WELCOME

The following material is being provided for informational purposes and in order to promote safety awareness. It does not constitute nor should it serve as a substitute for legal or other professional advice. Alcatel-Lucent makes no representations or warranties of any kind, express or implied, in providing this material.

EHS COMMITMENT FROM THE TOP

My ambition is for Alcatel-Lucent to be the recognized leader in sustainability and responsible business innovation for the technology industry.

Michel Combes

CEO Alcatel-Lucent

2013 Sustainability Report

Right First Time
SAFE EVERY TIME

ZERO TOLERANCE SAFETY PRINCIPLES

We always use the appropriate Personal Protective Equipment and Fall Arrest systems when working at heights.

We never work under the influence of alcohol or drugs.

We never work on energized equipment or in the vicinity of high voltage power transmission lines unless qualified.

We always have a lift plan when performing a critical lift.

We never exceed speed limits or travel at speeds which are dangerous for the type of road, vehicle, or conditions.

We always wear seat belts when travelling in, or operating vehicles.

We never use a hand held phone or text while driving.

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Tower Climbing Awareness

LES109WG – December 2014

AGENDA

- Program Objectives
- EHS Policy
- Introduction
- General Requirements
- Medical Examination
- Training and Certification
- Tower Climbing Safety and Rescue Equipment
- Clothing and Personal Protective Equipment
- Tower Safety Climbing Procedures

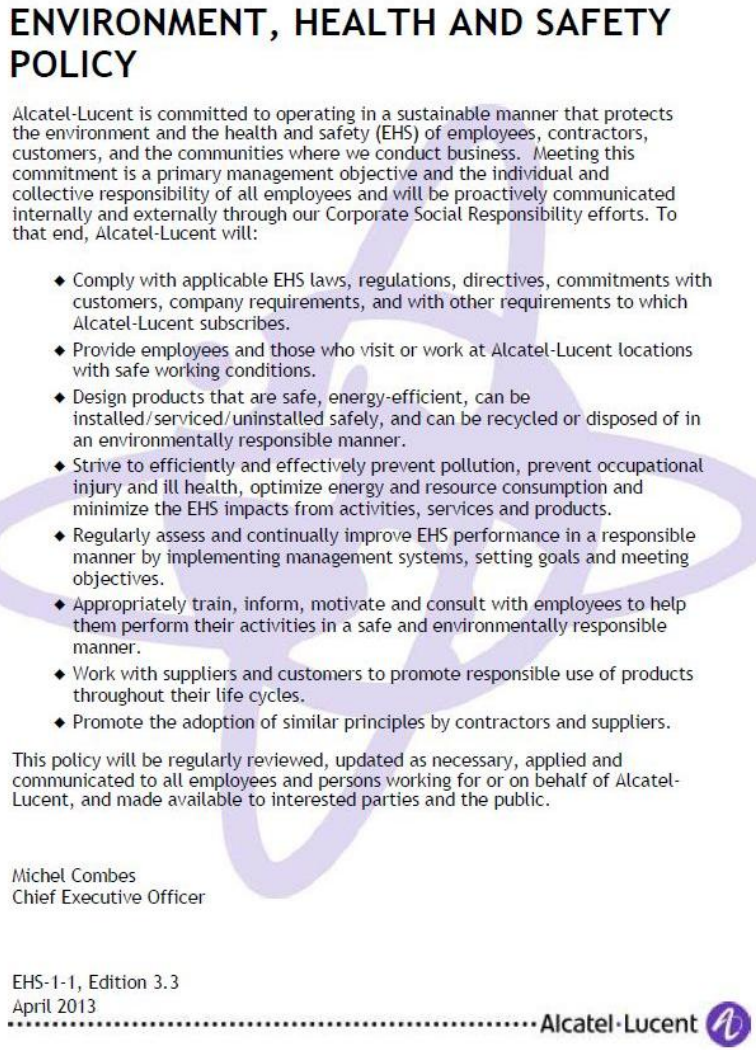
PROGRAM OBJECTIVES

The objective of this course is to gain an understanding of:

- hazards associated with Tower Climbing operations
- medical examination requirements
- training requirements applicable to employees participating in tower climbing operations
- safety and rescue equipment to be used in climbing operations and
- safe working procedures while performing tower climbing operations

ALCATEL-LUCENT EHS POLICY

The Alcatel-Lucent Environment, Health and Safety Policy provides the framework for EHS performance improvement in support of the business strategy.



