

**North Carolina Department of Labor
Division of Occupational Safety and Health**

Raleigh, North Carolina

Field Information System

Operational Procedure Notice 122C

Subject: Special Emphasis Program for Communication Towers.

A. Purpose.

This OPN establishes a Special Emphasis Program (SEP) to provide enforcement guidance and address the hazards associated with communication tower work during construction, alteration, repair, operation, inspection and maintenance activities.

B. Scope.

This OPN applies to all programmed and unprogrammed Occupational Safety and Health of North Carolina (OSHNC) activity associated with the construction, alteration, repair, operation, inspection and maintenance of Communication Towers. This OPN includes compliance, consultation and education and training activities.

C. Action.

This Operational Procedure Notice provides for special emphasis inspections in accordance with NCGS 95-136.1(b) (3) due to a high risk for serious or fatal work related injuries or illnesses. This OPN will be used in conjunction with CPL 2-1.36 – *Interim Inspection Procedures during Communication Towers Construction Activities*.

D. Discussion.

As a result of an explosive growth in the cellular phone industry and the resulting need for more communication towers to be constructed across the country, an increasing number of companies have entered the industry with little or no training in the unique safety aspects involved in climbing a tower. The end result has been an increase in the number of accidents in the industry, which due to the nature of the work, are often fatal.

In order to address this concern, the North Carolina Department of Labor (“NCDOL”) began working in 2000 with some representatives from the industry to formulate a set of rules to protect workers during the construction, erection, installation, operation, maintenance, and disassembly of communication towers. A study by the National Institute for Occupational Safety and Health (“NIOSH”) indicates that there were 118 known communication tower worker deaths in the United States from 1992-1998 (93 falls), and the report indicated that the actual number was likely higher but fatality reporting did not always specify tower worker (e.g. other fatalities could have been listed as: painter, steel erector, electrician, etc.).

A review of NC work place fatalities revealed that 10 were related to communication tower work from May 1997 to February 2005. OSHNC recognized that there were several existing consensus standards that addressed hazards related to the Communication Tower industry. However, OSHNC did not feel that existing consensus standards were adequate nor were they readily available to employers/employees engaged in communication tower work activities. During the rulemaking process, OSHNC worked closely with communication tower stakeholders including tower owners, operators, erectors, and various other affected parties. As a result of this collaborative effort, the nation’s first comprehensive occupational safety and health communication tower rules were enacted at the end of the 2005 NC Legislative session.

E. **Inspection Procedures and Guidelines.**

1. During activities associated with the construction, alteration, repair, operation, inspection and maintenance of Communication Towers, OSHNC will enforce 13 NCAC 07F.0600 - Communication Towers Standard. As of July 28, 2006, all sections of the rule are in effect. The sections are as follows:
 - 13 NCAC 07F.0601 – *Scope and Application.*
 - 13 NCAC 07F.0602 – *Definitions.*
 - 13 NCAC 07F.0603 – *Employer Responsibilities.*
 - 13 NCAC 07F.0604 – *Hazard Identification and Assessment.*
 - 13 NCAC 07F.0605 – *Fall Protection.*
 - 13 NCAC 07F.0606 – *Radiation.*
 - 13 NCAC 07F.0607 – *Hoists and Gin Poles.*
 - 13 NCAC 07F.0608 – *Recordkeeping.*
 - 13 NCAC 07F.0609 – *Training.*
2. During the 2006 legislative session, the 2005 Technical Corrections Bill was ratified. This bill requires the Department of Labor to change the Fall Protection Section of the Communication Towers Standard, specifically, 13 NCAC 07F.0605 (i)(2)(a) and (i)(3)(A)-(E). Section 102(a) of this bill states:

SECTION 102(a) The Department of Labor shall adopt rules in connection with its requirements regarding fall protection for tower climbers as follows:

- (1) With regard to employer-provided rescue procedures, employers must ensure that at least two trained and designated rescue employees are on-site when employees are working at heights over six feet on the tower, except that where only two employees are on-site, then an employer may comply with this requirement if one employee is a trained and designated rescue employee and one employee has been employed for **less than nine months** and has received documented orientation from the employer outlining steps to take in an emergency.
- (2) With regard to third-party-provided rescue procedures, the employer must obtain verification from the third-party rescue service that the service is able to respond to a rescue summons in a timely manner and that the service is proficient in rescue-related tasks and equipment needed to rescue climbers from elevated heights on communication structures. The employer must also provide the selected third-party rescue service with contact information regarding the tower site and allow the service to conduct whatever preparation for rescue it deems necessary.

