



PHYSICAL TRAINING GUIDE

FOR SKILLS ASSESSMENT & TRADES ORIENTATION

Power Line Technician

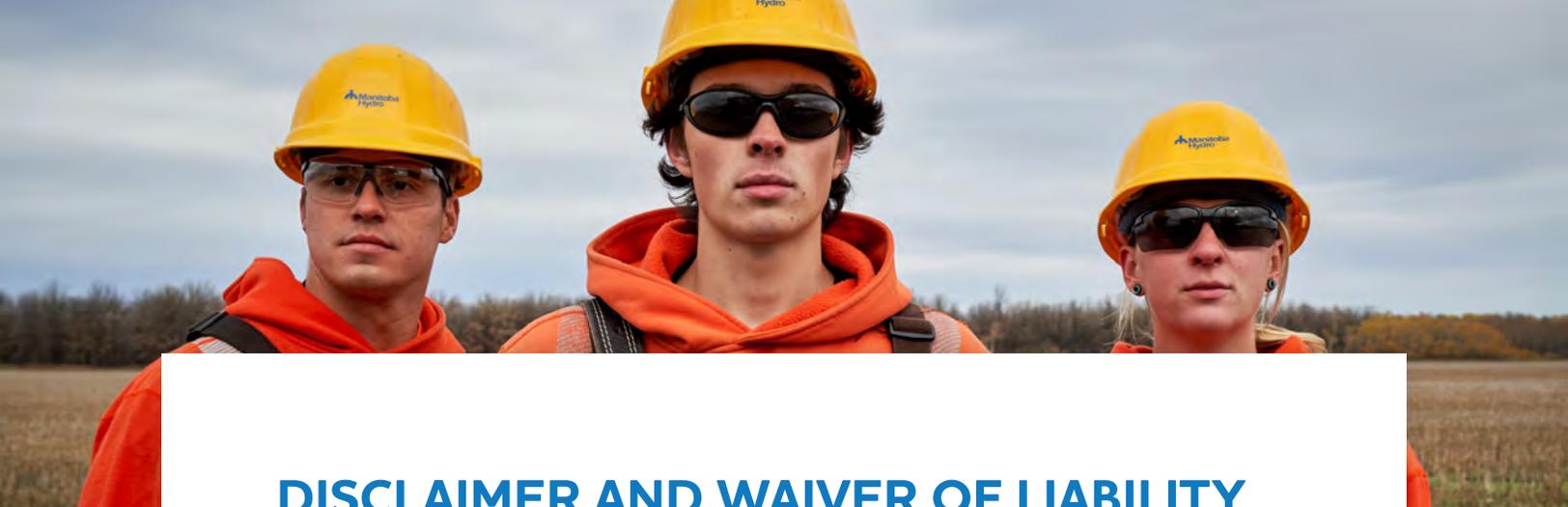


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DISCLAIMER AND WAIVER OF LIABILITY

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 as a power line technician (PLT). The specific work-simulated skills will assess the employment candidates' functional abilities to ensure they possess the required physical strength, muscular endurance, cardio-vascular endurance, and flexibility for the job.

Prior to embarking upon the exercise program provided to prepare the candidate for the functional work-simulated skills as a PLT it's strongly recommended that the candidate completes a Physical Activities Participation Questionnaire as attached as Appendix A.

For most people, physical activity should not pose any problem or hazard. The questionnaire has been designed to identify the small number of adults for whom physical activity might be inappropriate or those who should have medical advice concerning the type of activity most suitable.

It must also be understood that, by participating in such an exercise program, or any exercises in preparation for the physical abilities skills assessment of SATO, and by participating in SATO itself, **you are accepting all risks associated with them and will not holding Manitoba Hydro responsible for any injuries or illnesses or losses that may result from your preparations for SATO or your attendance in it.**

It must also be understood that completion of this exercise program does not guarantee the candidates' success 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 power line technician training program is called the Skills Assessment and Trades Orientation (SATO).

SATO is a hands-on skills assessment that requires candidates to perform work-simulated tasks. 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 work-simulation evaluation which assesses work-specific simulated functional skills. The evaluation assesses the candidates' physical capabilities to ensure they possess the required physical attributes to perform the job efficiently and safely.

The evaluation will include upper and lower extremity strength, muscular endurance, coordination, flexibility, core strength, and cardio-vascular endurance required for the PLT job. The functional abilities evaluation is comprised of **seven** individual tests that collectively evaluate the physical and aerobic capabilities specific to the PLT position. All tests are work-simulated and specific to task demands required on the job.



WHAT SKILLS ARE INCLUDED IN THE FUNCTIONAL WORK-SIMULATION EVALUATION?

