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### 1. Purpose

This document provides basic safety procedures to be followed when working on or near a transmission tower, antenna –supporting structure and/or antenna structure (hereafter referred to as ‘the structure’).

The purpose is to prevent injury and to facilitate compliance with Part II of the Canada Labour Code and the Canada Occupational Safety and Health Regulations.

### 2. Application

This procedure applies to all CBC/Radio-Canada personnel as well as to any consultant, contractor or contractor’s employee who is required to work for CBC/Radio-Canada on or near CBC/Radio-Canada owned structures. CBC/Radio-Canada is responsible for ensuring that its structures are safe for other users and should ensure that all work conducted on CBC owned facilities is conducted in a safe manner.

### 3. Areas of Responsibility

Who	Responsibility
Health, Safety and Environment	develops and maintains this procedure, in consultation with CBC/Radio-Canada Transmission
Directors	ensure that all staff is aware of, and follow, these procedures
Supervisor and/or Sr. Manager	ensures that: <ul style="list-style-type: none"> <li>➤ the necessary personal protective equipment (for use by CBC/Radio-Canada staff) is available for use and is maintained in good condition</li> <li>➤ the necessary personal protective equipment is used</li> <li>➤ appropriate CBC/Radio-Canada staff receive proper training in order to qualify them to safely perform or monitor work on the structure</li> <li>➤ only qualified persons are permitted to climb or work near the structure</li> <li>➤ a person in charge is present at <u>all times</u> while work is being conducted on or near the structure</li> </ul>
NAC	monitors the transmission operations and facilities of CBC/Radio-Canada Transmission.

**4. Definitions** (for the purposes of this procedure)

COHS Reg.	the Canada Occupational Health and Safety Regulations made pursuant to Part II of the Canada Labour Code
Director	the Executive Director, Senior Director, Regional Director or Director
Isolated	means separated or disconnected from every source of electrical energy that is capable of making electrical equipment dangerous
High Risk Work	<ul style="list-style-type: none"> <li>➤ for the purpose of these guidelines, high risk work involves working on or near structures:</li> <li>➤ where workers are incapable of controlling energized sources such as</li> <li>➤ where multiple contractors or trades are working during the same work period and facility and the coordination of the work between these trades must be undertaken by a CBC/Radio-Canada supervisor or person in charge who has a full understanding of the work and knowledge of the facilities</li> <li>➤ where access to and egress from a facility or site is remote, difficult or complicated (i.e.: mountain top, air access, water, snowmobile access), and that coordination of rescue efforts (should they be required) would require the knowledge and involvement a CBC/Radio-Canada representative who is intimately familiar with the access to the site and resources required for rapid intervention</li> </ul>
NAC	The National Alarm Centre, which monitors all transmission facilities and operations
NIR	non-ionizing radiation
Person in Charge	<ul style="list-style-type: none"> <li>➤ the designated CBC/Radio-Canada employee on location who supervises employees performing work on the structure, or in the case of remote shutdowns or power reductions, the person who locks out the transmitter control via the VTS</li> <li>➤ the designated representative for the contractor on location who supervises employees performing work on the structure and to whom the CBC/Radio-Canada person in charge has transferred his functions and responsibilities as outlined in these guidelines</li> <li>➤ has received training and is knowledgeable in the applicable codes, regulations and guidelines that apply to NIR and working from heights</li> </ul>

Personal RF Monitor	<ul style="list-style-type: none"> <li>➤ Personal RF detection device, for use by employees with potential for RF exposure (in a controlled environment), that emits a sound and visual alarm, with or without indicating the potential level of human exposure to radiofrequency (RF) fields, and calibrated to meet the latest Health Canada Safety Code 6 standards and recommendations.</li> <li>➤ Should the device be calibrated in a linear fashion or according to another standard, operating recommendations must be based on the instructions provided by the manufacturer.</li> <li>➤ The device must be worn based on the manufacturer's recommendations, and never under an RF protective garment.</li> <li>➤ The contractor must duly calibrate devices and provide accessories required for device operation in the particular working environment.</li> </ul>
RTU	the Remote Terminal Unit which is normally located at the transmission site and is used to control and monitor transmission facilities and operations
RF	radiofrequency
Safety Code 6	entitled ' <i>Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300GHz - Safety Code 6</i> ' and prepared by Health Canada, the guidelines serve as standards in matters of human exposure to radiofrequencies. Any references made in this guideline to Safety Code 6 are always to the latest version published by Health Canada.
Qualified Person	<ul style="list-style-type: none"> <li>➤ means, in respect of a specified duty, a person who, because of his / her knowledge, training and experience, is qualified to perform that duty safely and properly</li> <li>➤ means a person who is knowledgeable, properly trained, experienced, and has demonstrated a capability to perform safely and properly             <ul style="list-style-type: none"> <li>(a) on similar structures;</li> <li>(b) at the heights required;</li> <li>(c) with the equipment installed on the structure; and</li> <li>(d) with the equipment or tools to be used while on the structure.</li> </ul> </li> </ul>
Same Work Area	working area or zone, on or in proximity of the structure, where workers are close enough to each other to be easily able to communicate verbally.
Supervisor	the person to whom the employee reports and who is responsible for the facilities where the work is being conducted.
Structure	means any CBC/Radio-Canada transmission tower (including guy anchors), antenna structure or antenna supporting structure
VTS	(Visual Tag System) the software used to control the sites Remote Terminal Units

