IN THE MATTER OF:

THE TECHNICAL STANDARDS AND SAFETY ACT 2000,
S.O. 2000, c. 16

- and -

ONTARIO REGULATION 209/01 (Elevating Devices)
made under the Technical Standards and Safety Act 2000

Subject: Required changes to unloading areas of chair lifts for the 2007/08 season
Sent to: All Chair Lift Owners / Operators

The Director, Elevating Devices Regulation (O.Reg. 209/01) pursuant to his authority under the Technical Standards & Safety Act 2000 hereby orders the following:

1. ORDER

1.1. Prior to operating for the 2007/2008 season, all owners of chair lifts will remove all “Prepare to Unload” sign(s) from the lift towers, structures or terminals.

1.2. Prior to operating for the 2007/2008 season, all owners of chair lifts shall relocate the “Raise Restraining Device” sign and install an additional sign as follows:

a) The “Raise Restraining Device” sign (with pictogram) shall be removed from its current location, and relocated to the “Lift Bar Point”. A new sign shall be mounted directly underneath the “Raise Restraining Device” sign that conveys the message “Raise Bar Here” and includes an arrow pointing to the “Lift Bar Point”. See Figure 1.

b) The signs shall be installed along the unloading path, just before the unloading terminal. These signs shall be in compliance with CSA Z98-01, Section 3.32. Note that the location of the sign along the unloading path is different for fixed and detachable lifts.

c) The signs shall be placed in clear view of the chair occupants at approximate eye level to the average rider and be free of obstructions. The signs can be mounted to the right or left of the lift path, and the Resort has the option to put two new signs, one on each side of the path if preferred. The yellow and red “New” sign as shown in Figure 1 below is optional.

d) Where a “Raise Restraining Device” sign was not already present, or is illegible due to damage or age, a new sign shall be installed at the “Lift Bar Point”.

Fixed Grips – “Lift Bar Point”

e) The location of the “Lift Bar Point” is determined by the horizontal distance based on time, in seconds from the actual unloading point.
To calculate location for sign placement: determine location of the “unloading point” and measure back to the “Lift Bar Point”, a distance of “A” metres. (See Figure 2 / Table 1)

Distance “A” (metres) = Lift speed (metre/second) x 4 seconds

The height of the sign is dependent on the height of the chair at the “Lift Bar Point”. The sign shall be placed in clear view of the chair occupants at approximate eye level to the average rider. Dimensions are shown in Figure 2 below, with acceptable maximum and minimum values listed in Table 1.

**Detachable Grips – “Lift Bar Point”**

f) The sign(s) shall be placed at the entrance to the unloading terminal.
### Table 1
Minimum & Maximum Values of “A” and “B” Based on Lift Speed

<table>
<thead>
<tr>
<th>LIFT SPEED (m/s)</th>
<th>LIFT SPEED (fpm)</th>
<th>REQUIRED MINIMUM</th>
<th>RECOMMENDED MAXIMUM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Horizontal distance 'A' (metres) to SIGN</td>
<td>Horizontal distance 'A' (feet) to SIGN</td>
</tr>
<tr>
<td>1.5</td>
<td>295.3</td>
<td>6.0</td>
<td>19.7</td>
</tr>
<tr>
<td>1.6</td>
<td>315.0</td>
<td>6.4</td>
<td>21.0</td>
</tr>
<tr>
<td>1.7</td>
<td>334.6</td>
<td>6.8</td>
<td>22.3</td>
</tr>
<tr>
<td>1.8</td>
<td>354.3</td>
<td>7.2</td>
<td>23.6</td>
</tr>
<tr>
<td>1.9</td>
<td>374.0</td>
<td>7.6</td>
<td>24.9</td>
</tr>
<tr>
<td>2.0</td>
<td>393.7</td>
<td>8.0</td>
<td>26.2</td>
</tr>
<tr>
<td>2.1</td>
<td>413.4</td>
<td>8.4</td>
<td>27.6</td>
</tr>
<tr>
<td>2.2</td>
<td>433.1</td>
<td>8.8</td>
<td>28.9</td>
</tr>
<tr>
<td>2.3</td>
<td>452.8</td>
<td>9.2</td>
<td>30.2</td>
</tr>
<tr>
<td>2.4</td>
<td>472.4</td>
<td>9.6</td>
<td>31.5</td>
</tr>
<tr>
<td>2.5</td>
<td>492.1</td>
<td>10.0</td>
<td>32.8</td>
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<td>2.6</td>
<td>511.8</td>
<td>10.4</td>
<td>34.1</td>
</tr>
<tr>
<td>2.7</td>
<td>531.5</td>
<td>10.8</td>
<td>35.4</td>
</tr>
<tr>
<td>2.8</td>
<td>551.2</td>
<td>11.2</td>
<td>36.7</td>
</tr>
</tbody>
</table>

