

**Prevention Today, Safety Tomorrow: Jason Smith's First Workplace Incident**

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### **Background about the Organization:**

The Canadian National Railway Company (CN) is a Canadian transportation corporation that operates in Canada and certain parts in the United States. CN railway is the largest railway industry in Canada regarding revenue and the distance the railway network spans, covering nearly 20,000 route-miles (Canadian National Railway Company, 2022a). The corporation is a vital contributor to the Canadian economy, transporting \$250 billion in valuable goods annually and employing about 24, 000 railroaders (Canadian National Railway Company, 2022a). The CN railway collaborates with many business sectors, from transporting raw materials to consumer goods.

CN railway employees receive training and leadership that promotes employees and citizens safety (Canadian National Railway Company, 2022b). The CN railway consists of many employees with different levels of education and job responsibilities such as environmental technicians, train engineers, train conductors, and many more. A train conductor and engineer operate the train together for a 12 hour shift and rely on other CN railway employees to complete maintenance checks on the train at various train stops, instruct them on upcoming delays, and help with the loading and unloading of materials. For example, the day-to-day activities of a train conductor consists of regulating the speed of the train, hitting bells and whistles at train crossings to inform citizens that a train is passing, carrying the proper personal protection equipment, and operating the train in accordance with Canadian rules and regulations. In addition, train conductors must review paperwork at the beginning of their shift to understand what goods the train is carrying and the quantity of dangerous goods.

### **Summary of Incident and Occupational Health & Safety Challenge:**

Jason Smith is a conductor of the CN Railway where he is involved with the daily transporting of dangerous goods across Canada and the United States. It was a day just like any other day; Jason and his train engineer had gone through all the necessary paperwork, followed all the required regulations, and wore the necessary personal protection equipment. However, during the trip they experienced a derailment; the train came off the tracks and the engine and cars were on the ground.

A derailment is a serious health and safety issue because it can potentially be fatal to the personnel operating the train and to the people in the surrounding area that the train is passing through. In addition, derailments can cause damage to the materials and equipment being transported; if the train is transporting dangerous goods it could lead to an explosion or contamination of the environment.

Jason described the incident as a very frightening situation as he had just been short of two years on the job. Fortunately, no one was injured. Jason's role was to communicate with everyone; informing the manager on the shift of how the incident transpired and if anyone was injured. The managers had Jason and the train engineer on shift do a walkthrough of the incident. The walkthrough was a cause of added stress to Jason and the train engineer on the team because they felt management was trying to find one of them to blame.

### **The Tension and Challenges surrounding the Occupational Health and Safety Issue:**

Derailments can have a profound negative impact on the physical and mental health of employees, surrounding communities and the management of corporations. A principal occupational health and safety challenge in this organization are derailments due to the serious health concerns.

Employees can be physically crushed during a train derailment causing fractures, internal organ damage; such as internal bleeding or a punctured lung, a traumatic brain injury, spinal cord injury and even possibly death (Krzak Rundio Law Group, 2022). In addition, if a train is carrying hazardous goods, employees may be exposed to toxic gases and chemicals. A study by Maltais et al. (2019) explained that employees that have been through a derailment may develop mental disorders such as anxiety disorders, depression, post-traumatic stress disorder, and sleeping difficulties. Also, workers may fear the occurrence of another derailment and decide to leave their occupation. An additional challenge an employee may experience, similar to what Jason Smith encountered could be an employee facing judgement, reprisal or penalization for the derailment from management even if the derailment was not the employee's fault.

The company's management may negatively experience a decrease in employment rates after a derailment has occurred due to the fear of an accident occurring again. Furthermore, the management team could lose employees who have experienced a derailment and decide to leave the industry. The company could face major lawsuits from the employees or residents of a community who have been hurt or killed in a derailment and have to pay large settlements (Grant, 2021).

Citizens living in communities where a derailment has transpired may experience the same physical and mental injuries that employees may sustain such as an anxiety disorder or chronic obstructive pulmonary disease (COPD) from the inhalation of toxic chemicals (Krzak Rundio Law Group, 2022). Also, residents may fear another derailment and experience secondary stressors such as having contaminated water and destroyed homes and businesses (Maltais et al., 2019).

While several precautions and safety checks are performed before, during and after a train's journey, in most cases derailment can be imminent and unescapable. This is because there are various unforeseen environmental, mechanical, and overall external factors that contribute to derailment incidences. For example, a derailment can be caused by an avalanche in Canada's western provinces or flooding in British Columbia. As such, CN employees throughout all levels undergo vigorous emergency response training and learn post-incident procedures.

### **Discussion Questions:**

1. How important do you think taking the correct safety precautions is for Jason Smith's organization and what do you think the organization's safety plan should look like?
2. Jason Smith mentioned the importance of reviewing paperwork and documentation before a trip and following the correct safety precautions before operating heavy machinery. What other responsibilities should the employees be aware of before working in this organization? What types of risk factors come with this line of work?
3. As aforementioned, operating heavy equipment is a requirement for this type of work. What are some of the possible injuries that could be sustained? In the event there is a workplace injury, what would the return-to-work plan following an injury look like for this organization?
4. What are some human factors, situational factors, and environmental factors that relate to an incident in this type of organization? What type of investigative methods should be used?
5. What types of stressors might this organization be challenged with? Are they acute, chronic, daily, or catastrophic? What are some ways to best resolve or mitigate these stressors?

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