Ice Lead Climbing Trip Leader Standards

1. Introduction

The skills and guidelines in this document are intended to provide standards for the "**mountain skills**" needed to be a successful CMC technical trip leader for this activity. These skills are in addition to those outlined the CMC Trip Leader Manual.

2. Scope and Terrain

Lead Ice Climbing trips occur on single-pitch ice climbs in a variety environments. Ice Lead climbs are those that require the placement of ice screws or rock protection or or may have sections with insufficient protection to prevent serious falls. Single-pitch climbs are those climbed without intermediate belays. Approaches and/or descents to these climbs do not include notable navigational, terrain, or technical challenges.

3. Training and Experience

Training. CMC Ice Lead Climbing School and Self-Rescue I (or equivalent). Self-Rescue II is strongly encouraged.

The CMC recognizes that there are many avenues to climbing education, such as informal mentorship, professional instruction, or volunteer peer-based instruction (via organizations like the CMC, Mountaineers, Mazamas, etc.). Candidates that meet these activity standards are encouraged to become Tech Trip Leaders, too.

Climbing experience.

- Candidates typically have at least one year of ice lead climbing experience in a variety of terrain and types of ice.
- Candidates are confident leading ice climbs of at least WI3 at the time of their tech Leader-in Training trip.
- Candidates have led a minimum of thirty traditional or ice climbs; fifteen of these climbs are graded 5.6/WI3 or harder. The proportion of ice climbs satisfying the requirement shall be assessed on a case by case basis.

Assessment. Candidates are evaluated by experienced CMC mentors according to these standards.

4. Skills and Knowledge

Ice lead Climbing trip leaders are expected to demonstrate proficiency in executing, and applying the skills and knowledge listed below.

Climbing Movement. When climbing and placing protection, leaders are fluid, effective, and efficient on onsight leads of routes of at least WI3 in difficulty. They are versed in

climbing on a variety of ice types and features. Tool placements are solid and efficient. Crampon placements are efficient and once placed, feet stay quiet, avoiding break out. Ice screws are placed efficiently in carefully chosen locations from stances that minimize fatigue and employ solid ice.

Equipment. Leaders are knowledgeable about the variety of tools available to accomplish any relevant task, and the advantages and disadvantages of each. They appreciate the design, intended uses, and practical applications of each tool, and make selections and recommendations based on that knowledge. Equipment includes:

- fixed anchors (bolts, hangers, rappel rings, webbing, etc.)
- ice screws (as well as cams, stoppers, tricams, etc., as applicable)
- ropes (i.e. static and dynamic)
- harnesses
- personal protective equipment (helmets, gloves, etc.)
- footwear and crampons
- hard goods (belay/rappel devices, carabiners, ice tools, etc.)
- soft goods (slings, cord, tethers, etc.)

Leaders also display an understanding of non-climbing-specific outdoors equipment used on climbing outings. The leader will, for example, choose an appropriate pack for any given excursion. The contents of this pack will vary based on the venue but may include emergency supplies (first aid kit, headlamp, etc.), human waste disposal kit, communication devices, navigational aids, additional food and layers, and other items.

Leaders ensure equipment is reasonably suitable for its intended use.

Rope Management, Knots, and Hitches. Leaders proficiently manage rope when working with one rope by keeping organized workspaces and managing the ends of the rope. Belay systems manage slack appropriately to secure climbers and mitigate fall consequences.

Leaders have a mastery of the knots and hitches most prevalent in instructing single-pitch traditional climbing:

Knots	Hitches
Overhand on a Bight	Clove
BHK	Autoblock
Flat Overhand	Prusik
Figure-Eight Follow-Through	Klemheist
Figure Eight on a Bight	Basket
Bowline	Girth
Bowline with a Bight	

Double Fisherman's

Barrel

Mule

Protection Systems and Anchor Building. Leaders are versed in selecting, placing, evaluating, and instructing a variety of protection types (See "Equipment"), including terrain itself, in a wide array of climbing environments. They understand the general principles behind an item's construction and functionality and common mechanisms of failure.

Leaders have a practical understanding of protection principles, the nature of forces- both theoretical and real- affecting the climbing system, and techniques for building sufficient systems and safeguarding the integrity of those systems, including the use of double checks. Leaders appreciate how a variety of factors from rope drag and user error to weather conditions and rock type can affect the functionality of equipment and systems. They are prepared to anticipate and manage possible factors.

Leaders construct strong, secure, and simple anchors. They adjust their construction based on their knowledge of the many factors affecting climbing systems.

Belaying and Spotting. Leaders belay in a fundamentally sound manner. The principles of fundamentally sound belay mechanics are:

1. A brake hand must be maintained at all times.
2. Hand transitions should happen in the position of maximum friction.
3. The hands and limbs should be positioned ergonomically.

This is true whether they are belaying with a manual- or assisted-braking device. Leaders understand the need for vigilance, positioning, and the ability to anticipate changing belay needs.

Technical Descent. Leaders are knowledgeable about a variety of rappel and lowering set-up and back-up strategies. Leaders can assess and use relevant strategies based on the situation, including extensions, friction hitches, and back-up belays. Leaders are knowledgeable of and proficient in constructing and using V-thread rappel stations.

Rescue and Assistance Skills. Leaders are familiar with both unweighted and weighted load transfer (e.g. belay takeovers), unweighted and weighted ascension, as well as rappelling and lowering modifications necessary for basic intervention in a counterweight system.

Climbing Communication. Leaders utilize climbing communication techniques that accommodate a variety of environments and situations, including effective verbal and non-verbal strategies.

Objective and Terrain Identification. Leaders are adept at identifying appropriate objectives and terrain. They are also aware of and manage environmental hazards, including altitude, lightning, water crossings, rock fall, exposure to elements and precipices, and flora and fauna hazards. Leaders' familiarity with a variety of route selection tools (e.g. online resources, guidebooks, and peer input) enables them to find desired climbs and/or undocumented but climbable features.