ENVIRONMENT, HEALTH AND SAFETY POLICY

Alcatel-Lucent is committed to operating in a sustainable manner that protects the environment and the health and safety (EHS) of employees, contractors, customers, and the communities where we conduct business. Meeting this commitment is a primary management objective and the individual and collective responsibility of all employees and will be proactively communicated internally and externally through our Corporate Social Responsibility efforts. To that end, Alcatel-Lucent will:

- Comply with applicable EHS laws, regulations, directives, commitments with customers, company requirements, and with other requirements to which Alcatel-Lucent subscribes.
- Provide employees and those who visit or work at Alcatel-Lucent locations with safe working conditions.
- Design products that are safe, energy-efficient, can be installed/serviced/uninstalled safely, and can be recycled or disposed of in an environmentally responsible manner.
- Strive to efficiently and effectively prevent pollution, prevent occupational injury and ill health, optimize energy and resource consumption and minimize the EHS impacts from activities, services and products.
- Regularly assess and continually improve EHS performance in a responsible manner by implementing management systems, setting goals and meeting objectives.
- Appropriately train, inform, motivate and consult with employees to help them perform their activities in a safe and environmentally responsible manner.
- Work with suppliers and customers to promote responsible use of products throughout their life cycles.
- Promote the adoption of similar principles by contractors and suppliers.

This policy will be regularly reviewed, updated as necessary, applied and communicated to all employees and persons working for or on behalf of Alcatel-Lucent, and made available to interested parties and the public.

Michel Combes
Chief Executive Officer

EHS-1-1, Edition 3.3
April 2013

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INTRODUCTION

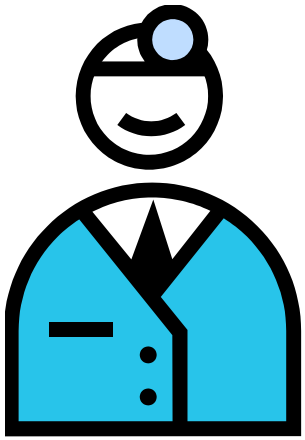
- Climbing towers is a complex and dangerous operation that requires a high level of mental alertness, physical fitness, preparation, knowledge, experience and training.
- Accidental falls are the second leading cause of occupational fatalities worldwide, resulting in about 11,000 deaths per year. Death is common in falls of 2 meters or more.
- Falls from Telecommunications Towers have resulted in fatalities, globally and for ALU contractors involved in projects granted to ALU by its customers.
- This training will help Alcatel-Lucent reduce the risk of serious injuries or fatalities to employees that climb towers.

GENERAL REQUIREMENTS

- Be examined and medically certified as physically capable of climbing towers by a qualified physician
- Be trained and certified in the proper and safe procedures for climbing towers, including rescue procedures
- Be trained and certified in first aid and cardiopulmonary resuscitation (CPR)
- Be provided with, and use, the approved tower climbing safety and rescue equipment (including a full-body harness) that is appropriate for the type(s) of tower(s) to be climbed
- Be attached to the tower at all times during climbing operations
- Follow all tower climbing safety procedures

