavy equipment and maintenance vehicles used in airport operations including runway sweepers, snow blowers, plows, graders, loaders, skid steers, haul trucks, sand trucks, tractors, rollers, trenchers, mowers, paint equipment, chemical application units, and associated hydraulic and non-hydraulic attachments.
- Operate equipment safely within active aircraft movement areas while coordinating with NAV CANADA Flight Service Specialists, air traffic services, airport operations personnel, contractors, emergency responders, and other operational stakeholders.
- Monitor equipment performance during operations and report mechanical deficiencies affecting operational readiness, safety, or equipment reliability.
- Perform pre-operational inspections, routine servicing, minor repairs, attachment changes, bristle replacement, greasing, fueling, and operational maintenance of airport maintenance equipment and associated assets.
- Understand equipment operating limitations including loading capacities, tipping limits, attachment limitations, traction requirements, and operational restrictions associated with airfield maintenance activities.
- Maintain operational records related to equipment operation, inspections, maintenance activities, materials usage, and operational services provided.

5. Inspection, Reporting, and Regulatory Compliance.

- Conduct operational inspections of runways, taxiways, aprons, lighting systems, safety areas, equipment, and operational infrastructure to identify conditions affecting aircraft operational safety and airport compliance requirements.



- Provide operational reporting related to runway surface conditions, contaminants, friction readings, hazards, deficiencies, equipment status, and maintenance activities in accordance with airport procedures and regulatory requirements.
- Support implementation of the Airport Airfield Site Self-Inspection Program and associated operational reporting requirements.
- Ensure airfield maintenance and operational activities comply with Canadian Aviation Regulations (CARs), Transport Canada Aerodrome Standards (TP312), airport operational procedures, and applicable safety standards.
- Maintain operational documentation, maintenance records, inspection reports, equipment records, and maintenance management system information related to airport maintenance activities.
- Receive, measure, inspect, and verify specialized airport operational materials including de-icing chemicals, jet sand, sweeper bristles, and other maintenance products to ensure compliance with operational specifications and standards.

6. Operational Guidance and Mentorship.

- Assist in the operational orientation and guidance of new employees involved in airfield maintenance and airport operations.
- Provide hands-on instruction and guidance related to the safe operation, inspection, and daily servicing of heavy equipment, maintenance vehicles, attachments, and specialized airport operational equipment.
- Demonstrate operational procedures and practical techniques related to winter and summer maintenance operations including snow removal, runway sweeping, sanding operations, chemical application, crack sealing, pavement marking, vegetation control, drainage maintenance, airfield inspections, runway condition reporting, and safe operation within aircraft movement areas.
- Mentor and support new employees in the development of operational skills, situational awareness, safe work practices, and understanding of airport operational procedures and airside safety requirements.
- Support new employees in developing effective radio communication practices and operational coordination techniques used when communicating with NAV CANADA Flight Service Specialists, airport operations personnel, and other operational stakeholders.
- Provide practical guidance and knowledge transfer related to airport maintenance procedures, equipment operation, operational inspections, hazard identification, and regulatory compliance requirements.
- Support on-the-job familiarization and operational readiness of employees while following established airport training programs, operational procedures, and supervisory direction.



7. Emergency Response and Operational Support.

- Respond to airport emergencies, aircraft incidents, crash alarms, severe weather events, and operational emergencies in accordance with the Yellowknife Airport Emergency Plan and airport operational procedures.
- Provide operational support during emergency response situations by maintaining emergency access routes, deploying equipment, clearing operational areas, assisting emergency responders, and supporting continuity of airport operations.
- Assist Aircraft Rescue and Fire Fighting (ARFF) personnel and airport emergency responders during emergency incidents and operational exercises.
- Support emergency preparedness activities, operational readiness exercises, and emergency response training conducted at the airport.

8. Communication, Coordination, and Airside Access Control.

- Coordinate operational activities with NAV CANADA Flight Service Specialists, air traffic services personnel, airport operations staff, contractors, emergency responders, and operational stakeholders when conducting work within aircraft movement areas.
- Maintain operational communications to ensure maintenance activities do not interfere with aircraft operations and are conducted in accordance with airport operational procedures and safety requirements.
- Escort contractors, visitors, personnel, and service providers within restricted and airside areas in accordance with airport security procedures and Transport Canada requirements.
- Maintain operational logs and records documenting inspections, maintenance activities, operational conditions, deficiencies, hazards, and corrective actions.

