**Summary of Crisis Management Framework Application of Train Derailment:**

* Study previous rail emergencies globally for effective crisis management strategies.
* Establish a crisis management team led by a proactive spokesperson and experts in rail incident response.
* Continuously monitor systems to detect potential hazards and address warning signals promptly.
* Assess the impact of the train derailment, evacuate affected areas, and coordinate with emergency response teams.
* Evaluate property, environmental, and human impact; prepare mitigation and compensation plans.
* Focus on extinguishing fires, preventing leaks, and restoring normal operations promptly.
* Take responsibility, apologize, offer compensation, and introduce preventive measures to avoid future incidents.

**Crisis Management Framework**

1. **Apply Past Processes**

* Learning from the past and forecasting future risk incidents can effectively manage rail emergency crisis.
* The rail company needs to identify different emergency incidents and needs to create emergency plans for facilities, equipment, residents, passengers, environment, and train cars for each type of identified emergency as documented in United States Department of Transportation’s Emergency Preparedness Guidelines for Rail Transit Systems. (Emergency Preparedness Guidelines for Rail Transit Systems, 2015)
* Corresponding to each emergency plan, the staff needs to be fully trained with the necessary equipment.
* Check the train safety procedures and test them before commissioning. Reevaluate safety procedures if any loopholes are found.
* Research past train accidents and analyze the responses from those incidents. Evaluate those responses and improve the process where necessary. The research incidents should be from any part of the world where successful mitigation was done.

1. **Appoint Senior Leaders**

* There should be a proactive, experienced and expert spokesperson who will coordinate the teams to mitigate any sorts of crisis situations.
* On top of that, formation of a crisis management team is very crucial to deal with any emergency situations. There should be a head person on the crisis management team.
* Every rail company can follow the CN rails strategy of appointing a staff of specialists trained to respond to rail-related incidents and emergencies. These teams of Dangerous Goods Officers and Environmental Officers are strategically located throughout the CN network to assist company personnel and local emergency responders in mitigating emergency situations. These personnel have a variety of response tools and resources available to them and will work with CN company officials and local incident command personnel to ensure a safe and efficient handling of an incident (Railroad Emergency Preparedness Guide).

1. **Look for Early Warning Signals**

* Through continuous monitoring and testing of the system, early signs of a bigger disaster can detected.
* For example, the Mississauga Train Derailment caused a lot of damage mainly because it was carrying highly hazardous materials and there were three crew members and none of them were experts on how to safely transport hazardous materials (Mississauga Train Derailment, n.d.).
* Another prime example is the Lac-Mégantic train accident where there were several warning signals like- mechanical problems not being repaired, safety devices not wired to initiate braking, train left unattended on hill, etc (Lac-Mégantic runaway train and derailment investigation summary, n.d.).
* Through proper monitoring of the train safety systems, engine and other systems checking, proper guidelines for carrying flammable and hazardous materials, proper training, and field testing of the train are required to find out any risk that can lead to a bigger incident.
* Any warning sign need to be categorized in risk register based on the chances of occurrence and the impact if occurred.
* Lastly, the risk management team must create a contingency plan and a backup plan to mitigate the crisis with the minimum impact possible.

1. **Understand the Problem**

* In the given case, there is an incident of train derailment where a propane tanker car exploded and three more are on fire. It happened in the industrial area and no lives were lost; however, police have begun evacuation within 1 mile of the radius of the explosion area.
* This is a crisis and the company needs to realize it by sending the emergency crisis management team on site.
* The next steps could be to give all the information about the materials carried by the train to the fire fighting department, the police department, and the environmental impact management team to assess the impact if any other hazardous materials are on board and what could happen if those materials are caught by fire.
* The Flammable and Combustible Liquid/Vapor Intrusion Risk Management Plan, Passengers and Residents Safety Management Plan, Nearby Facilities Safety Management Plan, and Railway Traffic Control Management Plan should be initiated to counter this crisis and control the spread of damages (Emergency Preparedness Guidelines for Rail Transit Systems, 2015).
* The head of the crisis management team should coordinate with internal and external teams to put these plans in place.

1. **Assess Damage**

* Before assessing damages caused by this accident, the head of the crisis management team needs to conduct the below exercise to ensure that the crisis is not going to spread even further.
* It happened in the industrial section and a team should be assigned to figure out if any warehouses, factories, or manufacturing plants are affected by the explosion. If any other facilities are affected, then need to inform the relevant authority to figure out if those facilities are carrying any hazardous materials or not, and if they are then whether those hazardous materials are impacted or not.
* Based on the above point, the relevant department will take a call on whether the evacuation area needs to be expanded or not and what type of emergency response to prepare to tackle a bigger crisis to happen.
* To start assessing damages, the company will figure out first whether the impacted area is only a 1-mile radius or if there is a chance of spreading it even further. From the above exercise, we will get the answer to that.
* Based on the above result, the following damages need to be listed – property damage, environmental damage, cost of evacuation for the residents and mental trauma, cost of business closure for the nearby facilities, loss of other rail companies for track closure, goods destroyed inside of the other rail cars, and monetary and reputational loss for the company itself.
* For each of the loss/damage categories, a mitigation and compensation plan should be in place to satisfy the relevant parties.
* Before that, the company should solve the current problem of controlling or mitigating the crisis by ensuring that fire is completely stopped, no hazardous goods are leaking into the atmosphere, people can return to their homes, nearby facilities can resume their operation and the rail track is clear for the traffic.
* The long-term problem is finding the root cause of this crisis. The Crisis Management team or the company should deploy an investigation team consisting of experts to find out the root cause of the problem.

1. **Resolve Crisis**

* As mentioned earlier, the company’s priority will be to resolve the crisis on hand by ensuring that fire is completely stopped, no hazardous goods are leaking into the atmosphere, people can return to their homes, nearby facilities can resume their operation and the rail track is clear for the traffic.
* Via a press release, the company will take responsibility for the incident and release the actual causes of why the accident took place.
* The company should apologize for the losses and damages to the affected parties and announce compensation packages to recover the loss.
* Furthermore, the company should present a new process or system change that will prevent the rail from repeating the same type of accidents in the future.

1. **Move Forward**

* In the same press release, the company should thank all the relevant parties for their efforts to mitigate the crisis and also thank the affected parties for their patience and for keeping trust in the company’s policy for a better and safer rail journey in the future.
* Internally, the company will document the lessons learned from this incident along with the investigation report with identified causes of the problems for the accident.
* The innovation of processes/technological systems that will prevent the rail from repeating the same type of incidents is very much crucial for the company to move on.
* The risk mitigation plan will need an update with the newly adopted processes or technological systems.
* The other training documents will also be updated, and all the staff will be trained with the new process/system.
* Before launching, the new process/system will go through multiple field tests for safety and training purposes.

# References

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