**Notes:**

- 1) Work being conducted on a tower or antenna system can be very difficult to supervise as most of the work occurs at various locations on the structure high above the ground. The person in charge is only expected to comment or monitor on what they reasonably observe which, in most cases, is work done at ground level or on the first 10 metres (33 ft) of the structure.
- 2) A consultant, contractor, or anyone other than a CBC/Radio-Canada employee, is expected to provide and use all the required personal protective equipment and gear and must follow all guidelines, instructions and regulations as a condition of being allowed access to the structure.
- 3) Effective December 2014, it will be mandatory for daily “Pre-Job” safety meetings occur prior to the start of any work on the structure in order to ensure that any changes which could impact safety related to climbing, climate conditions or crew members are addressed. It is the responsibility of the person in charge to ensure that all present are aware of the work, dangers involved and safety precautions in place, and the “Pre-Job” safety meeting must be conducted by the contractor responsible for the work activities.
- 4) Effective October 1, 2017 - Remote shutdowns of a transmitter can only be conducted on an exception basis and must be approved by the Senior Manager Transmission Operations Ontario-West or Quebec-East or their delegate.
- 5) Effective November 20, 2018 – The use of vehicles to raise or lower equipment on or off a tower is strictly prohibited.

## 5. Procedures

5.1 The **supervisor** responsible for the work on the structure must ensure that:

a	the <i>Letter of Confirmation and Acceptance</i> <sup>1</sup> accreditation form for private companies working on CBC/Radio-Canada structures has been properly completed and signed by the contractor representative with legal binding authority.
b	a copy of the signed <i>Letter of Confirmation and Acceptance</i> is available to the supervisor or person in charge of the work on the structure prior to the start of the work and during the entire work period.
c	Contractors and consultants have provided CBC-Radio-Canada with Fall Protection and rescue training certificates of all employees that may be working at a tower site.

5.2 The **Supervisor** or **person in charge** of the work on the structure must ensure that:

Step	Action
a	the following are informed of any work to be performed on the structure: <ul style="list-style-type: none"> <li>➤ the regional maintenance base for the site;</li> <li>➤ the Monitoring and Remote Control centre(s) for the region where the work is to be done; <b>and</b></li> <li>➤ the NAC.</li> </ul>
b	the NAC must be called when arriving onsite to commence work, and again when work is complete and leaving the site. <b>Note:</b> The NAC <u>will not</u> perform interventions remotely related to maintenance (power reductions, shutdowns or restoration of service) other than in the case of an emergency.
c	prior to the start of any work on the structure, without exception, all transmission site RTU(s) are put into “local” mode, disabling any remote activation or switching of systems or equipment.
d	all local automatic switching systems relating to the system being serviced are disabled
e	any power reductions required at a transmission site, in order to allow work on or within a short distance of a structure, will: <ul style="list-style-type: none"> <li>i not be carried out by the NAC</li> <li>ii be carefully coordinated with the regional maintenance base and the Monitoring and Remote Control centre(s) for the region where the work is to be done</li> <li>iii be carefully coordinated with the other broadcasters whose antennas are located on the same structure or on neighbouring structure(s) at the site where the work is to be done</li> </ul>

<sup>1</sup> The *Letter of Confirmation and Acceptance* accreditation forms are available for “single projects” or for a “fixed period of time” use. To ensure that the most recent version is being used, updated copies of the forms can be found in *Livelihood* under *Transmission/Operations/Tower Accreditation/Accreditation Forms*.

