

<b>1 Purpose</b>	To outline the requirements for safely working on communications towers.
<b>2 Application</b>	Applies to all NTPC employees and contractors required to work on communications towers.
<b>3 Definitions</b>	<b>Communications Tower</b> A vertical metal structure used to support telecommunications equipment above the ground. Some NTPC communications towers exceed 200 feet in height.
<b>4 References</b>	<ul style="list-style-type: none"> <li>• NWT Occupational Health &amp; Safety Regulations 2015</li> <li>• Health &amp; Safety Management System Element 14.08: Fall Protection</li> <li>• SWP 5.01: Working at Heights</li> </ul>
<b>5 Equipment</b>	<ul style="list-style-type: none"> <li>• Break away belt hook</li> <li>• Flagging</li> <li>• Pylons</li> <li>• Gin pole</li> <li>• Hand lines</li> <li>• Hand tools</li> <li>• Life lines</li> <li>• Pulleys</li> <li>• Rope</li> <li>• Tool belt</li> <li>• Tool bucket</li> <li>• Two-way radio</li> </ul>
<b>6 PPE</b>	<ul style="list-style-type: none"> <li>• CSA-approved tower climbing harness</li> <li>• CSA-approved foot protection</li> <li>• CSA-approved safety glasses</li> <li>• CSA-approved lanyard</li> <li>• CSA-approved Class E hard hat, Type 2, with chin strap</li> <li>• Weather-appropriate clothing</li> <li>• Work gloves</li> <li>• Suspension trauma relief straps or stirrups</li> </ul>
<b>7 Training</b>	<ul style="list-style-type: none"> <li>• Fall Protection</li> <li>• Tower Rescue</li> </ul>

## 8 Work Practice

### Written Fall Protection Plan

- When climbing or working aloft on communications towers:
  - Workers shall use a suitable fall protection system as per *SWP 5.01: Working at Heights*.
  - A written Fall Protection Plan shall be developed using *Form 2.2: Job Safety Analysis* as per *Health & Safety Management System Element 02: Workplace Hazard Assessment and Control*.
  - The written Fall Protection Plan shall be referenced in the Tailboard Meeting.
- The Fall Protection Plan shall reference the applicable Safe Work Practices and shall describe the:
  - Fall hazards at the worksite.
  - Fall protection system to be used at the worksite.
  - Procedures used to assemble, maintain, inspect, use, and disassemble the fall protection system.
  - Rescue procedures (i.e., Tower Rescue Plan) to be used if a worker falls or is suspended by a personal fall protection system, including estimated incident response time.

### Pre-Climb Inspections

- All towers shall be reasonably inspected before climbing to ensure they are in safe condition for the work to be performed:
  - Tower foundations shall be in good condition, not cracked or unstable.
  - Guy wires shall be taut, not slacked or showing signs of corrosion, oxidization, or fraying.
  - Guy wire anchors shall be in good condition.
  - Tower structure shall have no loose or missing bolts or cross-bracing.
  - Tower structure shall show no signs of twisting or other damage.
  - Frost or ice accumulation shall be minimal.
- Climbing and personal fall protection equipment shall be selected and inspected before use as per *Health & Safety Management System Element 14.08: Fall Protection*:
  - Harnesses shall be in good condition and show no signs of UV damage (e.g., fraying, brittle fibres), stretching, abrading, cuts, burns, or solvents (e.g., permanent markers, oil/fuel stains).

- Lanyards shall be intact (i.e., not deployed) and current (i.e., not expired).
- All rigging equipment and tools shall be inspected prior to climbing:
  - Ropes shall be in good condition, free of knots with no signs of UV damage (e.g., fraying, brittle fibres), stretching, abrading, cuts, burns, or solvents (e.g., permanent markers, oil/fuel stains)
  - All required tools, equipment, and materials shall be available for the work.
  - Radios shall be working and have adequate battery life.

**Towers Deemed Unfit to Climb**

- Towers deemed unfit to climb shall be marked and tagged indicating the reasons they are unfit to climb.
- Notice of towers deemed unfit to climb shall be provided as soon as feasible to the appropriate NTPC personnel (i.e., Technical Services Dept., Operations Manager).
- Towers deemed unfit to climb shall not be climbed until properly repaired or replaced.

**Tower Climbing and Task Completion**


- Access to the worksite shall be restricted using pylons or flagging to prevent public entry.
- Weather conditions and forecast shall be suitable for climbing before climbing takes place.
- No climbing shall take place at temperatures below -25°C (including wind chill).
- No climbing shall take place if there is less than one hour until sunset.
- Communications towers shall only be climbed by qualified workers.
- Appropriate PPE shall be worn at all times.
- Workers shall be familiar with the use of suspension trauma relief straps.
- When climbing a tower determine the safest climbing path, monitor the tower for excessive movement, and look for obstacles/hazards.
- Workers shall be comfortable with tower heights, tasks, and safety measures in place before climbing.
- When climbing or working aloft on communications towers workers shall use a suitable fall protection system, which

shall include a CSA-approved tower climbing harness and a vertical fall arrest lifeline system attached to the tower.

- While climbing workers shall continue to inspect towers to ensure they are in safe condition for the work to be performed (e.g., tower structure has no loose or missing bolts or cross-bracing, shows no signs of twisting or other damage).
- Workers climbing and working aloft on towers shall have three points of contact in place at all times including a combination of tie off points, feet, and/or hands.
- While climbing, workers shall be attached to the tower's lifeline.
- While working aloft workers shall remain attached to the tower's lifeline and shall also tie off to the tower.
- When two workers are to work on the same tower:
  - The second worker may begin to climb while first worker is climbing.
  - Extreme care shall be taken when working above or climbing past another worker.

**Tools**

- Worker shall use CSA-approved rigging equipment.
- All tools and materials shall be passed to workers working aloft by means of tool bags or hand lines.
- Gin poles and/or pulleys shall be used to transport tools and materials between the ground and the tower when the combined weight of the load is over 20 kg.
- Under no circumstances shall anything be thrown from the tower structure to the ground or to workers while aloft.
- Tools and materials shall not be laid on cross-arms, brackets, or in other places or positions from which they may fall unless they are securely tied off.
- When not in use tools shall be fastened securely to the worker's belt or lowered to the ground on a hand line.
- Battery powered tools shall be used wherever possible.
- Work shall not be carried out on the ground that would present a hazard to workers working aloft (e.g., installation of ground rods, ground wire moulding, use of tamping bars, pulling or cutting of guy wires, etc.).
- No work, other than that necessary to carry out the work aloft, shall be permitted in the immediate vicinity of a tower due to the hazard of falling objects.

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	<p><b>Hand Lines</b></p> <ul style="list-style-type: none"> <li>• Hand lines shall be rated for the task.</li> <li>• Hand lines shall be kept untangled, clean, and dry.</li> <li>• Hand lines shall never be attached to the climber's body belt by the use of snap hooks, tied knots, etc. Hand lines shall be able to pull clear of a climber's tool belt or harness in the event of an unusual down-pull (e.g., with the use of a break-away belt hook).</li> <li>• Upon reaching the working position, the worker shall remove the hand line from the tool belt or harness and attach it to the structure in an approved manner.</li> <li>• Workers on the ground shall be constantly on the alert to keep hand lines clear of any snagging situations, especially in the vicinity of vehicular traffic.</li> </ul>
<p><b>9 Documentation</b></p>	<ul style="list-style-type: none"> <li>• Nil</li> </ul>



**Safe Work Practice:**  
Working on Communications Towers

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**Monitor:**  
Manager, Technical Services

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**Development**

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