MEDICAL EXAMINATION

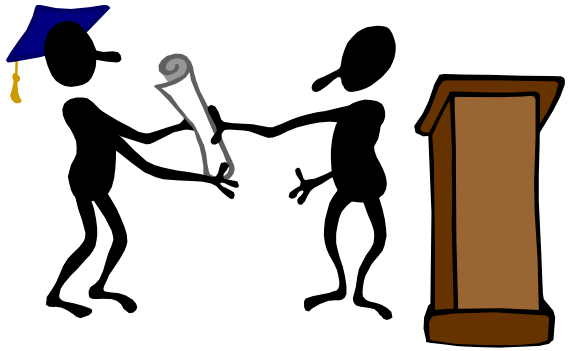
- Prior to being trained, all affected employees shall be examined by a qualified physician who will certify, in writing, whether or not the employee is physically capable to perform the stressful and strenuous activities involved in climbing towers.
- The written certification should be addressed to the employee's direct supervisor, who should sign and date it to indicate that he/she has received and read it. Medical examinations of certified employees shall be conducted at a minimum of 3-year intervals.



TRAINING AND CERTIFICATION

After being medically certified, and prior to climbing any towers, all affected employees shall successfully complete tower climbing safety and rescue training and certification. The training and certification shall:

- include a classroom session, a written examination, and actual climbing and rescue exercises on a real tower in the field similar to the type of tower that employees will encounter during their job
- include a personalized and dated certificate to each affected employee that successfully completes the written examination and the field exercises
- be repeated every 5 years



TRAINING AND CERTIFICATION cont´d…

Affected employees may be permitted to become internal tower climbing safety and rescue instructors if they:

- possess strong tower climbing skills
- have a minimum of 5 years tower climbing experience
- exhibit strong communications and mentoring skills
- have successfully completed and are certified in an approved “Train-the-Trainer" tower climbing safety course
- deliver the approved course in the exact same manner in which it was delivered to them
- are monitored initially and periodically by the EHS Coordinator (or other designated individual) to ensure that the course integrity remains unchanged
- maintain their skills through continuous education and practice with new tower climbing safety tools and techniques

All affected employees shall be trained in first aid and cardiopulmonary resuscitation (CPR) prior to climbing any towers

All affected employees shall practice safe climbing techniques and rescue procedures at least once per year

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TOWER CLIMBING SAFETY AND RESCUE EQUIPMENT

Individual Safety equipment to be used by certified employees

Note: Always follow manufacturer's instructions

Spreader snap

Fall arrestor

Carabiners
(at least 2)

By pass lanyard

Dorsal extension

appropriately-sized
full-body harness

anchor strap

Equipment bag

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TOWER CLIMBING SAFETY AND RESCUE EQUIPMENT cont…

Safety equipment to be provided to the tower climbing work crew for shared use

Note1: Always follow manufacturer's instructions

Note 2: Type and amount of shared PPE and Rescue equipment may vary depending on type of structures to climb and locally available designs of these devices.

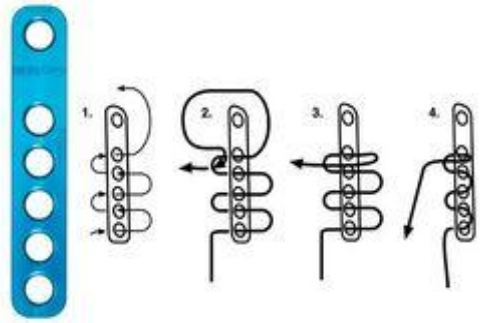
carabiners
(at least 3)

decent rope (1.3 cm x 91 meters)
With descending device

Fisk descender

vertical lifeline
(1.6 cm x 91 meters)

rope grab



rope termination plate

rescue equipment bag

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CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT

All certified employees shall wear the following clothing and personal protective equipment at all times during tower climbing activities:

- full body safety harness that meets the specifications outlined in the Alcatel-Lucent Tower Safety Climbing Program
- hard hats (both on the tower and on the ground in the vicinity of the tower)
- gloves that are water resistant, snug, and have good gripping ability
- shoes with rigid non-slip soles
- safety glasses (tinted safety glasses are recommended when working in bright sunlight)
- long pants and long-sleeved shirts