iv	<p>be done in accordance with the site specific procedures established in conjunction with the NIR survey results and/or calculations of safe RF exposure levels for workers in controlled environment for the site/structure. If site-specific procedures do not exist;</p> <ul style="list-style-type: none"> <li>➤ all transmission antennas are Powered-Off, <b>or</b></li> <li>➤ whenever any person is required to <u>work behind the reflector panels</u> of an FM panel antenna system, the total power per bay will not exceed:             <ul style="list-style-type: none"> <li>➤ 200 watts for any FM panel antenna system, minimum 1m from the dipole(s)</li> </ul> </li> </ul> <p>And for an FM ring-type antenna system, the total power per bay will not exceed:</p> <ul style="list-style-type: none"> <li>➤ 50 watts for any FM ring antenna system, minimum 1m from the dipole(s)</li> </ul> <p>unless proven otherwise by actual measurements or calculation of the levels, using the specific manufacturer specifications for reflector attenuation</p> <ul style="list-style-type: none"> <li>➤ persons doing the work are equipped with and make use of a functional and calibrated personal radiation monitoring unit and stop working as soon as the equipment indicates that the limit is reached.</li> </ul> <p><b>Note:</b> If two or more workers are working in the <u>same work area</u> on or in proximity of the structure, a single functional and calibrated personal radiation monitoring unit per group is acceptable. When at all possible, the individual wearing the radiation monitoring unit should be closest to the point of RF radiation having surveyed the entire working area to determine if any potential risks exist.</p>
v	<p>follow the guidelines set out in the CBC/Radio-Canada <i>Safety Guidelines – Lockout / Tagout at Transmission facilities</i></p>
vi	<p>respect the established limits in section 2.1: ‘Maximum Exposure Limits for RF Workers’ of the latest Health Canada’s publication “<i>Safety Code 6 – Limits of Human Exposure to Radio-frequency Electromagnetic Fields in the Frequency Range from 3kHz to 300GHz</i>”</p>
f	<p>whenever situations arise where RF power levels cannot be reduced to the limits outlined in section 2.1 of “<i>Safety Code 6</i>”, time averaging is used in accordance with section 2.3: ‘Time Averaging’ of “<i>Safety Code 6</i>”</p>
g	<p>whenever situations arise where work times (using “time averaging”) and conditions cannot be achieved because RF power levels cannot be reduced in accordance with “<i>Safety Code 6</i>” requirements, the use of RF protective clothing is considered <u>only</u> if the following criteria are met:</p> <ul style="list-style-type: none"> <li>➤ the RF power levels in the work area, in conjunction with the type of protective clothing to be used, has been analysed and safe work practices and procedures developed by a CBC/Radio-Canada approved engineer (no adopted standard currently exists for RF protective clothing), <b>and</b></li> <li>➤ CBC/Radio-Canada has approved the work practices and procedures established by the engineer and will ensure compliance, <b>and</b></li> <li>➤ when used, the RF Safety suit is not torn or damaged and a repair kit is available for emergency repairs during the climb. Any emergency repairs to the suit must be undertaken following the manufacturer’s directions and recommendations.</li> </ul>

h	<p>before any work is attempted on or within 1 meter (3.3 feet) from any AM tower, transmitting Stack-Type antenna, any radiating element, (regardless of the type of antenna), the RF power is completely eliminated and locked-out, in accordance with the guidelines set out in the <i>CBC/Radio-Canada Safety Guidelines - Lockout / Tagout at Transmission facilities</i>.</p> <p><b>Note: This does not replace the procedures established in 5.2.e.iv</b>  <b>The AM tower must be grounded by qualified and experienced personnel before the climb.</b></p>
i	<p>a copy is available, on site, in paper or electronic form of the latest versions of the:</p> <ul style="list-style-type: none"> <li>➤ Health Canada Publication “<i>Safety Code 6 – Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3kHz to 300GHz</i>”,</li> <li>➤ CBC/Radio-Canada Safety Guidelines – Lockout / Tagout at Transmission facilities,</li> <li>➤ CBC/Radio-Canada Safety Guidelines – Towers and Antennas (this document)</li> <li>➤ CBC/Radio-Canada Safety Guidelines – Working from Heights</li> </ul>
j	<p>a DAILY “Pre-Job” Safety meeting is conducted ensuring that all necessary action is taken to ensure the safety of all persons working at the site and to ensure that any changes or concerns related to daily climbing requirements, climate issues or crew members are adequately addressed.</p>
k	<p>prior to the start of any work on the structure, a rescue plan that meets the requirements set out in the Appendix of these guidelines has been developed, is available at the work site and incorporates, as a minimum, the use of either:</p> <ul style="list-style-type: none"> <li>➤ a minimum of 1 qualified person trained to climb and perform tower rescue work and who will be present, <u>remains available on the ground</u>, on site, throughout the work, <u>or</u></li> <li>➤ a minimum of 2 qualified persons trained to climb and perform tower rescue work and who will be present, on site, throughout the work, <u>or</u></li> <li>➤ a local rescue/fire service, trained and equipped to perform high angle rescue, who has been notified, is available within a 10 minute response time and has been given a copy of the rescue plan</li> </ul>
l	<p>all ground personnel present on the exterior of the site buildings and within the demarcated zone, while work is being conducted on the structure, are aware of the work being conducted and are wearing hard hats and safety footwear in accordance with the safety standards noted in section 5.4.b. (i and ii) of these guidelines</p>
m	<p>all fall protection equipment must be inspected* in accordance with manufacturer instructions before work begins and all equipment that is not in good condition or does not meet manufacturer inspection criteria or that which has been subjected to an actual fall-arrest is removed from service and inspected by a qualified person before being returned to service.</p> <p>*CBC/Radio-Canada employees are not responsible for inspecting contractors equipment.</p>
n	<p>all unsafe conditions or hazards are corrected or guarded, as soon as possible after they have been reported</p>