The bill additionally allows the Department to adopt temporary rules to this effect in order to expedite the change in the rules until permanent rulemaking is accomplished. Because temporary rulemaking may take several months and would further delay the effective date of the change, as a matter of policy the OSH Division will enforce the changes from the technical corrections bill immediately. A copy of the temporary rule as submitted to the Office of Administrative Hearings is attached for reference.

In reference to 13 NCAC 07F.0605(i)(2), *Employer to Perform Rescue Services*, of the attached temporary rule, paragraph (a) requires that at least two trained and designated rescue employees are on site. However, if there are **only** two employees on the site, at least one of the employees **must** be trained, but the second employee need not be trained until he or she has been employed

for **nine** months. If both employees have been employed for longer than nine months, then both employees **must** be trained in rescue services.

F. **Compliance Assignments.**

1. OSHNC will develop a list of establishments (work sites) likely to be covered by this special emphasis program. Potential inspection site locations will be distributed to each District where communication tower activity is known.
2. In recognition of the mobile and time sensitive nature of communication tower work, any serious hazards observed should normally be investigated immediately by the compliance officer (CSHO) who observes the activity, after consulting with the District Supervisor. Serious safety hazards observed by individuals other than a CSHO will be referred to the applicable District Supervisor. Because many tower operations are located in remote locations where the observation of hazards from a public way would not be possible, whenever a CSHO observes or receives information regarding a site where communication tower work may be taking place but no violation is observed, the CSHO and the District Supervisor should determine if the site should be immediately inspected, or added to the list of establishments to be selected for future inspection activity. Such determination will be based on, but not limited, to the following criteria: the resources available for inspecting the site, the size of the operation, the prior history of the operator if known, and/or the stage of construction/maintenance activity. Each district office will conduct inspections in support of this SEP.

G. **IMIS Coding.**

The OSHA-1 form for all inspections conducted as a result of this special emphasis programs will be coded as local emphasis program inspections in block 25C and marked "COMTOWER".

H. **Effective Date.**

OPN 122B is canceled. This OPN is effective on the date of signature. It will remain in effect until revised or canceled by the Director.

Signed on Original
Susan Haritos
Health Standards Officer

Signed on Original
Allen McNeely
Director

9/27/06
Date of Signature

1 13 NCAC 07F.0605 is proposed as a temporary rule as follows:

2
3 **13 NCAC 07F .0605 FALL PROTECTION**

4 (a) General.

5 (1) Prior to employees climbing the tower at heights above six feet, the employer shall ensure that
6 100% fall protection systems compatible with the tasks assigned are provided, used, and
7 maintained.

8 (2) The rules in this Section shall not require the retrofitting of communication towers; provided, that
9 employees who are exposed to fall hazards above six feet while performing work on
10 communication towers are protected from such hazards by means of a 100% fall protection
11 system.

12 (b) Pre-Climb Planning and Inspection. In addition to the criteria for pre-climb planning and inspection included in
13 Paragraph (g) of this Rule, the employer shall ensure that the following items occur prior to employees climbing the
14 tower at heights above six (6) feet:

15 (1) All climbing jobs shall be planned by a competent person.

16 (2) All climbing facilities shall be visually inspected daily at the tower base by a competent person for
17 rust, corrosion, deterioration, or other hazards. Additionally, the employer shall ensure that the
18 climbing facilities are visually inspected for these items, as it is ascended, to the elevation point
19 where work is being performed. If any such hazard is identified during this inspection, employees
20 shall not use the climbing facility until such hazards are abated.

21 (3) A competent person shall ensure that all fall protection equipment is inspected prior to each use
22 for wear, damage, defect or other deterioration by employees who have been trained in accordance
23 with 13 NCAC 07F .0609. Defective equipment shall be identified as defective and immediately
24 removed from service.