1. HOT STICK LIFT

You will be required to lift a ground chain from the floor to overhead with a hot stick, which is an insulated pole used by electric utility workers when working on energized high-voltage electric power lines. You will then attach the ground chain to a rail 10 feet above ground, 6 times in a row. The tip of the ground chain must be touched to the floor between lifts. It may not be rested against the wall or railing at any time during the lift. You may rest for up to a minute between lifts. A clockwise motion tightens the ground chain clamp. A hard hat and insulated rubber gloves (provided) must be worn. Please note that most participants have difficulty with this test. A strong back, legs, arms, and core are critical to perform this task safely and efficiently.

2. PULLEY LIFT

You will be required to stand on the ground and raise a 30 lb. tool pouch up to the 10–15 ft. height by pulling up on the rope in a hand over hand motion and then lowering it. This is repeated 5 times, gloves (provided) must be worn.

3. CLIMBING A WOOD POLE

You will be required to climb a 40' pole 4 times during the skills assessment. You will be attached to a fall arrest system the entire time. This task requires good core strength, coordination, upper body strength and endurance.

4. HANGING A CROSSARM

This task requires you to hang an 8' long crossarm weighing approximately 30 lbs. while working on a wood pole. You will be working from your climbing gear for this task. This task requires good upper body strength, core strength, balance, and endurance. This task will require you to be working aloft for an extended period of time, possibly 15-30 minutes.

5. DRILLING A HOLE IN A WOOD POLE

You will be required to drill a hole in a wood pole using a brace and bit while working aloft. This task requires good upper body strength, core strength, balance, body positioning, and endurance. This task can take between 5-20 minutes to complete.

6. SHOVELING GRAVEL

You will be required to shovel approximately 1 cubic yard of gravel from 1 container to another. This task requires good upper body strength, core strength, and endurance. Proper lifting techniques will be essential to avoid any injuries to your back. This task could take 20-40 minutes.

7. LADDER LIFT

You will be required to lift a 50 lb. extension ladder down from 5.5' high wall hooks or off of a Hydro truck, and set it up against a vertical surface. You will then be required to replace the ladder onto the 5.5' high hooks. You can take down/put up one side of the ladder at a time or lift it in one smooth motion placing it onto both hooks at the same time.



WHAT CAN I DO TO PREPARE FOR THE SKILLS EVALUATION?



THE MANITOBA HYDRO WORK-SIMULATED SKILLS ASSESSMENT REQUIRES CANDIDATES TO BE PHYSICALLY FIT.

Cardio-vascular endurance, upper and lower extremity strength, and endurance, balance, coordination, upper and lower extremity flexibility, and core strength are essential to perform the skills proficiently, safely, and repeatedly.

The following 12-week training program has been designed by the inMotion Network of Physiotherapy and More to assist applicants in meeting the physical demands of the PLT skills assessment. **It is also strongly recommended that the program continue in a scaled down version for the career of a PLT to mitigate the chances of injury and to provide you with the physical framework to efficiently perform your job.**



PHYSICAL TRAINING PROGRAM



THERE ARE FOUR COMPONENTS TO FITNESS:

- 1 Strength
- 2 Muscular endurance
- 3 Cardio-vascular aerobic endurance
- 4 Flexibility

Each fitness component will be addressed in the training/exercise program provided.

The table at the end of the training program section will relate the work-simulated skill to a series of exercises designed to target the skill and identify the muscle group(s) involved. A variety of exercises related to each skill will be provided.

A candidate can choose the number of exercises recommended from the pool of exercises provided to address each specific skill needed. The exercise selection may be based on access to a gym, type of cardio equipment accessible, type of resistance available to the candidate (resistance band or weight), and individual preference.

STRENGTH TRAINING



To strengthen a muscle, resistance training must be incorporated into an exercise program. Resistance training increases muscle mass, endurance, and strength. Resistance training also strengthens bones and assists in burning body fat.

It is recommended that you start your program with a lighter weight and progress to heavier weights over time. If you prefer to use a resistance band, you can increase the “tension” of the band or by moving up the colour coding of the resistance bands. Each colour of resistance bands identifies a level of difficulty. Yellow/red is easiest and green, blue, and black are progressively more challenging.

STRENGTH TRAINING TERMS:

The following strength training terms will be used in training exercise program:

- **Weight/resistance:** Amount of weight lifted or the colour/tension of resistance band

- **Repetitions (reps):** Number of times the weight is lifted (8-12 reps)
- **Sets:** Number of times a given number of reps are performed followed by a rest period (2-3 sets of 8-12 reps)
- **Rest:** Break between sets (30-60 second rest between sets)
- **Frequency:** Number of times per week that the sets are performed.