o	any employee, consultant or contractor, who will be climbing the structure, has been fully trained in tower fall protection and, if necessary, in tower rescue. In addition, upon request, the consultant or contractor may be required to provide proof of tower fall protection and rescue-training and course content prior to commencing work.
p	<p>in the case where the CBC person in charge leaves the site during the time work is being conducted on or near the structure, before he leaves he must:</p> <ul style="list-style-type: none"> <li>i) transfer his function of <i>person in charge</i> to the contractor representative by ensuring that the new person in charge understands his responsibilities as they pertain to the work being conducted, these guidelines and relevant guidelines referred to in these guidelines.</li> <li>ii) provide the new person in charge with: <ul style="list-style-type: none"> <li>➤ his contact information (cell phone), his supervisor and the NAC, should an emergency arise</li> <li>➤ access to shelter (CBC building) and communication facilities</li> <li>➤ any information related to the safety and wellbeing of the work crew</li> </ul> </li> <li>iii) notify his supervisor and NAC of his departure and transfer of function communicating to them he can be reached in case of emergency as well as the name of the new person in charge means of contacting him.</li> <li>iv) shutdown and locked out <b>all</b> energized sources (i.e.: RF transmission and electrical sources) on or near the structure that might endanger workers.</li> </ul> <p><i>Remember that this transfer is not possible for locations where High Risk Work exists</i></p>
q	any employee, consultant or contractor, who will be climbing the structure, has been fully trained in tower fall protection and, if necessary, in tower rescue. In addition, upon request, the consultant or contractor may be required to provide proof of tower fall protection and rescue-training and course content prior to commencing work.

5.3 The **supervisor** or **person in charge** must ensure that *any person* who is required to work on a structure:

Step	Action
a	<ul style="list-style-type: none"> <li>➤ is a qualified person and is fully trained in tower fall protection and,</li> <li>➤ if necessary, in tower rescue as well as the proper use of required safety gear including the personal radiation monitoring unit and</li> <li>➤ ensures a rescue kit is present on site</li> </ul>
b	is in possession of, or has immediate access to, the equipment listed in paragraph 5.4b of this procedure
c	fully understands that all required personal protective equipment must be used properly
d	has carried out an inspection of the personal protective equipment that will be used for damage or defects that would render it unsafe and remove it from service and has tagged it as “ <i>Defective</i> ” should any be found