25 (4) Components of a fall protection system and the fall protection equipment utilized by employees
26 shall be compatible with one another and shall be utilized in accordance with the manufacturer's
27 recommendations.

28 (5) The employer shall ensure that the planning and inspections are performed and documented. The
29 documentation shall be maintained on site while work is being performed, and thereafter by the
30 employer at its place of business. The documentation shall include the date of the planning and
31 inspection, the name of the competent person performing the planning and inspection, and the site
32 location.

33 (c) Fall Protection Systems. In order to comply with the requirements of Subparagraph (a)(1) of this Rule, the
34 employer may permit employees to utilize the 100% fall protection systems described in Paragraphs (d) through (g)
35 of this Rule. If the fall protection systems described therein are not present on the tower, the employer shall not
36 permit employees to climb the tower at heights above six feet unless:

- 1 (1) an alternative means of 100% fall protection is utilized that is at least as effective as the fall
2 protection systems described in Paragraphs (d) through (g) of this Rule;
- 3 (2) an alternative means of access to the work area is utilized such as an aerial lift or elevated work
4 platform; or
- 5 (3) the employer can demonstrate that the requirements for a fall protection plan under Paragraph (i)
6 of this Rule have been met.
- 7 (d) Guardrail Systems. The employer shall ensure that guard rail systems and their components that are utilized by
8 employees as a means of 100% fall protection conform to the criteria in 29 CFR 1926.502(b).
- 9 (e) Personal Fall Arrest Systems (PFAS). The employer shall ensure that personal fall arrest systems and their
10 components that are utilized by employees as a means of 100% fall protection conform to the criteria in 29 CFR
11 1926.502(d), and are utilized according to the manufacturer's recommendations. When utilized by employees as an
12 anchorage as part of a PFAS, the employer shall ensure that step bolts and the attachment point to the structure are
13 designed to meet the requirements of an approved anchorage in accordance with 29 CFR 1926.502(d), and are
14 designed to ensure the connector will not slip off the end of the step bolt.
- 15 (f) Positioning Device System. The employer shall ensure that positioning device systems and their components
16 that are utilized by employees as a means of 100% fall protection conform to the criteria in 29 CFR 1926.502(e).
- 17 (g) Ladder Safety Systems. The employer shall ensure that, in addition to the applicable criteria in 29 CFR 1926,
18 Subpart X, ladder safety systems and related support systems for fixed ladders that are utilized by employees as a
19 means of 100% fall protection conform to the following criteria:
- 20 (1) Prior to climbing the structure, the employer shall ensure that the employee(s) have tested the
21 ladder safety system for proper operation and that all components utilized with the ladder safety
22 system are compatible.
- 23 (2) To perform the test required by Subparagraph (g)(1) of this Rule, the employee(s) shall:
- 24 (A) Approach the ladder at the base and connect to the functional safety climb system;
- 25 (B) Climb to a height less than six feet;
- 26 (C) Forcibly engage the device without letting go of the ladder;
- 27 (D) If the device functions as intended, the employee(s) shall begin the ascension;
- 28 (E) If the device does not function properly, the employee(s) shall immediately descend the
29 structure and shall not utilize the device until it functions properly;
- 30 (3) If a ladder is obstructed, inhibiting the effective use of the ladder safety system, an alternative
31 means of 100% fall protection shall be utilized that is at least as effective as the types of fall
32 protection described by this Rule.
- 33 (h) Fall Protection Plan. This Paragraph applies when employees are working on a structure where no adequate tie-
34 off anchorage point(s) exist, the fall protection systems described in Paragraph (c) of this Rule are not feasible or
35 create a greater hazard, and the work can not be completed utilizing an alternative means of access to the work area
36 such as an aerial lift or elevated work platform. If an employer demonstrates the foregoing conditions are present,
37 then in addition to the criteria in 29 CFR 1926.502(k), the employer shall conform to the following provisions:

- 1 (1) The employer shall ensure that each employee under the fall protection plan has been trained as a
2 qualified climber.
- 3 (2) The fall protection plan shall be made available and communicated to exposed employee(s) prior
4 to the employee(s) beginning work, and such communication shall be documented.
- 5 (3) The fall protection plan shall identify each location on the tower structure where fall protection
6 methods as described in Paragraph (c) of this Rule cannot be used. As soon as adequate tie-off
7 anchorage points or other fall protection systems can be established, the employer shall utilize any
8 of the fall protection systems described in Paragraph (c) of this Rule.
- 9 (i) Emergency and Rescue Procedures.
- 10 (1) The employer shall establish procedures for prompt rescue of employees in the event of an
11 emergency, which shall include whether the employer will designate its own employees to
12 perform the rescue procedures or whether the employer will designate a third-party to perform the
13 rescue procedures. The procedures shall be documented and available for review by the Deputy
14 Commissioner of Labor for Occupational Safety and Health or his designee, upon request.
- 15 (2) Employer to Perform Rescue Procedures. An employer whose employees have been designated to
16 provide elevated (high angle) rescue and emergency services shall take the following measures:
- 17 (A) Ensure at least two trained and designated rescue employees are on site when employees
18 are working at heights over six feet on the tower, provided however, where there are only
19 two employees on site, then an employer may comply with the requirements of this Part
20 if one employee is a trained and designated rescue employee and one employee ~~has been~~
21 ~~designated by the employer as a probationary employee and~~ has been employed for less
22 than six nine months and has received documented orientation from the employer
23 outlining steps to take in an emergency;
- 24 (B) Ensure that personal protective equipment (PPE) and high angle rescue equipment needed
25 to conduct elevated rescues are provided, used and maintained by the designated rescue
26 employees;
- 27 (C) Train designated rescue employees so they are proficient in the use and maintenance of
28 PPE and high angle rescue equipment needed to conduct elevated rescues; and
- 29 (D) Train designated rescue employees to perform assigned rescue duties to ensure that they
30 become competent to perform such duties, including conducting simulated rescue
31 operations at least once every 12 months.
- 32 (3) Third-Party to Perform Rescue Procedures. An employer who designates a third-party rescue and
33 emergency service to provide elevated (high angle) rescue and emergency services shall take the
34 following measures:
- 35 (A) ~~Evaluate a prospective rescue team or service's ability~~ Obtain verification from the third-
36 party rescue team or service that it is able to respond to a rescue summons in a timely
37 ~~manner, considering the hazard(s) identified;~~ manner;

- 1 (B) ~~Evaluate a prospective rescue team or service's ability, in terms of proficiency. Obtain~~
2 ~~verification from the third-party rescue team or service that it is proficient with rescue-~~
3 ~~related tasks and equipment, to function appropriately while equipment as they relate to~~
4 ~~rescuing climbers from elevated heights on communication structures;~~
5 (C) Select a rescue team or service from those evaluated that has verified it has the capability
6 to reach the victim(s) and is equipped for and capable of performing the needed rescue
7 services;
8 (D) Provide the selected rescue team or service ~~selected~~ with ~~access to~~ contact information
9 regarding all towers/structures from which rescue may be necessary so that the rescue
10 service can develop appropriate rescue plans and practice rescue ~~operations;~~ operations as
11 it deems necessary; and
12 (E) Inform ~~each~~ the selected rescue team or service, prior to the first day on which
13 employee(s) perform work at heights over six feet on the tower, of the site and location of
14 the tower(s) to be climbed; the hazard(s) identified on the site; the number of employees
15 that will climb the tower(s); the height(s) at which employee(s) will be working; the
16 name(s) and telephone number(s) for any employer contact(s); and, any other information
17 that is requested by the rescue team or service.

18 (j) First Aid/CPR Training and Supplies. In addition to the requirements of 29 CFR 1910.151 and 29 CFR 1926.50,
19 the employer shall ensure that at least two employees on site are trained and hold current certifications in basic first
20 aid and cardiopulmonary resuscitation (CPR) issued by the American Red Cross or any other organization whose
21 standards are equivalent to the American Red Cross; provided, however, where there are only two employees on
22 site, then an employer may comply with the requirements of this Paragraph if one employee is trained and holds
23 current certifications in basic first aid and CPR and one employee has been designated by the employer as a
24 probationary employee and has been employed for less than six months.

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26 *Authority G.S. 95-131.*