The recommended number of sets and repetitions with good form/technique to strengthen a muscle is **3 sets of 8-12 repetitions**. Start with the lower number of reps and work towards the higher number over time. You should “feel the burn” or experience more difficulty to complete the last few reps in each set. You should feel like you are not able to perform one more repetition with good technique once you have reached 8-12 reps to establish the correct weight or level of band resistance. Increase the amount of weight or band tension/colour once consistently able to perform the maximum number of reps.

STRENGTH TRAINING

It is important to rest the worked muscle groups for 48-72 hours (2-3 days) after a resistance workout. This allows for the body to repair the muscle tissue that is “stressed” during the training. Resistance training physiologically encourages micro-tears to the muscle fibres which explains muscle soreness one to two days post workout. This is referred to as delayed onset muscle soreness, which is completely normal and should last no more than a week when starting an exercise program or when there is a moderate change in the resistance or exercises chosen. This soreness will reduce over time and with repetition. Given the rest required between muscle group workouts you may incorporate one of two methods to provide adequate rest while achieving a goal of 2-3 workouts per muscle group per week.

You may choose to do a full-body resistance workout 2-3 times per week or split the exercise muscle groups into two exercise sessions 2-3 times per week for a total of 4-6 muscle workouts per week. Your choice may be based on time constraints, exercise experience or personal preference.

Examples:

1. **Full-body muscle workout:**
 - a. Monday and Thursdays (2x/week) for inexperienced
 - b. Monday–Wednesday–Friday (3x/week) for experienced

2. **Split/alternating muscle workout:**

- a. Upper body 2-3 times per week depending upon experience
- b. Lower body 2-3 times per week depending upon experience

Core muscle strength: The core is a group of muscles incorporating abdominal, back, and hip musculature. A strong core is essential for all activities requiring trunk stability while the limbs are active especially against resistance. These muscles play an important

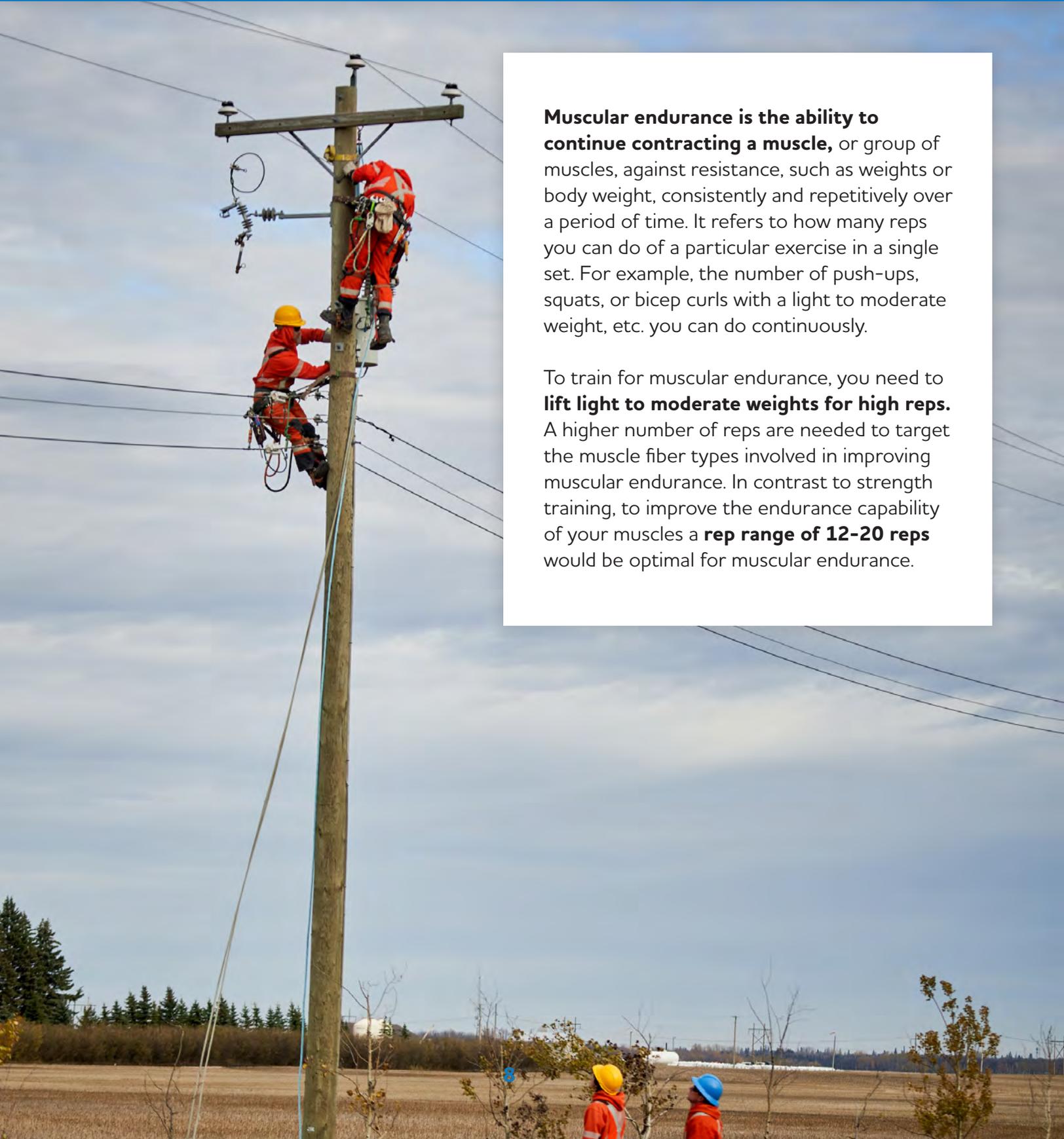
role in maintaining good posture and improving balance. Strengthening core muscles will result in efficiently performing the skills assessed and reduce the risk of injury. Strong core muscles are important for maintaining proper technique while lifting, carrying, reaching, pushing, pulling, or sustaining postures when your center of gravity is outside your base of support.

