



# PREPARATION GUIDE

## FOR SKILLS ASSESSMENT & TRADES ORIENTATION

**Natural Gas Maintenance Person and Natural Gas Service Person**



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## DISCLAIMER AND WAIVER OF LIABILITY

The Skills Assessment and Trades Orientation (SATO) is a hands-on skills assessment that requires candidates to perform tasks that are similar to those performed on the job, such as working with hand tools and operating equipment. The Functional Abilities Evaluation component of SATO assesses candidates' physical capabilities to ensure they possess the required physical strength, dexterity, and endurance for the job. Participation in SATO and in any program to prepare for SATO is entirely voluntary.

**Prior to embarking upon an exercise program, or any exercises, to prepare for the Functional Abilities Evaluation component of SATO, it is strongly recommended that you review the exercise program or exercises with your physician and get his/her approval to participate.**

It must also be understood that, by participating in any exercise program in preparation for the Functional Abilities Evaluation component of SATO, and by participating in SATO itself, you are accepting all risks associated with them and will not hold Manitoba Hydro responsible for any injuries or illnesses or losses that may result from your preparations for SATO or your attendance at it.

It must also be understood that completion of an exercise program does not guarantee success on the Functional Abilities Evaluation or at SATO due to individual variability in such things as your initial physical capacities and your responses to the training program.



# WHAT IS THE SKILLS ASSESSMENT AND TRADES ORIENTATION (SATO)?



**At Manitoba Hydro, we strive to hire the best and brightest** employees whose abilities match the requirements of the job. As part of our hiring process, we use selection methods that are designed to measure skills required for job and training success. One of the components of the selection process for the Natural Gas Training Programs is called the Skills Assessment and Trades Orientation (SATO).

SATO is a hands-on skills assessment that requires candidates to perform tasks that are similar to those performed on the job, such as working with hand tools and operating equipment. During SATO, candidates are rated on their ability to complete the tasks and their suitability for the job. This assessment also gives candidates a better idea of the type of work they would do on the job.

**SATO also includes a Functional Abilities Evaluation.** The Functional Abilities Evaluation assesses candidates' physical capabilities to ensure they possess the required physical strength, dexterity, and endurance for the job.

The Functional Abilities Evaluation is comprised of six tests that together evaluate muscular strength, endurance and aerobic capacity specific to Natural Gas positions. All tests are specific to task demands required on the job.



# WHAT TASKS ARE INCLUDED IN THE FUNCTIONAL ABILITIES EVALUATION?

## 1. SIMULATED GROUND ROD POUNDER

You will be required to complete 5 minutes of continuous medicine ball (16 lbs.) bounces from shoulder height to ground using both hands. A hard hat and gloves must be worn during this test. You must maintain consistent speed, force, and proper form.

## 2. 50 LB METER CARRY

You will be required to lift and then carry a 50lb meter with both hands, up and down a flight of 12 stairs. You must lower the meter to the ground at the top and the bottom of the stairs; a brief rest is permitted at this time. You must repeat this a second time (two flights of stairs, 48 stairs total). A hard hat and gloves must be worn during this test. You must maintain consistent speed, balance, safety, and proper form. Please note that most participants have difficulty with this test. Good cardiovascular endurance and a strong back, arms, legs and core are critical to perform this task safely and efficiently.

## 3. TORQUE WRENCH

You will be required to tighten 4 large bolts using a 16" Johnson bar and box wrench (to 125 ft. lbs. of torque). Two bolts must be oriented in a vertical plane and two bolts in a horizontal plane. This must be performed within a five minute period. A hard hat must be worn during this test. You must maintain consistent speed, force, and proper form. You must demonstrate safety throughout.

## 4. ASSEMBLE NUTS/BOLTS ON KNEES

You will be required to sustain a forward bend in a crouch or squat/kneel position for five minutes. You may alternate between the two positions as needed during that time frame without standing up. While in this position, you must tighten and loosen nuts and bolts attached to a board placed 18" away from your body. A hard hat must be worn during this test. You must maintain proper form.

## 5. LADDER CARRY/CLIMB

You will be required to lift a 51 lb. extension ladder down from 5 ½ foot high Manitoba Hydro truck and set it up against a vertical surface. Once safely set up the candidate will climb the ladder to the 8th rung which is below the 3m height requiring fall protection and pause for 20 seconds replicating doing some work in an elevated position. Climb down and repeat. A hard hat and gloves must be worn during this test. You must maintain consistent speed, balance, safety, and proper form.

## 6. SHOVELING

You will be required to shovel pea gravel from one pit to another for a period of 15 minutes of continuous shoveling. A hard hat and gloves must be worn during this test. You must maintain consistent speed, force, and proper form. Please note that most participants have difficulty with this test. Good cardiovascular endurance and a strong back, arms, legs and core are critical to perform this task safely and efficiently.



# WHAT CAN I DO TO PREPARE FOR THE FUNCTIONAL ABILITIES EVALUATION?

The Manitoba Hydro Functional Abilities Evaluation requires individuals to possess muscular strength, muscular endurance, cardiovascular fitness and flexibility related to the bona fide occupational requirements. It is recommended that individuals participate in a fitness training program to adequately prepare for the job demands and duties. A fitness training program should include a combination of strength training, cardiovascular training and flexibility training.