9. Community Airport and Remote Operations Support.

- Travel by aircraft or ground vehicle to multiple remote community airports to perform operational inspections, maintenance activities, repairs, and operational support services as required.
- Provide operational and maintenance assistance at remote airport facilities including airfield surface maintenance, inspections, lighting maintenance support, equipment operation, and operational repairs.
- Assist trades personnel and community airport maintenance staff with installation, repair, and maintenance of airport infrastructure and operational systems including lighting systems, markers, windsocks, and associated equipment.



WORKING CONDITIONS

Physical Demands

The incumbent experiences sustained and prolonged physical demands on a daily basis while performing airfield maintenance and airport operational duties in all weather conditions, up to 12 hours a day. Duties regularly require lifting, carrying, pushing, pulling, climbing, bending, kneeling, twisting, reaching, shoveling, and working in awkward positions. Operating heavy equipment in active aircraft movement areas requires continuous physical coordination and sustained muscle control due to constant vibration, bouncing, jarring, repetitive steering movements, pedal operation, and operation over uneven or snow-covered surfaces. The incumbent is required to perform repetitive climbing into and out of heavy equipment and maintenance vehicles throughout the shift, often while wearing heavy personal protective equipment and winter gear. The incumbent must maintain fine motor control while simultaneously operating controls, monitoring equipment systems, and maintaining awareness of surrounding aircraft, vehicles, personnel, and hazards.

Physical duties regularly include:

- Shoveling snow and clearing around airfield lighting, signs, gates, and other obstructions.
- Digging ditches and trenches.
- Lifting, carrying, and loading ice control chemicals and maintenance materials.
- Re-bristling runway sweepers, changing plow blades and changing heavy equipment attachments.
- Hooking up runway sweepers and other tow-behind equipment.
- Filling, carrying, and stacking sandbags and maintenance materials.
- Brush cutting, asphalt tarring and crack sealing, chainsaw operation, vegetation control, and rock picking.
- Handling tools, equipment, hoses, chains, and mechanical components requiring grip strength and repetitive hand movements.

The incumbent is required to perform continuous visual scanning of airfield movement areas while operating equipment, requiring repetitive neck and upper body movement, sustained concentration, and rapid physical response to changing operational conditions.

Environmental Conditions

The incumbent is required to work outdoors year-round in severe northern climatic conditions, including extreme cold temperatures, high winds, blowing snow, ice fog, freezing rain, reduced visibility conditions, and prolonged exposure to hot summer temperatures for extended periods of time.

Work is routinely performed in active aircraft movement areas and on congested airport ramps in close proximity to moving aircraft, heavy equipment, fuel vehicles, airline ground equipment, contractors, airport personnel, and the travelling public. The incumbent is regularly exposed to



hazards associated with operating and working around heavy mobile equipment and active aircraft operations in darkness, snowstorms, slippery surfaces, reduced visibility conditions, heavy rain, and rapidly changing weather conditions

The position involves frequent and prolonged exposure to aircraft noise, heavy equipment noise, vibration, airborne dust, dirt, glycol, fuels, oils, hydraulic fluids, solvents, paints, exhaust fumes, de-icing chemicals, and other hazardous substances encountered during airfield maintenance and airport operations.

Sensory Demands

The incumbent must maintain continuous situational awareness of their own location, the location and movement of aircraft, vehicles, personnel, and equipment operating within the airfield movement areas to prevent runway incursions, operational conflicts, and hazardous situations.

The incumbent is required to simultaneously use the senses of sight, hearing, touch, and smell during the operation of heavy equipment and while performing airfield maintenance activities in a dynamic aviation environment. This includes continuously monitoring aircraft movements, vehicle movements, runway and taxiway conditions, equipment performance, warning systems, radio communications, visibility conditions, and changing weather conditions.

The incumbent must accurately interpret and respond to multiple simultaneous sensory inputs while operating complex heavy equipment in close proximity to active aircraft movement areas. Continuous concentration and divided attention are required for periods of up to 12 hours while maintaining radio communications with Flight Service Specialists, Air Traffic Services, emergency responders, and airport operations personnel, while simultaneously monitoring the movement of aircraft and ground vehicles operating nearby.

Failure to accurately identify, interpret, or respond to sensory information may result in runway incursions, collisions involving aircraft or equipment, foreign object debris hazards, operational disruptions, damage to aircraft or equipment, serious injury, risk to public safety, or death.

Mental Demands

This role requires the incumbent to continuously assess and respond to changing operational factors including runway surface conditions, snow density, visibility, precipitation intensity, wind speed and direction, aircraft movements, aircraft type, equipment limitations, and operational priorities. Decisions must frequently be made immediately and with limited time for consultation.



