Tall Tower Rescue

NOUVELLE HAUTEUR INC.

STAC CSPA

Introduction

- The need for team self-rescue ability in the telecom industry is now vastly accepted and required in North America. However, we have very little knowledge or data about actual real-life rescue events and the conditions in which they were performed.

NOUVELLEHAUTEUR INC.

Introduction

- In its effort to develop and promote safe work practices for all personnel involved with communications towers and related industry infrastructure, STAC has identified the need to perform a rescue test at high elevation with real-life/work scenarios. Data gathered from these tests will determine the feasibility and technical requirements of such rescues and set the foundation to create best practices and rescue guidelines.

Reasons for the tests

- In 2016 there were many telecom companies that had contacted us asking our advice for tower rescue over 600 feet, this is when we realized that we needed to actually perform a tower rescue in general. We decided to execute this rescue not with a rigging crew but with a company that specializes in rescue and works with the equipment day in and day out.

NOUVELLEHAUTEUR INC.

Rescue standards

- • ANSI/ASSE Z359.4-2007: Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components.

- NFPA 1983: standard on life safety rope and equipment for emergency services (2017 edition)

Project goals

- To bench mark the worst case scenario of a two man crew working at heights that do not have the option of rigging a tower.
- Examples. Azimuth services, engineering firms etc…

NOUVELLE HAUTEUR INC.

Project goals

- Gather data about rope rescue at high elevation, especially, the feasibility of such rescue by one person.
- Gather data about the time needed for different rescue scenarios (location of victim, location of rescue kit, number of rescuers).

NOUVELLE HAUTEUR INC.

Project goals

- Benchmark an appropriate time for a rescue at this height.
- Determine appropriate equipment for a rescue at this height.
- Determine the height at which additional kits/rescuers are needed.
- Highlight the technical issues and limiting factors inherent to a rescue at this height.

NOUVELLE HAUTEUR INC.

Project goals

- Help workers understand the challenges and safety hazards associated with this type of rescue.
- Help workers understand the importance of a rescue plan/planning in general.

NOUVELLE HAUTEUR INC.

Project goals

- Help workers understand the importance of planning out rescues under different scenarios.
- Help workers understand the importance of having a rescue rope at or near the height at which they are working.

NOUVELLE HAUTEUR INC.

Project goals

- Determine the amount of rescuers on site, depending on the height and type of structure.
- To raise awareness the importance of rescue training while workers are exposed to heights and the risks that come along with them.

NOUVELLE HAUTEUR INC.

Reasons for rescue

- Fall (with and potential injuries, victim conscious or unconscious)
- Injury (the victim cannot safely rescue himself or herself safely)
- Medical emergency (heat stroke, hypothermia, anaphylactic shock, heart ailment)
- Environmental emergency (fire, air quality, lightning, cold, wind)

NOUVELLE HAUTEUR INC.

Type of rescue

Self-rescue-evacuation

- The victim performs maneuvers unassisted and assumes responsibility for his choices.

Assisted rescue

- A rescuer takes charge of the victim and assumes responsibility for the rescue.

NOUVELLEHAUTEUR INC.

Types of rescue

Lowering

NOUVELLE HAUTEUR INC.

Type of rescue

Pick-off rescue

Type of structure

- Tests will be done in a guy tower heavily loaded with equipment.
- Guy tower with inside climbing ladder
- Height at least 350 feet or greater

NOUVELLE HAUTEUR INC.

Type of equipment

- The equipment that will be used in this test will be: NFPA 1983 since this is the only standard in North America that is actually recognized.

Test day

Test 1(pick-off)

Rescuer starts from the ground to save the victim who is stuck outside the structure, the rescuer would need to bring the rescue equipment up tower with him or her.

- Time required to reach victim
- Time required to retrieve and lower victim to safety

NOUVELLEHAUTEUR INC.

Test day

Test 2 (lowering)

- Rescuer starts from the top to save the victim who is stuck outside the structure, in this case the rescue kit will be at the workers elevation.
- Time required to reach victim
- Time required to retrieve and lower victim to safety

Test day

Test 3 (pick-off)

- Rescuer starts from the top to save the victim who is stuck outside the structure, in this case the rescue kit will be at the workers elevation.
- Time required to reach victim
- Time required to retrieve and lower victim to safety

NOUVELLE HAUTEUR INC.

Test day

Test 4 (lowering)

- Rescuer starts from the top to save the victim who is stuck outside the structure, in this case the rescue kit will be at the workers elevation.
- Time required to reach victim
- Time required to retrieve and lower victim to safety

NOUVELLE HAUTEUR INC.

Test day

- Test 5 (pick-off rescue inside tower)
- Rescuer starts from the top to save the victim who is stuck inside the structure, in this case the rescue kit will be at the workers elevation.
- Time required to reach victim
- Time required to retrieve and lower victim to safety

NOUVELLE HAUTEUR INC.

Test Day

Test 6 (Lowering rescue inside tower)

- Rescuer starts from the top to save the victim who is stuck inside the structure, in this case the rescue kit will be at the workers elevation.
- Time required to reach victim
- Time required to retrieve and lower victim to safety

NOUVELLE HAUTEUR INC.

Tall tower rescue vs standard

- Rescue kits may need to be modified or multiplied to support a rescue on a taller tower.
- The amount of workers on site may need to be increased due to possibilities of fatigue during standard work or rescue.
- Tower rescue training-techniques may need to be adapted for the extra maneuvers needed to perform this complex rescue.
- Do written procedure need to be modified for the tasks involved in the rescue

NOUVELLEHAUTEUR INC.

Final outcome

- To gather knowledge if the standard non rigging crew is capable of doing their job safely.
- To gather knowledge to see if training is sufficient. (including practice and drills)
- To help give the proper tools to the telecom companies so their workers are properly protected.

NOUVELLE HAUTEUR INC.