It is recommended to engage core muscles with all exercises by incorporating good posture and efficiently sustaining core contraction. When engaging the core, tighten the deep abdominals by pulling your navel inwards towards your spine. It is essential not to hold your breath while performing this maneuver. A good way to practice engagement of the deep abdominal muscles (*transversus abdominis*) is laying on your back with your knees bent. Engage the core by drawing the belly button in towards the spine as it flattens against the ground. You should be able to perform this in any posture as you become more efficient in core activation.

MUSCLE ENDURANCE

Muscular endurance is the ability to continue contracting a muscle, or group of muscles, against resistance, such as weights or body weight, consistently and repetitively over a period of time. It refers to how many reps you can do of a particular exercise in a single set. For example, the number of push-ups, squats, or bicep curls with a light to moderate weight, etc. you can do continuously.

To train for muscular endurance, you need to **lift light to moderate weights for high reps.** A higher number of reps are needed to target the muscle fiber types involved in improving muscular endurance. In contrast to strength training, to improve the endurance capability of your muscles a **rep range of 12-20 reps** would be optimal for muscular endurance.



CARDIOVASCULAR ENDURANCE

Having good cardiovascular endurance is an important component of the PLT job requirements and to succeed in the skills assessment. Cardiovascular exercise (cardio) has many benefits including reducing the risk of cardiovascular disease, controlling high blood pressure and maintaining appropriate cholesterol levels, improve body composition, increase bone strength and density, increase energy, reduce stress, improve sleep, and improve mood and self esteem. A warm-up to prepare you for cardio and a cool-down after cardio to safely end the cardio session is important.

WARM-UP:

It is important to prepare the body for exercise. Warming up involves 5-10 minutes of moderate cardiovascular or dynamic exercise; this should be enough to start perspiring. This raises the body's temperature making the muscles more pliable.

COOL DOWN:

Cooling down helps the heart rate and blood pressure to come down gradually, reducing blood pooling, and helps to reduce lactic acid in the working muscles. To get the benefits from cardio it must be performed 3 or more days a week for a minimum of 30-60+ cumulative minutes per day. The total amount of time can be broken up into shorter segments throughout the day (e.g., 10 minutes in the morning, 10 minutes in the afternoon, and 10 minutes in the evening)

however sustaining the activity over 30 minutes is preferred. The cardio can also be split between a few activities (treadmill, stair climber, elliptical). As endurance improves, you should extend segment times until you are able to complete a minimum of 30 minutes at one time per day. To prepare for the functional work-simulated evaluation, it is also recommended that you do cardio exercises that are comparable to the demands of the job (e.g., running and stair climbing).

Exercise Intensity: Two methods of determining the level of exercise intensity can be used depending on personal preference and access to heart rate monitors:

A. Rating of perceived exertion

B. Heart rate



CARDIOVASCULAR ENDURANCE

A. RATING OF PERCEIVED EXERTION

Perceived exertion is how hard you feel like your body is working. It is based on the physical sensations a person experiences during physical activity, including increased heart rate, increased respiration or breathing rate, increased sweating, and muscle fatigue.