1.3. Ongoing observation and feedback from the ski industry is critical to a successful drive toward zero falls. To monitor the effects of changes to the unloading area, at least three times during the 2007/2008 season, all owners of chair lifts shall report information as follows:

a) Ski resort operators shall observe a minimum of 100 unloads from each chairlift, at three separate times during the ski season and record on the available form the distance patrons are raising the restraining device prior to the UNLOAD Point.

b) Complete one form and provide the results of the 100 unload observations for each chair lift during each of the following time frames:

- Christmas Break: December 26 to January 1
- Mid Season: February 1 to 5
- March Break: March 10 to 14

c) The required form for data collection will be available in downloadable format from the website by October 31st, 2007. This information shall be submitted to TSSA by e-mailing to zerofalls@tssa.org or faxing to 416-231-7525 within 14 days of the corresponding week’s end: January 15th, February 19th and March 28th respectively.
1.4. Variances

If any directions contained within this Order cannot be met, a variance application must be submitted. The variance shall be submitted in a form acceptable to the Director, and shall detail the reasons why compliance is not possible, and shall detail the alternative means of improvement that will be implemented.

http://www.tssa.org/regulated/ski/skiForms.asp

Note: Photographs submitted with variance applications must be sent as attachments to an email, sent in paper copy or on a compact disc via regular post. A facsimile of a photograph does not yield a useful image.

Note: Section 37 of the Act provides that “every person who fails to comply with an order; is guilty of an offence and on conviction is liable to a fine of not more than $50,000 or to imprisonment for a term of not more than one year, or to both, if the person is a body corporate, to a fine of not more than $1,000,000.

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Roland Hadaller P.Eng.
Director, Ontario Regulation 209/01 (Elevating Devices), appointed under the Technical Standards and Safety Act, 2000.

This Director’s Order has been developed in consultation with the Ontario Snow Resorts Association.

2. BACKGROUND

On January 4, 2007, two small children fell out of different chair lifts on the same day. TSSA investigated these incidents and formed a Risk Reduction Group (RRG) to investigate and provide recommendations.

Data collection is showing that for many patrons, the ‘Prepare to Unload’ (PTU) sign is synonymous with “Lift Bar” and because the PTU sign is most commonly mounted on the last tower before the unloading terminal, patrons are lifting the bar far before it is necessary and often at excessive heights. Evidence is suggesting that regardless of the individual interpretation, the PTU sign has become a trigger to lift the restraining device despite the terrain or height of the chair.

3. INTRODUCTION

The RRG was formed in January of 2007 and consisted of ski industry representatives, the TSSA, manufacturers, and industry consulting engineers. The required changes defined in this bulletin are due in part to feedback received from the ski industry and the data obtained from the questionnaires distributed with Safety Alert Bulletin 221/07. Changes defined herein do not define an all-encompassing solution to the issue of children falling from chair lifts, but instead, comprise the beginning of an iterative and ongoing process.

The RRG has defined four separate and equally important focus areas in need of change and improvement:

1. Public Education
2. Staff Training
3. Designate “Lift Bar Point”
4. Minimize the possible fall distance at the “Lift Bar Point”
4. ADDITIONAL RECOMMENDATIONS

4.1. Public Education

The public is any person that rides a chair lift. This group can be divided into two subgroups: the experienced and the beginner. The approach to education of these two groups must be different, but are equally important. Beginners come without preconceived ideas or bad habits. The experienced will be riding with beginners, setting the example and influencing beginners far beyond their first lesson.

4.1.1 Educate the Beginners

The majority of beginners will take a ski lesson at some point. This is an ideal opportunity to educate the public not only in methods for learning to ski or snowboard, but also to make it to the top of the lift safely and to unload properly. Snow school training should focus on promotion of ‘Look Load Lower’ (LLL) and client supervision.

New and updated LLL posters will be available for 2007/08. This year, take a look at your current signs and consider removing non-mandated obsolete or aging signs that contribute to sign noise. Consider posting the new LLL posters at the bottom of beginner lifts.

4.1.2 Re-Educate the Experienced Skier/Snowboarder

Experienced skiers and snowboarders can be some of the worst offenders when it comes to lifting the bar too early. Their familiarity with the process and complacency when it comes to safety rules is not only putting themselves in danger, but the children who are riding along with them. These groups must be re-educated.

