

## Incident Summary ( File # 5623112) (Final)

SUPPORTING INFORMATION	Incident Date	<i>October 16, 2017</i>	
	Location	<i>Coquitlam</i>	
	Regulated industry sector	<i>Elevating Devices- Escalator</i>	
	Impact	Qty injuries	<i>1</i>
		Injury description	<i>One person sustained minor scrapes, cuts and bruising to their left ankle.</i>
		Injury rating	<i>Minor</i>
	Damage	Damage description	<i>Escalator skirt panel crumpled. Sections of escalator step cast metal edge cracked and broken.</i>
		Damage rating	<i>Minor</i>
	Incident rating	<i>Minor</i>	
Incident overview	<i>One person riding an escalator had their boot caught between the moving step and the escalator skirt panel. The escalator skirt panel was caught by the moving escalator step causing skirt panel and escalator step damage.</i>		
INVESTIGATION CONCLUSIONS	Site, system and components	<i>Escalators have cast metal steps that move passengers up or down the escalator. Escalator skirts are stationary vertical panels that close the gaps on either side of the escalator steps to prevent passengers appendages and objects from being caught between the moving steps and stationary structure of the escalator. The escalator skirt consists of a backing board with a stainless steel metal sheet laminated ( glued) to the backing board.</i>	
	Failure scenario(s)	<i>The person riding down the escalator had their boot riding up against the escalator skirt panel. At approximately mid-way point down the escalator the persons boot was pinched between the moving escalator step and the stationary escalator skirt panel. The force of the moving step and the entrapped boot against the stationary skirt panel caused the persons boot to be pulled into the gap between the skirt panel and the step. The pressure of the boot on the skirt panel caused the panel to deflect allowing the stainless steel panel to delaminate from the skirt backing board. The moving step then caught the edge of the delaminating stainless steel skirt panel. The moving step continued to bend the skirt stainless steel panel until enough force was generated to trip the tension carriage safety device stopping the escalator.</i>	
	Facts and evidence	<p><i>On-site investigation observations:</i></p> <ul style="list-style-type: none"> <li><i>• Escalator shut down and boot removed upon arrival.</i></li> <li><i>• Escalator service personnel on-site.</i></li> <li><i>• Damaged skirt panel observed ( see attached photos).</i></li> <li><i>• Damaged escalator step observed ( see attached photos).</i></li> <li><i>• Service personnel confirmed that the carriage tension switch physically tripped and confirmed this with fault log record.</i></li> <li><i>• Evidence of skirt stainless steel panel delaminated.</i></li> <li><i>• Boot observed in photographic evidence appeared to be similar in construction to boot types ( soft rubber) that are typically subject to pinch/ entrapment on escalators. ( see photos).</i></li> <li><i>• Proper rider position signage was in place. ( see attached pictogram).</i></li> <li><i>• Skirt/ Step gaps were measured and found to be compliant.</i></li> </ul>	

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	<p>Owner supplied incident report:</p> <ul style="list-style-type: none"><li>• Indicates persons rubber boot stuck in escalator step.</li><li>• Indicates that step that wedged the boot popped out of position.</li><li>• Describes persons injuries due to boot entrapment.</li><li>• Indicates that injured describes only minor pain.</li><li>• EMT's escorted injured to the hospital.</li></ul>
Causes and contributing factors	<p><i>It is highly likely that the person riding the escalator did not have their boot in the correct position for riding the escalator. It is very likely that due to the persons boot dragging against the escalator step skirt the persons boot became entrapped ( pinched) between the escalator step and the escalator skirt.</i></p> <p><i>A contributing factor was the force generated by the boot being entrapped causing the step skirt stainless steel panel to begin to delaminate. The moving step likely caught the edge of the delaminated step skirt stainless steel panel causing the panel to bend and apply excessive force on escalator step damage and the escalator step to displace. .</i></p>

Photos or diagrams (if necessary)



Bent step skirt stainless steel panel.

Entrapped boot.

Broken/ cracked step.



Photo showing gap between the escalator step and the vertical escalator step skirt.



Pictogram showing proper rider rules.