A commonly used rating scale is the **Borg Rating of Perceived Exertion (RPE)** which measures the level of physical activity intensity. Although this is a subjective measure, your exertion rating based on a 6 to 20 rating scale, may provide a fairly good estimate of your actual heart rate during physical activity* (Borg, 1998).

As you exercise you can rate your perceived exertion using several anchors. **These include a rating of 6 perceiving “no exertion at all” to 20 perceiving a “maximal exertion” of effort.** Practitioners generally agree that perceived exertion ratings between 12–14 on the Borg Scale suggests that physical activity is being performed at a moderate level of intensity. During activity, use the Borg Scale to assign numbers to how you feel. Self-monitoring how hard your body is working can help you adjust the intensity of the activity by speeding up or slowing down.

Through the experience of monitoring how your body feels, it will become easier to know when to adjust your intensity. For example, a walker who wants to engage in moderate-intensity activity would aim for a Borg Scale level of “somewhat hard” (12-14). If he describes his muscle fatigue and breathing as “very light” (9 on the Borg Scale), he would want to increase his intensity. On the other hand, if he felt his exertion was “extremely hard” (19 on the Borg Scale), he would need to slow down his movements to achieve the moderate-intensity range.

When training for the PLT position, one should aim for a rating between 12 and 16 which refers to the “moderate activity” level. If an individual is rating at 19 or higher, they need to reduce the intensity of their workout to avoid potential injury or overexertion.

** A high correlation exists between a person’s perceived exertion rating times 10 and the actual heart rate during physical activity; so a person’s exertion rating may provide a fairly good estimate of the actual heart rate during activity (Borg, 1998). For example, if a person’s rating of perceived exertion (RPE) is 12, then $12 \times 10 = 120$; so the heart rate should be approximately 120 beats per minute. Note that this calculation is only an approximation of heart rate, and the actual heart rate can vary quite a bit depending on age and physical condition.*

CARDIOVASCULAR ENDURANCE

A. RATING OF PERCEIVED EXERTION



Content source: *National Center for Chronic Disease Prevention and Health Promotion*

RATING	HOW THE EXERTION FEELS
6	No exertion at all: doing nothing or resting
7.5	Extremely light exertion: slightly increased heart rate
9	Very light exertion: a gentle walk
11	Light exertion: a person has more than enough energy to continue exercising
13	Slightly hard exertion: exercising is getting more difficult but is still manageable
15	Hard exertion: continuing the activity is noticeably more difficult
17	Very hard exertion: a person can maintain this level of physical activity if they push themselves—they are very tired.
20:	Maximal exertion: complete exhaustion

CARDIOVASCULAR ENDURANCE

B. HEART RATE

To calculate how hard you should be working, use the formula below:

Heart rate maximum (HR max): $220 - \text{Your age} = \text{beats per minute (bpm)}$

YOU SHOULD TRAIN BETWEEN 70-85% OF YOUR HR MAX

Example: If you are 20 years old

HR max: $220 - 20 = 200$ bpm

Training range: 70% of 200 = 140 bpm, 85% of 200 = 170 bpm

Maintain the lower end of your training range throughout the duration of the cardiovascular exercise; gradually add short bursts of increased intensity to bring your heart rate up to 80-85% heart rate level.

It is important to use your heart rate as a guide to how hard you are working. Less physically active people should start off with 50-60% of their HR max. If you are already physically active 65-80% of your HR max is an acceptable place to start. All should be able to maintain the 85% HR max by the end of the 12-week program. You should progress a maximum 10% per week until you reach 85% HR max.

To take your heart rate, stop exercising and immediately place your index and forefinger over your wrist on the thumb side (radial pulse) for 15 seconds and multiply by four. For a more accurate reading, it is recommended that you use a **heart rate monitor**.



FLEXIBILITY AND FOAM ROLLING



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. The best time to stretch is when the muscles are warm and pliable. This helps to reduce the chance of injury. All stretches should be performed slowly and held for 15-30 seconds. You should feel a gentle stretch only, not pain.

Foam rolling is often added and recommended as a component of any exercise program and is not to be excluded in training to become a PLT. It is a self-myofascial release (SMR) technique. It can help relieve muscle tightness and tension, soreness, and inflammation, and increase muscle length and joint range of motion. Foam rolling can be an effective tool to add to your warm-up or cool down for post-exercise active recovery.



STARTING YOUR TRAINING PROGRAM

Strength training and muscular endurance (S/E training)

After the first week or once your body is ready, the resistance training workouts can be done every day by alternating muscle groups as previously discussed (i.e. upper body one day, lower body the next day). This also allows time for more exercises per muscle group.