Industry-wide involvement is required to change the current attitudes of the public. The season ticket holders, the members and the expert skiers need to be re-educated on the acceptable point to lift the bar. This education, and a change in attitude of resort employees, in parallel with new signs and the appearance of the unload area change will put into motion a change in the attitudes of all skiers within Ontario.

Returning skiers/snowboarders will notice the new signs and the change in appearance of the unloading area. Lift attendants at the loading and unloading stations should be instructed to continue to enforce the rules and instruct patrons to lower the bar upon departure of the loading station, and to keep the bar down until reaching the “LIFT BAR POINT”. An elevated level of surveillance and enforcement is recommended as a way to capture the attention of seasoned skiers and snowboarders.

4.2. Staff Training

Management shall prepare procedures and observe their unloading and loading attendants at the beginning of the season with the following questions in mind:

- Is enough supervision present at the loading station to minimize the risk of misloads?
- Can the loading station attendant(s) adequately supervise chair loading and also ensure that patrons are putting the bar down?
- Who has the responsibility to instruct patrons in the chair to put their bar down? Are they aware of their responsibilities?
- How will the unload station attendant communicate to patrons who are lifting the bar too early?
- Are the attendants trained on how to handle situations with patrons who do not follow the rules?
- Do we have a policy regarding patrons who repeatedly break rules? How do we catch repeat offenders?
- Do we have a policy regarding inexperienced skiers/snowboarders who are riding alone?
- Are all groups (Ski School, Ski Patrol, Lift Attendants, Public) aware of our current and/or new policies?
4.3. Minimizing the Fall Distance at the Lift Bar Point

It is recommended that the possible fall distance be limited to no more than 3 metres at the “Lift Bar Point”.

Instructing patrons to raise the restraining device only when at the unloading station or only in locations where the distance to the ground is within acceptable limits is the ideal, the intention is to minimize the potential fall distance without creating another hazard. It is also important to minimize the risk of injury by providing surfaces beneath the unloading zone that are the least likely to cause serious injury, and ideally, absorb impact.

Fill can be added to decrease the possible fall distance at the “LIFT BAR POINT”. Temporary fill such as hay bails could be used and covered with snow.

Alternatively, where fill cannot be used to reduce the distance to within an acceptable 3 metre range, safety nets can be installed. Where a safety net is installed, a ‘Minor A’ type submission shall be submitted.

4.4. Best Practices

A useful list of best practices created by the RRG titled “Working together to Stop Falls From Carriers” is attached to this director’s order for your review and reference.
Working together to STOP...

Falls from Carriers

The intent of this best practices document is to assist the ski industry with their training and operating procedures. The primary focus is to work to eliminate chairlift rider incidents. Through this initiative we can educate novice and young chairlift riders and ski industry personnel to promote, practice and participate in safe chairlift use and operation protocols throughout Ontario. The body best suited for delivery of each point is illustrated in brackets.

1. Talk to first time riders about proper methods of loading, riding and unloading. (Ski Professionals, Ski Patrol, Lift Operations)
2. Younger riders may need multiple reminders of proper methods of loading, riding and unloading. (Ski Professionals, Ski Patrol, Lift Operations)
3. Ensure that all signage is visible. (Lift Operations)
4. Ensure that all signage is understood. (Ski Professionals, Ski Patrol, Lift Operations, TSSA)
5. Introduce and promote the Look Load and Lower programme. (Ski Professionals, Ski Patrol, Lift Operations, TSSA)
6. Consider taking poles away from novice and young riders. (Ski Professionals, Ski Patrol, Lift Operations)
7. Use additional personal in the line up to help organize and educate riders. (Ski Professionals, Ski Patrol, Lift Operations)
8. Critique the position of the lift operator(s) and provide constructive feedback if necessary. (Lift Operations)
9. Critique the loading and unloading ramps and provide constructive feedback if necessary. (Lift Operations)
10. Verbalize to riders to lower restraining device and not to raise it too early. (Ski Professionals, Ski Patrol, Lift Operations)
11. Verbalize to young riders not to “shimmy out” onto the seat edge prior to the unloading ramp. (Ski Professionals, Ski Patrol)
12. Ensure the “Raise Restraining Device” sign is not located too far from the unloading area. (Lift Operations, TSSA)
13. Reward young riders that practice safe riding. (Ski Professionals, Ski Patrol)
14. Strongly endorse a “no-nonsense” policy and enforce it. (Ski Professionals, Ski Patrol, Lift Operations)
15. Promote friendly communication and cross training between ski area departments. Work together to promote safety and encourage best practices. (special encouragement between snow school and coaches, ski patrol and lift operations). (Ski Professionals, Ski Patrol, Lift Operations)