e	fully understands that a fall arrest system must be used at <u>all times</u> on the structure, including while ascending or descending and when at rest or at the working level. The positioning rope or belt attached to the full body harness must be used for positioning only and is NOT considered a fall arrest system
f	fully understands that the structure must <b>not</b> be climbed <ul style="list-style-type: none"> <li>➤ when the RF radiation levels exceed the worker limit or</li> <li>➤ when the weather conditions are likely to cause a hazard; or</li> <li>➤ where the physical condition of the tower or structure is likely to be hazardous;</li> </ul> <b>except</b> when the work is necessary to rescue a person or to remove a hazard that cannot be left in place until the weather improves.  <b>In the case of serious structural damage, a professional engineer must verify the integrity of the structure before climbing may be resumed.</b>
g	is not subjected to any pressure to climb the structure when that person believes it may be hazardous because of the reasons cited in 5.3f above
h	is familiar with and follows the requirements of these Safety Guidelines as well as the contents of “Safety Guidelines – Working from Heights” and “Safety Guidelines – Lockout/Tagout at Transmission facilities”.
i	is in possession of functional communications equipment that will allow communications at all times with the person in charge. <b>Note:</b> If two or more climbers are working in the <u>same work area</u> on or in proximity of the structure, a single functional 2-way radio unit for this group is acceptable.
j	has in place, a rescue plan that meets the requirements set out in the Appendix of these guidelines. The rescue plan is available at the work site, has been communicated to the person in charge and incorporates, as a minimum, the use of either: <ul style="list-style-type: none"> <li>➤ a minimum of one qualified person trained to climb and perform tower rescue work and who will be present, <u>remains available on the ground</u>, on site, throughout the work, <u>or</u></li> <li>➤ two qualified persons, trained to climb and perform tower rescue work, are present throughout the work, <u>or</u></li> <li>➤ a local rescue/fire service trained and equipped to perform high angle rescue which has been notified, is available within a 10 minute response time and has been given a copy of the rescue plan</li> </ul>

k	<p>is equipped with - and makes use of - a functional and calibrated personal radiation monitoring unit for which he has been properly trained for use:</p> <ul style="list-style-type: none"> <li>➤ in situations where all transmission systems on or near the structure may not be turned off and locked out, or</li> <li>➤ if the RF radiation levels are unknown, or</li> <li>➤ if the power reduction or shutdown is done remotely, or</li> <li>➤ the CBC/Radio-Canada <i>person in charge</i> is not on site</li> </ul> <p><b>Note:</b> If two or more workers are working in the <u>same work area</u> on or in proximity of the structure, a single functional and calibrated personal radiation monitoring unit per group is acceptable. When at all possible, the individual wearing the radiation monitoring unit should be closest to the point of RF radiation having surveyed the entire working area to determine if any potential risks exist.</p>
l	<p><b>is not</b> under the influence of alcohol, any drug and/or medication that may cause drowsiness or impairment of judgement.</p>

**5.4 Any person** who is required to work on a structure must:

Step	Action						
a	Participate in a DAILY “Pre-Job” Safety meeting and ensure that all necessary action is taken to ensure their safety; the safety of all persons working at the site and to ensure that any changes or concerns related to daily climbing requirements, climate issues or crew members are adequately addressed						
a-1	have the necessary training, knowledge and experience to be qualified to do so; and must have previous experience on similar structures at the required heights using similar equipment and tools as those to be used						
b	<p>be in possession of, or have immediate access to, and must use:</p> <ul style="list-style-type: none"> <li>➤ locking-type snaps and hooks (which cannot be accidentally disengaged)</li> <li>➤ a rescue kit</li> <li>➤ sign(s) indicating “Caution - Overhead Work - Hardhats and Safety Footwear Required Beyond This Point,” which will warn people who are accessing the site and will be placed at a distance from the tower base equal to one third (1/3) the height of the tower or at all site access points</li> <li>➤ safety equipment which has been inspected for damage by the user before use and meets the latest amended version of the listed standard, as follows:</li> </ul>						
	<table border="1" style="width: 100%;"> <thead> <tr> <th>Equipment</th> <th>Standard</th> </tr> </thead> <tbody> <tr> <td>i</td> <td>safety footwear</td> </tr> <tr> <td>ii</td> <td> <p>head protection, complete with a chin strap attached to the outer shell. The user must ensure that the chinstrap has been designed for the particular make and model of headwear.</p> </td> </tr> </tbody> </table>	Equipment	Standard	i	safety footwear	ii	<p>head protection, complete with a chin strap attached to the outer shell. The user must ensure that the chinstrap has been designed for the particular make and model of headwear.</p>
Equipment	Standard						
i	safety footwear						
ii	<p>head protection, complete with a chin strap attached to the outer shell. The user must ensure that the chinstrap has been designed for the particular make and model of headwear.</p>						
	CSA Standard Z195, Protective Footwear						
	CSA Standard Z94.1, Industrial Protective Headwear						