WEEKS 1-2

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Cardio 30 mins		Cardio 30 mins		Cardio 30 mins		Rest day
	S/E training		S/E training		S/E training	
Core strengthening				Core strengthening		
	Stretching/ foam rolling		Stretching/ foam rolling		Stretching/ foam rolling	



STARTING YOUR TRAINING PROGRAM

WEEKS 3–6						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Cardio 30 - 60 mins		Cardio 30 - 60 mins		Cardio 30 - 60 mins		Rest day
Lower body S/E training	Upper body S/E training		Lower body S/E training	Upper body S/E training		
		Core strengthening			Core strengthening	
Lower body stretching/ foam rolling	Upper body stretching/ foam rolling		Lower body stretching/ foam rolling	Upper body stretching/ foam rolling		

WEEKS 7–12						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Cardio 30 - 60 mins	Cardio 30 - 60 mins		Cardio 30 - 60 mins		Cardio 30 - 60 mins	Rest day
Lower body S/E training	Upper body S/E training	Lower body S/E training	Upper body S/E training	Lower body S/E training	Upper body S/E training	
Core strengthening		Core strengthening		Core strengthening		
Lower body stretching/ foam rolling	Upper body stretching/ foam rolling	Lower body stretching/ foam rolling	Upper body stretching/ foam rolling	Lower body stretching/ foam rolling	Upper body stretching/ foam rolling	



EXERCISE TABLES



TABLE 1:

(See next 2 pages) **The first table lists several exercises that will best target a specific muscle group.** The recommended exercises will achieve the strength, muscular endurance, and flexibility that is needed to perform the tasks included in the functional work-simulated evaluation.

There will be a group of exercises that you can pick from to train for each functional task/skill. Each group will have a recommended number of exercises to perform. A list of key or mandatory exercises for each muscle group is provided along with a selection of elective exercises. As the candidate progresses through the training program it is recommended to add elective exercises to the key exercises. It is also recommended to mix up or vary the elective exercises within each group a few times over the 12-week training regime for optimal outcomes.

TABLE 2:

The second table identifies each functional task and the targeted muscle groups associated with the functional task.

Having good cardiovascular endurance and core strength is an essential component of the PLT job and is not attached to a specific functional task. To effectively perform each functional task a candidate must have good cardiovascular endurance and a strong core.

Exercises will be available online as well as in paper form with diagrams and descriptions of each exercise.

TABLE 1 - TARGETED EXERCISES FOR EACH MUSCLE GROUP

Muscle groups	Strengthening exercises	Flexibility/Foam rolling	Mandatory key exercises	Elective exercises	# of Exercises
Core	Trunk Rotation Oblique crunch Plank to elbow Stabilization Plank Side Plank Side Plank with Trunk Rotation Med Ball Twist Abdominals Heel Touch Quadratus lumborum Burpees Sprinters		Trunk Rotation Med ball twist Stabilization Plank Sprinters	Oblique Crunch Plank to Elbows Side Plank Side Plank with Trunk Rotation Abdominals Heel Touch Quadratus Lumborum Burpees	5-6
Shoulders	Scapular 5 x 5 Band Alphabet Lateral raises to 180 L Raise	Rhomboid Horizontal adduction	Lateral Raises to 180 Scapular 5 x 5 Band Alphabet	L Raises	3-4
Arms/ forearms	EZ Bar Curl Alt Supinating Bicep Curl Standing Zottman Curl Rope Press Down Dumbbell Overhead Extension Cable Overhead Extension Lever pronation/supination Pulley wrist flexion Hand gripper	Tricep Wrist extensor Wrist flexor	Alt Supinating Bicep Curl Rope Press Down Lever pronation Lever supination	EZ Bar Curl Standing Zottman Curl DB Overhead Ext Cable Overhead Ext Pulley Wrist Flexion Hand Gripper	4-6
Back	Superman Pull-up 1 arm DB row Lats Pull Down	Windmill Mid back rotation Lumbar flexion Lumbar extension QL/Erector	Pull-up Superman	1 arm DB Row Lats Pull Down	2-4
Chest	Push Up DB press Flat DB Fly	3d Chest	Push ups DB Press	Flat DB Fly	2-3
Legs	Squat with Rotation Press Parallel Back Squat DB Goblet Squat Bulgarian DB Split Squat Step Up Knee Drive DB Romanian Deadlift (RDL) DB Walking Lunge Hip adduction/ abduction band 4 Way Ankle Patterns Leg lock glute bridge	Hip flexor Quadricep Adductor (groin) (2) Hamstring (2 options) Calf/Soleus Piriformis Glut maximus	Parallel Back Squat DB Walking Lunge Squat with Rotation Press 4 Way Ankle Pattern	DB Goblet Squat Step Up Knee Drive Bulgarian Split Squat DB Romanian Deadlift Hip Abd/Add Band Leg Lock Glute Bridge	4-6