TOWER CLIMBING SAFETY PROCEDURE: (PRE-CLIMB SAFETY MEETING AND PLAN)

Prior to each climb the leader of the work crew shall conduct a Pre-Climb Safety Meeting to:

- identify and review potential hazards and how to deal with them
- identify appropriate equipment and tools to be used for the job
- plan out the actual climb and identify appropriate anchorage points
- review rescue and emergency procedures
- develop and review written, site-specific Tower Climbing Safety Work Plan

TOWER CLIMBING SAFETY PROCEDURE: (POTENTIAL HAZARDS)

The potential hazards of working on or near towers include, but are not limited to:

- falling from the tower
- bent, loose, wet or missing ladder rungs and/or tower support members
- loose or rusty bolts
- antennas, equipment and/or structural members in the climbing path
- snagging tools and/or clothing on tower protrusions
- falling tools or equipment
- energized antennas
- high winds
- over exertion
- electrical wires and/or equipment
- insects, birds or other animals
- bright sunshine or intense glare
- extreme heat or cold
- chance of rain, snow or hail
- snow and/or ice on the tower or falling from it
- chance of extreme weather such as thunderstorms, hurricanes, typhoons or tornadoes
- chance of earthquakes
- potential for violence

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TOWER CLIMBING SAFETY PROCEDURE: (PRE-CLIMB SAFETY INSPECTION)

Each tower climbing work crew shall inspect the tower prior to each climb. If any of the following defects are found, the crew shall not climb the tower until the problem is corrected by a qualified tower construction professional:

- loose structures, missing bolts, broken parts or signs of vandalism
- cracks, bends, loose connections or metal fatigue
- rust or buckling due to water freezing in pipe supports
- guy wires that are broken, frayed or not in tension
- tower is not plumb (i.e., twisted, crooked or leaning)

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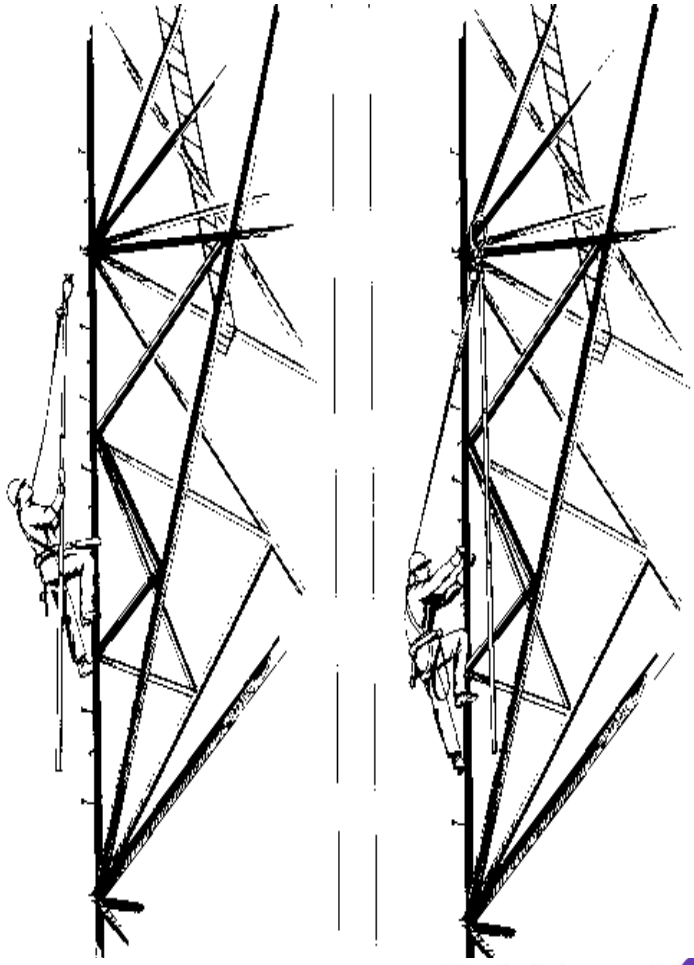
TOWER CLIMBING SAFETY PROCEDURE: (PRE-CLIMB EQUIPMENT INSPECTION)

- All certified employees shall inspect their tower climbing safety and rescue equipment prior to each climb.
- Harnesses, lanyards and accessories with cuts, worn spots, excessive abrasions, material separation or fatigue, or cracks shall be removed from service immediately, rendered unusable, tagged as "defective" and discarded.