iii	<p>have all the components of a fall protection system that meet current CSA standards and are appropriate for the type of tower and fall protection system in place</p>	<p>a) CSA Standard Z259.1-95, Safety Belts and Lanyards                  b) CSA Standard Z259.2, Fall-Arresting Devices, Personnel Lowering Devices and Life Lines                  c) CSA Standard Z259.2.1 - Fall Arrester, vertical life lines, and rail                  d) CSA Standard Z259.2.2 - Self-retracting devices for personal fall arrest systems                  e) CSA Standard Z259.2.3 - Descent control devices                  f) CSA Standard Z259.3-M1978, Lineman’s Body Belt and Lineman’s Safety Strap                  g) CSA Standard Z259.10, Body Harness                  h) CSA Standard Z259.11, Shock Absorbers                  i) CSA Standard Z259.12 – Connecting components for personal fall arrest systems</p>
iv	<p>radiation monitoring unit with the appropriate accessories required for the intended use.</p> <p><b>Note:</b> see 5.3(k) if multiple climbers working in the <u>same work area</u> on or in proximity of a structure.</p>	<p>Calibrated to the RF worker limits set out in Health Canada - <i>Safety Code 6 - Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3kHz to 300GHz</i>. In cases where this differs from the above mentioned calibration standard, an engineering consultant must establish the operational guidelines for the monitoring device. CBC/Radio-Canada reserves the right to reject any such device without further obligation on its part.</p>
c	<p>remove from service and tag as “<i>Defective</i>” any personal protective equipment that has a defect that may render it unsafe for use, or that has been stressed due to a fall; and must delay any climbing on a structure until that equipment is replaced</p>	
d	<p>remove all rings, watches, bracelets and other jewellery, as well as loose or bulky items from pockets, prior to climbing</p>	
e	<p>use a fall arrest system and full body harness at <u>all times</u> on the structure, including while ascending or descending and when at rest or at the working level. The positioning rope or belt attached to the full body harness must be used for positioning only and is NOT considered a fall arrest system</p>	
f	<p>use the proper trolley for the type of fall-arrest vertical lifeline, cable or rail installed and in use on the structure, if this fall arrest system is used by the worker</p>	
g	<p>when positioning or working on the structure, make use of a lanyard which is used in conjunction with a fall arrest system in order to free up hands for work system; e.g lanyard must be attached to the structure at all times</p>	
h	<p><b>never</b> attach the fall arrest system to the lightning rod or to any other attachment not designed for the purpose of fall arrest</p>	

i	make known to the CBC/Radio-Canada person in charge on-site, all plans for compliance with the requirement for continuous attachment.
j	<p><b>not</b> attempt to climb the tower or structure</p> <ul style="list-style-type: none"> <li>➤ when the RF radiation levels exceed the worker limit or</li> <li>➤ when the weather conditions are likely to cause a hazard; or</li> <li>➤ where the physical condition of the tower or structure is likely to be hazardous;</li> </ul> <p><b>except</b> when the work is necessary to rescue a person or to remove a hazard that cannot be left in place until the weather improves.</p> <p>In the case of serious structural damage, the integrity of the structure will need to be verified by a professional engineer before climbing may be resumed.</p>
k	fully understand and adhere to the RF and microwave exposure limits, as outlined in <i>Health Canada - Safety Code 6</i>
l	prior to climbing the tower, confirm with the person in charge that the power reduction or shutdown and associated isolation and lock-out are done in conformance with the guidelines set out in the <i>CBC Safety Guidelines - Lockout / Tagout at Transmission facilities</i>
m	<p>before starting any work <u>near</u> an antenna system, confirm with the person in charge the isolation or reduction of the power to the AM tower, transmitting Stack-Type antenna or any radiating element or any transmitting antenna.</p> <p><b>No work may proceed without this confirmation</b></p>
n	<b>not</b> touch any radiating element of any antenna system, for any reason, unless the RF system has been isolated and locked-out
o	<p>ensure a constant means of communication with the person in charge. If such equipment fails, the work <u>must stop</u> and the climber must descend the structure. The work may resume only when a reliable means of communication has been established.</p> <p><b>Note:</b> If two or more climbers are working in the <u>same work area</u> on or in proximity of the structure, a single functional 2-way radio unit for this group is acceptable.</p>
p	<p>be equipped with and make use of a functional and calibrated personal radiation monitoring unit:</p> <ul style="list-style-type: none"> <li>➤ if on or near a structure where all the transmission systems may not be turned off and locked out, or</li> <li>➤ if the RF radiation levels are unknown, or</li> <li>➤ if the power reduction or shutdown is done remotely</li> </ul> <p><b>Note:</b> If two or more workers are working in the <u>same work area</u> on or in proximity of the structure, a single functional and calibrated personal radiation monitoring unit per group is acceptable. When at all possible, the individual wearing the radiation monitoring unit should be closest to the point of RF radiation having surveyed the entire working area to determine if any potential risks exist.</p>
q	immediately report to the supervisor, or person-in-charge at the structure, any hazard or unsafe condition, or any contravention of the <i>Code or Regulations</i> that comes to the person's attention
r	<b>not</b> be under the influence of alcohol, any drug and/or medication that may cause drowsiness or impairment of judgement.