TABLE 2 - EACH MUSCLE ASSOCIATED WITH FUNCTIONAL TASK

Functional Task/ Muscle Group	Core	Back	Chest	Shoulders	Arms/ Forearms	Legs
Hot stick lift	✓	✓	✓	✓	✓	
Pulley lift	✓	✓		✓	✓	
Climbing a wood pole	✓		✓	✓	✓	✓
Wool pole hole drilling	✓			✓	✓	
Hanging a cross arm	✓	✓	✓	✓	✓	
Ladder lift	✓	✓	✓	✓	✓	
Shoveling gravel	✓	✓		✓	✓	✓

STRENGTH & MUSCULAR ENDURANCE KEY EXERCISES

ONLINE ACCESS
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To best prepare for the Power Line Technician SATO the following **KEY EXERCISES** are recommended. Several optional exercises can be added as the candidate progresses through the 12 week program

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1 Parallel back squat



Adjust the height of the rack to a level that the bar can be removed and replaced without going up on your tiptoes.
Place the bar on the upper portion of your back (Upper trapezius muscle).
Hold the bar comfortably slightly wider than shoulder-width.
Place your feet shoulder-width apart.
Lower to the point where your thighs are parallel to the ground by pushing your hips backward and flexing your knees.
Keep your chest up and back neutral for the duration of the movement.
Keep your heels planted on the ground and knees aligned with your ankles.
In the upward phase, do not allow your hips to rise faster than the bar.

Sets: 3-5 Reps: 8-12 Rest: 30-45 secs between sets

2 Squat with rotational press



Hold the dumbbells in your hands with your arms alongside.
Perform a squat with your back straight, knees above your feet and heels on the ground.
Come back up and press the dumbbells overhead while rotating your body to one side.
Switch sides on every reps.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

3 Step up to knee drive



Stand in front of a step.
Place one foot on top of the step.
Step onto that leg and bring the opposite foot up to high knee (without touching the step). Hold the position steady and then place the foot back on the floor.
Repeat for the prescribed repetitions.
Switch the feet and repeat.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

4 DB walking lunge



Hold a pair of dumbbells in your hands on your sides.
Take a big step forward then flex the knees to have roughly a 90° angle at the front knee and hip.
Keep the front heel on the ground during the step.
Continue the step forward to stand up again and repeat with the other leg.
Alternate this way as you were walking.

Sets: 3-5 Reps: 8-12 Rest: 30-45 secs between sets

5 4 way ankle patterns



With a band around the ankles, keep one foot fixed in place and execute these steps with the other leg:
Step forward.
Step laterally. Turn toes slightly inward
Step 45 degree angle back
Step backward.
Come back to the center and repeat.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

STRENGTH & MUSCULAR ENDURANCE KEY EXERCISES

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6 Trunk rotation



Stand with a staggered stance and the elastic coming from the opposite side of the front leg. Keep the abdominals engaged and the bottom of the body still. Rotate the body to the opposite side of where the elastic is coming from. Keep your head centered with your trunk. Return and repeat.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

7 Stabilization Plank



Lie on stomach propped up on your forearms with your chin tucked-in and feet together. Lift up your pelvis creating a straight line with your body without arching the back. Lift one leg straight up keeping the back straight and then lower the leg to touch the toes slightly. Repeat with the same leg. hold for 30 second/ side, repeat Perform every day

Sets: 3-5 Duration: 20-60 secs

8 Med Ball Twist



Sit down in sit-up position with feet on the ground. Twist the med ball from left to right. Do not flex or rotate the trunk. Lift your feet off the ground for increased difficulty. 2 sets, 12-15 reps

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

9 Sprinters (fast)



Start in a push-up position with your feet on sliding disks. Bring one knee toward your chest, keeping the trunk stable and abdominals engaged. Return the foot to the starting position as you pull the other knee toward your chest. Alternate legs this way.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

10 Burpees



Jump and reach up with your hands. Upon landing, drop down on your hands a high plank position and perform a push-up. Get back up again and repeat continuously.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

11 Superman strengthening



Lie on your stomach with the arms and legs stretched out, making your body as long as possible. Lift your arms and legs off the floor and reach forward with your arms and backward with your legs. Hold the position for a few moments, relax and repeat.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

STRENGTH & MUSCULAR ENDURANCE KEY EXERCISES

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12 Pull-up



Hang on a fixed bar with hands in pronation. Retract and lower your shoulder blades and pull with the arms to raise your chin above the bar. Lower under control and repeat. Make sure to pull first with your shoulder blades.