## STRENGTH TRAINING

Strength training increases muscle mass, muscle endurance, and muscle strength. In addition, it strengthens bones and helps to burn stored energy or body fat. Maintaining strong, healthy muscles will reduce the risk of musculoskeletal injury and support improved job performance. One area of particular importance includes core muscles.

Core muscles are important for all activities and exercises as they provide stability to the trunk while the limbs are active. These muscles play an important role in maintaining good posture and improving balance and are important for maintaining proper technique while lifting, carrying, pushing and pulling.

Engaging in a strength training program is important for successful completion of the Functional Abilities Evaluation as it will result in greater physical test performance and reduce the risk of injury.

## CARDIOVASCULAR TRAINING

Cardiovascular endurance is important for active everyday living. Cardiovascular exercise helps to reduce the risk of cardiovascular disease, control high blood pressure and cholesterol, control body composition, increase bone strength and density, increase energy, reduce stress, improve sleep, and improve mood and self-esteem.

Having good cardiovascular endurance is important for successful completion of the Functional Abilities Evaluation because your body will be better equipped to tolerate the continuous occupational requirements of the job demands without overexertion.

## FLEXIBILITY TRAINING

Stretching helps to reduce the risk of injury, improve posture, reduce muscle stress, maintain health of joints, increase range of motion, and reduce muscle soreness after activity. A flexibility training program is important for the Functional Abilities Evaluation as it will result in greater physical test performance and reduce the risk of injury.



# SAFETY AT SATO AND MANITOBA HYDRO

Manitoba Hydro emphasizes safety as a top priority. Below are best practices for keeping your body safe while completing the skills and physical assessment. It is recommended that candidates become familiar with the key body mechanics principles detailed in this section and adopt these methods for more successful and safe SATO task completion

## PROPER BODY MECHANICS

Body mechanics involves the coordinated effort of muscles, bones, and the nervous system to maintain balance, posture, and alignment. Working within optimal joint positions allows individuals to carry out their work activities in a way they are strongest, have best leverage, are most efficient and safest.

Understanding key body mechanics principles can keep you safe by placing your body in the best position possible. Neutral postures contribute to improved blood flow and nerve conduction, protection of soft tissues, they improve movement patterns, and lead to better muscle performance.

The **Power Stance** is the foundation of your body mechanics:

- Feet staggered, shoulder width apart
- Toes pointed towards the task
- Core is engaged
- Elbows near both sides, close to the body
- Spine is in neutral

Working within proper **Work Zones** reduces your risk for injury as you are maintaining neutral alignment, using your strongest muscles groups, which reduces strain, fatigue, and increases efficiency

**Power Zone 1:** Keep work between knees and shoulder height.

Why? This position maximizes core stability, maintains load stability, supports optimal postures.

**Power Zone 2:** Reach no greater than a forearm's distance away from the body, keep elbows at the side.

Why? This position protects the shoulders, maintains load stability, supports optimal postures.

**Power Zone 3:** Avoid reaching more than 45 degrees to the side, pivot feet towards the work or movement.

Why? This position reduces twisting at the spine, hip and knees, protects the shoulder, improves efficiency.



# SAFETY AT SATO AND MANITOBA HYDRO

## SAFE LIFTING TECHNIQUES

- **Stand Close:** Position yourself close to the object with your feet shoulder-width apart.
- **Bend Your Knees:** Squat down by bending at the knees, not the waist, keeping your back straight.
- **Firm Grip:** Use both hands to grasp the object securely.
- **Lift With Legs:** Tighten core muscles and engage your leg muscles to lift smoothly, keeping the object close to your body.
- **Avoid Twisting:** Turn by moving your feet, not your torso.
- **Lift and Lower Carefully:** Engage in smooth, slow movements; bend your knees to set the object down, maintaining a straight back.



# DEMANDS OF THE NATURAL GAS ROLE

Understanding the demands of the Natural Gas role can help you prepare for SATO, and for the job itself.

It is important to note this is a safety sensitive position. Natural gas employees must abide by all safety protocols put in place by Manitoba Hydro.

## PHYSICAL DEMANDS

Natural gas employees are expected to demonstrate physical fitness required for walking, standing, crawling, crouching, kneeling, climbing, driving. There are frequent sustained awkward postures, repetitive movements, gripping/grasping, and hand-eye-foot coordination. Strength requirements include lifting and carrying 50lbs and pushing/pulling force upwards of 150lbs.

## COGNITIVE DEMANDS

Natural gas employees are expected to demonstrate memory, attention to detail, problem solving/decision making, and multi-tasking. Employees are frequently exposed to distracting stimuli and must be able to maintain focus and concentration. There is requirement for reading and written literacy, numerical skill, and some requirement for computer literacy.

## PSYCHOLOGICAL FACTORS

Natural gas employees are expected to demonstrate adequate communication and customer service skills, responsibility and accountability. Employees may be exposed to emotional and potentially confrontational situations. Employees must be able to work well with others. This work is safety sensitive work with potential for involvement in high-risk situations

## SENSORY AND ENVIRONMENTAL FACTORS

Natural gas employees are expected to meet sensory requirements including vision, hearing/speech, smell, tactile/ touch.

There are a variety of environmental conditions that employees are expected to work within. This includes extreme weather, noise, vibration, working at heights, slippery surfaces, exposure to fumes/vapors/gases.