**6. Infractions**

6.1 The **supervisor** or **person in charge** of the work at the structure must monitor the work and when an infraction of the procedures is noted, must:

<b>Step</b>	<b>Action</b>
a	stop the work immediately until the infraction is corrected and it is safe to resume work
b	maintain a record of the incident, including the date, time, name of the individual involved, nature of the incident and the steps taken to correct the situation
c	notify the Supervisor of Operations, Transmission and the Contractor responsible for the work

**7. Limitations and adaptations**

These safety guidelines can in no way provide procedures for every possible situation that could be encountered in the field. This does not mean that they cannot be amended, adapted or combined with other safe work procedures by trained, experienced staff, knowledgeable in the operation of the equipment or system being worked on, in order to provide a safe way of completing repairs or installations. It is important to remember that personnel safety is the number one objective when performing any task. If you are unsure about the safety of a procedure or you are uncomfortable carrying it out, please discuss this with your supervisor before proceeding.

**8. References**

This procedure was prepared jointly by Health, Safety and Environment and CBC/Radio-Canada Transmission, in consultation with Yves R. Hamel et Associés Inc. and Nouvelle Hauteur Inc.

**9. Enquiries**

Any questions related specifically to work on a Tower or Antenna or concerning this procedure should be directed to the Regional Supervisor or the Senior Manager, Health, Safety & Environment, CBC/Radio-Canada MTIS.

For more health and safety information, access the CBC/Radio-Canada iO! Portal at: <https://io.cbrc.ca/lang=en/#/resources/1.3183670>.

**10. Document History**

<b>Date</b>	<b>Parties Consulted</b>	<b>Main Modifications</b>	<b>By</b>
Mai 2006	Premiers chefs – Transmission Deux consultants externes	First version	Harry Phillips & Michel Bazin
February 2007	Harry Phillips & Martin Marcotte	Clauses were introduced forbidding anyone who is under the influence of alcohol, any drug or medication that may cause drowsiness or impairment of judgement from working from heights.	Michel Bazin
April 2007	Harry Phillips	The definition of “Qualified person” was updated to include the definition provided under section 15 of the CSA standard S37-01 Antennas, Towers, and Antenna-Supporting Structures.	Michel Bazin
February 2008	Harry Phillips	<ul style="list-style-type: none"> <li>- A new “Limitations and Adaptations” section was introduced.</li> <li>- The guideline was modified to indicate that careful coordination is required with other broadcasters whose antennas are located on the same structure or on neighbouring structure(s) at the site where work is being done. This is to avoid possible problems with high NIR fields from neighbouring structures which can pose a hazard to climbers.</li> </ul>	Michel Bazin
November 2010	Harry Phillips, Athena Trastelis et René Stébenne	<ul style="list-style-type: none"> <li>- “Application” section clarified to better define where and when guidelines apply.</li> <li>- The definition of “Supervisor” is redefined</li> <li>- A note is added that “Pre-Job” safety meetings are strongly recommended.</li> <li>- Supervisors/Sr. Managers are responsible to ensure that the <i>Letter of Confirmation and Acceptance</i> is completed by the contractor and available to the Person in Charge.</li> <li>- Updated to reflect latest version of HC Safety Code 6</li> <li>- Clarification in NIR related sections</li> </ul>	Michel Bazin
October 2014	Martin Marcotte Larry Wartman Jacques Letourneau Michel Bazin (retired) Nouvelle Hauteur Philippe Aubé	Addition of reference to Part II of Canada Labour Code, updated Safety Code 6 2014 changes , definition of High Risk Work, person in charge transfer of responsibilities, requirement for DAILY Pre-Job Safety Meeting in procedures and on checklist.	Dennis Graham
October 2017	Dave Rainnie Jimmy Berthelot Dennis Graham	Addition of reference regarding remote transmitter shutdown approval	Dennis Graham
November 2018	Dennis Graham Dave Rainnie Jimmy Berthelot	Addition of reference prohibiting use of vehicles for raising or lowering equipment on/off towers, additional requirements for pre-job safety meeting	Dennis Graham