Sets: 3-5 Reps: 8-12 Rest: 30-45 secs between sets

13 Push-ups



Put your feet together and place your hands slightly outside of your shoulders. Lower yourself all the way down so your chest almost makes contact with the ground and push back up. Make sure to brace your abdominals and move yourself in one block so your pelvis is in line with the rest of your body at all times. Do not let your chin move forward. Keep your head in line with your spine.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

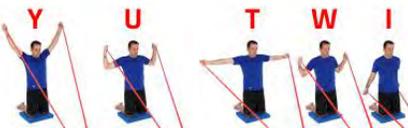
14 DB press



Bring the dumbbells over your chest with your arms in extension, hands in pronation, then lower the dumbbells in line with your chest. Go as low as your flexibility allow and keep your buttocks on the bench. perform 2-3x/week
2sets, 12-15reps

Sets: 3-5 Reps: 8-12 Rest: 30-45 secs between sets

15 Scapular 5 x 5 (Y-U-T-W-I)



Start on your knees with a band attached to the bottom of a door or other low anchor point. Keeping your shoulder blades down and back, raise both arms up in a Y, first. Second, move the arms directly into a U. Third, into a T. Fourth, into a W. And finally, into an I. Hold each position for 5 seconds.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

16 Band alphabet



Stand up with feet shoulder-width, knees slightly bent and chest tall. Hold one end of a band in front of you, with the other end attached on the side. Extend your arms without letting your torso rotate toward the band, and write the alphabet with your hands against the resistance of the band. This exercise will work mainly your abdominals when you keep your torso facing forward.

Sets: 3-5 Reps: 12-20 Rest: 45-60 secs between sets

17 Lateral raise to 180°



Lift your arms sideways in a controlled movement until overhead. Keep your head aligned with your spine at all times and do not elevate your shoulders. Do not swing to lift your arms. Keep your elbows slightly flexed.

Sets: 3-5 Reps: 8-12 Rest: 30-45 secs between sets

STRENGTH & MUSCULAR ENDURANCE KEY EXERCISES

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18 Alt. supinating biceps curl



Start with neutral grip (palms facing each other) and curl the dumbbells up one at the time while you supinate (palms facing up). Do not swing the arms and keep the shoulders/shoulder blades in the neutral position. Extend the elbows completely in the bottom position.

Sets: 3-5 Reps: 8-12 Rest: 30-45 secs between sets

19 Rope pressdown



Stand in front of a high pulley with a rope attached. With an overhand grip, press down the rope, keeping your elbows next to you. Only your forearms should move.

Sets: 3-5 Reps: 8-12 Rest: 30-45 secs between sets

20 Lever pronation



Wrap a band around a small stick and hold it in front of you with palm up and elbow flexed 90°. Rotate only the forearm to turn the palm and pull the band and the stick.

Sets: 3-5 Reps: 8-12 Rest: 30-45 secs between sets

21 Lever supination



Wrap a band around a small stick and hold it in front of you with palm down and elbow flexed 90°. Rotate only the forearm to turn the palm and pull the band and the stick.

Sets: 3-5 Reps: 8-12 Rest: 30-45 secs between sets

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inMotion
NETWORK
Manitoba Physiotherapy Clinics and More

Manitoba
Hydro



ACCESS TO THE ELECTRONIC VERSION OF MANITOBA HYDRO EXERCISES

Steps to access the PLT exercise programs prepared by the inMotion Physiotherapy Clinics for Manitoba Hydro employment candidates.

Anyone with internet access and search engines will be able to access the 4 exercise programs virtually. This will provide the candidates with a video platform, exercise prescriptions, and descriptions. Providing the content of each program is not altered, there will be no difficulties accessing the programs indefinitely. In the event a program is edited there will be a “new” access link generated which will be provided.

STEPS FOR INMOTION:

1. Go onto Physio Tec program.
2. Exit Patient Profile by clicking on Exercises, then Program exit by hitting the button on the far right.
3. Go to Templates under PhysioWorks there are 4 Manitoba Hydro Exercise Templates.
4. Click on the program and then print.
5. Access to the program on-line is then visible on the top right information of the print page.
 - A. **On-line access: login.wibbi.com**
 - B. **Client ID is different for each exercise program**

STEPS FOR ONLINE ACCESS FOR MANITOBA HYDRO CANDIDATES:

1. Go to a Search Engine.
2. Enter **login.wibbi.com**.
3. Enter the Customer ID:
 - A. For the elective exercises:
[83439908](#)
 - B. For the key exercises:
[86406465](#)
 - C. For the myofascial release:
[20360850](#)
 - D. For the stretches:
[41786681](#)