Different aircraft types require varying operational considerations related to runway condition requirements, snow removal standards, braking action, aircraft size, turning radius, and operational timing. The incumbent must understand and adapt to these changing operational requirements while maintaining compliance with aviation safety standards and airport operational procedures. The incumbent utilizes professional judgement to make independent operational decisions under rapidly changing weather and airfield conditions that directly affect aircraft operations, airport accessibility, operational continuity, and public safety.

The incumbent must be situationally aware during extended shifts of up to 12 hours while operating heavy equipment and coordinating maintenance activities within active aircraft movement areas. The incumbent is required to rapidly adjust operational priorities and maintenance responses based on changing weather conditions, aircraft operational requirements, emergency situations, airline schedules, and air traffic activity while ensuring the safe movement of aircraft and vehicles throughout the airport.

The incumbent is frequently required to work independently and in isolation during adverse weather conditions while maintaining operational decision-making ability in high-risk environments involving aircraft operations and heavy equipment.

Errors in judgment, delayed response, inaccurate reporting, or failure to maintain operational standards may result in runway closures, operational disruptions, flight delays or cancellations, inability of aircraft to safely land or depart, damage to aircraft or equipment, increased operational costs, passenger disruption, or unsafe operating conditions.

KNOWLEDGE, SKILLS AND ABILITIES

- Knowledge of and/or the ability to acquire and apply knowledge of airfield maintenance operations, airport operational procedures, and aviation safety practices required to maintain aircraft movement areas in a safe and operational condition year-round.
- Knowledge of Canadian Aviation Regulations (CARs), Transport Canada Aerodrome Standards (TP312), airport winter maintenance plans, runway condition reporting procedures, airside operational protocols, and airport safety procedures.
- Knowledge of winter runway maintenance operations including snow and ice control, runway contamination management, friction management, sanding operations, and chemical application procedures.
- Knowledge of how runway surface conditions, friction values, contaminants, weather conditions, and operational limitations affect aircraft braking performance, aircraft operational capability, and aviation safety.
- Knowledge of airport operational reporting requirements including Airfield Movement Surface Condition Reports (AMSCRs), Canadian Runway Friction Index (CRFI) reporting procedures, NOTAM processes, and operational inspection procedures.



- Skill in the operation, monitoring, and basic servicing of specialized heavy equipment and maintenance vehicles used in airport operations including snow removal equipment, sweepers, graders, loaders, skid steers, tractors, sanding units, chemical application equipment, and associated hydraulic and non-hydraulic attachments.
- Knowledge of heavy equipment operating capabilities, equipment limitations, load capacities, traction limitations, stability requirements, attachment operation, and safe equipment operation within active aircraft movement areas.
- Skill in operating specialized runway friction testing and operational reporting equipment used to support airport operational reporting requirements.
- Knowledge of asphalt maintenance, crack sealing, hot tar application, pavement maintenance procedures, drainage maintenance, vegetation control, and general airport infrastructure maintenance practices.
- Knowledge of wildlife and bird hazard management techniques and operational procedures associated with airport safety requirements.
- Organizational, problem-solving, and time management skills.
- Ability to continuously assess changing operational conditions and make sound operational decisions under rapidly changing weather, visibility, and aircraft operating conditions.
- Ability to prioritize operational activities, adapt to changing operational demands, and respond effectively to emergency situations and operational disruptions with limited time for consultation.
- Ability to communicate effectively with NAV CANADA Flight Service Specialists, air traffic services personnel, airport operations staff, emergency responders, contractors, and operational stakeholders while performing work within aircraft movement areas.
- Ability to work independently for extended periods in high-risk operational environments while maintaining operational awareness, regulatory compliance, and safe work practices.
- Ability to maintain accurate operational records, inspection documentation, maintenance records, and operational reports using airport operational systems and maintenance management software.
- Ability to commit to actively upholding and consistently practicing personal diversity, inclusion and cultural awareness, as well as safety and sensitivity approaches in the workplace.

Typically, the above qualifications would be attained by:

Three (3) years of experience as an equipment operator (loader, grader, skid steer and plow truck).

Equivalent combinations of education and experience will be considered.

ADDITIONAL REQUIREMENTS

A Class 1 driver's license with Air Brake Endorsement.

Completion of a 2-year Airfield Operations Specialist Training Program (provided by the employer).

Transport Canada security clearance through a Criminal Records Check (RAIC) within three (3) months of hire.

Operational certifications including Airside Vehicle Operator's Permit (AVOP), Radio Operator Certificate and other operational qualifications required for airport operations within three (3) months of hire.

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 (check one if applicable)

- ☐ 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: Select language

- ☐ Required
- ☐ Preferred