TOWER CLIMBING SAFETY PROCEDURE: (SAFE CLIMBING)

While climbing, affected employees shall:

- wear an approved full-body harness
- wear appropriate clothing and personal protective equipment
- use the appropriate fall arrestor if the tower is equipped with a climbing protection system
- use a dual or “Y” lanyard if the tower is not equipped with a climbing protection system
- visually determine that lanyards are fastened at both ends before climbing
- remain attached to the tower at all times
- maintain three points of contact with the tower during climbing (i.e., two legs & one hand, or two hands & one leg) at all times



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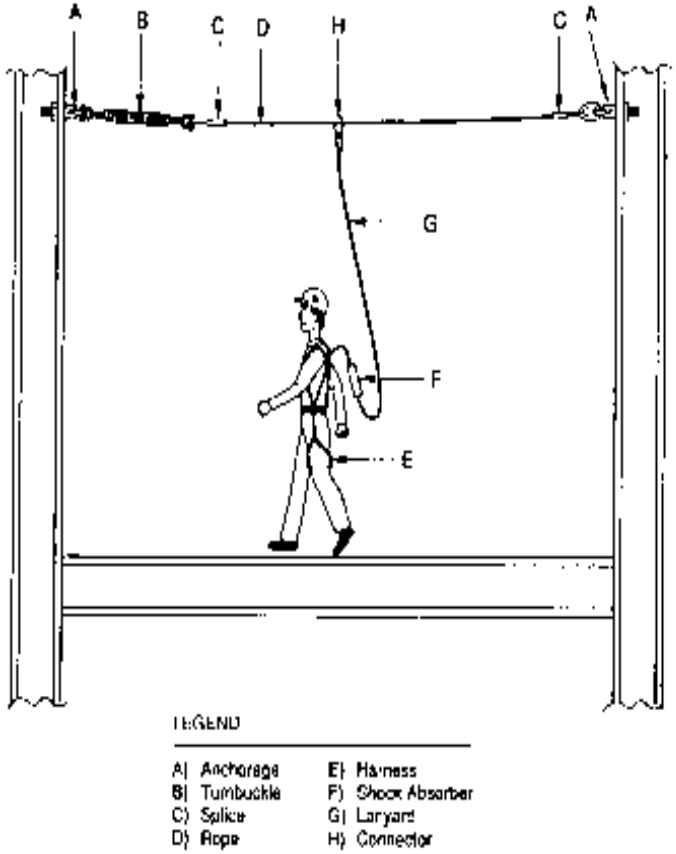
TOWER CLIMBING SAFETY PROCEDURE: (SAFE CLIMBING)... cont.

While climbing, affected employees shall:

- install a horizontal lifeline when it is necessary to repeatedly cross an open span by walking on a horizontal tower member
- use a separate tool belt to securely attach and carry tools up to a maximum of 10 kilograms
- use a rope to raise or lower tools or equipment in excess of 10 kilograms
- continually monitor and evaluate weather conditions and communicate any imminent changes to the work crew leader

Horizontal Life Line



TOWER CLIMBING SAFETY PROCEDURE: (SAFE CLIMBING)... cont.