**Appendix Tower and Antennas Guideline Person-In-Charge Checklist and Pre-Job Safety Meeting Topics**

Date (dd/mm/yyyy): \_\_\_\_\_

**Person in Charge Checklist – To be completed daily**

- Daily Pre Job Safety Meeting conducted
- Work description, site location/location on tower and duration identified
- Hazards/Risks Identified and Controlled (Weather; lock out/tag out; Electrical; multiple crews; Safety Code 6; electrical)
- Notification made for start and end of work
- Contractor and employees have been pre-qualified to conduct work
- Communication protocols established between contractors and person-in charge
- Emergency Contact Information identified and available
- Personal Protective Equipment present
- Rescue Kit is appropriate to the work height on tower and is readily available
- Number of qualified persons to perform a tower rescue is appropriate to the type of work being performed
- Tower crew confirms that pre-use inspections for all personal protective equipment and hoisting equipment completed prior to starting tower work

Signature of Person in Charge: \_\_\_\_\_

The following Pre-Job Safety Meeting guide is not an all- inclusive list but can be used to assist in the completion of the required meeting for work begins.

Date (dd/mm/yyyy): \_\_\_\_\_

**Person in Charge is satisfied that controls have been identified for all known hazards/risks discussed in Pre-Job Safety meeting.**

**Name:** \_\_\_\_\_

**Site and Work Information**

**Site Location**

**Name of Contractor**

**Name of Employees**

**Description of Work**

**Height of Work on Tower**

**Duration of Work on Tower**

**Start Time:**

**Estimated Finish Time**

**Emergency Contact Information**

**Site/Civic Address**

**Direction to Site**

**Site Phone**

**Person in Charge Phone**

**Other Phone**

**Emergency Equipment Locations**

**First Aid Kit:**

**Tower Rescue Kit:**

**Other:**



**APPENDIX (page 2 of 2)**

<b>Hazards/Risks</b>			
<i>(The following is not meant to be an all-inclusive list, but provides examples of typical hazards/risks that need to be controlled)</i>			
<b>Hazards/Risks</b>	<b>Controls Identified</b>	<b>Further Action Required</b>	
		<b>Yes</b>	<b>No</b>
1. Working at Heights (Towers, scaffolding, ladders, roof tops, other)		<input type="checkbox"/>	<input type="checkbox"/>
2. Communication while working / emergencies / crew understands language spoken by technician (no language barriers)		<input type="checkbox"/>	<input type="checkbox"/>
3. Weather Conditions – wind, rain, heat, cold, snow, ice, hail , lightning, sun		<input type="checkbox"/>	<input type="checkbox"/>
4. Electrical/High Voltage, overhead wires, underground cables, extension cords, GFCI's (if AM Tower, Transmitters are off and Tower has been connected to ground).		<input type="checkbox"/>	<input type="checkbox"/>
5. Safety Code 6		<input type="checkbox"/>	<input type="checkbox"/>
6. Lock-Out/Tag-Out		<input type="checkbox"/>	<input type="checkbox"/>
7. Personal Protective Equipment		<input type="checkbox"/>	<input type="checkbox"/>
8. Emergency Numbers, EMS Response Time		<input type="checkbox"/>	<input type="checkbox"/>
9. Rescue Procedures, injuries, rescue equipment and first aid kits		<input type="checkbox"/>	<input type="checkbox"/>
10. Understanding of guidelines and procedures		<input type="checkbox"/>	<input type="checkbox"/>
11. Tools, equipment tethering		<input type="checkbox"/>	<input type="checkbox"/>
12. Multiple Crews on site		<input type="checkbox"/>	<input type="checkbox"/>
13. Working on ground		<input type="checkbox"/>	<input type="checkbox"/>
14. Insects, birds of prey, nesting birds, animals		<input type="checkbox"/>	<input type="checkbox"/>
15. Construction/Demolition		<input type="checkbox"/>	<input type="checkbox"/>
16. Lifting equipment/hoists, aerial work platforms, vehicles		<input type="checkbox"/>	<input type="checkbox"/>
17. Slips, Trips, Falls, Uneven Surfaces		<input type="checkbox"/>	<input type="checkbox"/>
18. Confined Spaces		<input type="checkbox"/>	<input type="checkbox"/>
19. Chemicals, Compressed Gases, Cylinder Storage (WHMIS)		<input type="checkbox"/>	<input type="checkbox"/>
20. Site Access		<input type="checkbox"/>	<input type="checkbox"/>
21. Other		<input type="checkbox"/>	<input type="checkbox"/>