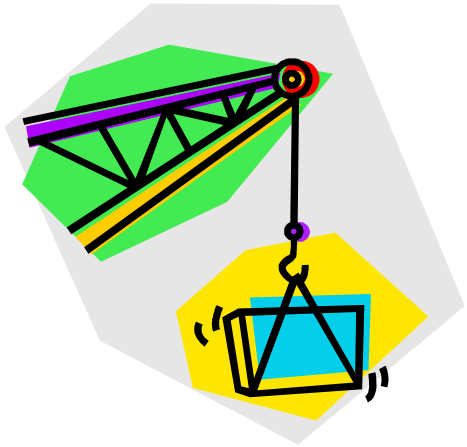
Certified employees shall NOT climb towers:

- without at least one other certified climber
- without a ground crew of at least one worker trained in Aid/CPR
- while intoxicated or under the influence of mood-altering drugs(prescription or not)
- during an illness or when suffering from such physical symptoms such as dizziness, weakness, abdominal pains, and/or muscle cramps
- during rain, snow, hail, thunderstorms, hurricanes, typhoons, or while tornado warnings are in effect
- that are covered with ice and/or snow unless it can be removed without endangering the climbers or the ground crew
- during periods of wind 45 km/h or greater
- during periods of fog that is thick enough to completely obscure all climbers from the vision of the ground crew

TOWER CLIMBING SAFETY PROCEDURE : (SAFE CLIMBING…cont…)

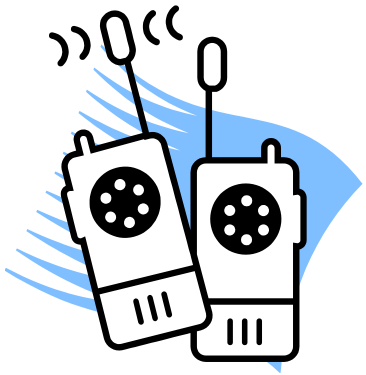
While climbing, certified employees shall NOT

- allow the lanyard length to permit a free fall greater than 2 meters
- attach lanyards to coaxial cables, antennas or antenna mounting supports
- slide lanyards over sharp metal tower members
- attach tools or equipment to their harness
- climb, rest or work directly underneath a suspended load



TOWER CLIMBING SAFETY PROCEDURE: (WORKING AT NIGHT)

Working on towers at night is permitted if it is not possible to re-schedule the work to daylight hours AND the following measures are taken (in addition to those listed in Safe Climbing Section):



- all climbers shall maintain radio contact with the ground crew at regular intervals
- all climbers shall use hard hats that are equipped with a light of sufficient illumination to allow the work to be done safely

- All climbers have resting periods as established by ALU guidelines or by local regulations.

..AND REMEMBER THAT…

Tower Climbing Safety Training is MANDATORY for individuals utilizing Fall Arresting devices.

This training instructs on the proper selection and use of an anchorage point, securely hooking up the equipment, and safely moving from one area to the next.

Contact your EHS Professional to schedule training. You must learn how to maintain the equipment. Always inspect fall protection equipment components before every use. Remove from service if worn, frayed, defective, or subjected to impact load as a result of a fall.

SUMMARY

- Be examined and medically certified as physically capable of climbing towers.
- Be provided with, and use, the approved tower climbing safety and rescue equipment that is appropriate for the type(s) of tower(s) to be climbed
- Follow safe and proper work procedures while performing tower climbing operations.
- Know what clothing and personal protective should be worn during tower climbing activities
- Perform a Pre-Climb Safety Meeting and Plan prior to each job
- Complete mandatory training requirements for participating in tower climbing operations (i.e. First Aid/CPR, Tower Climbing Safety Training and Rescue Training and certification)
- Follow up with your local EHS Resource to get more information of hazards associated with Tower Climbing operations and arrange for required training

Questions or Comments?

Contact:

- Your local EHS Coordinator for Tower Climbing Safety and Rescue Equipment and information on how to be a certified climber.

NOTE: This training module is an "AWARENESS SESSION" only. It does not certify you as a tower climber.

- Regional EHS Leaders

APAC - Ong Wee Liang

CALA - Martha Montes

EMEA - Robert Nolan

NAR - Rich Quick