



Real-Life Stories

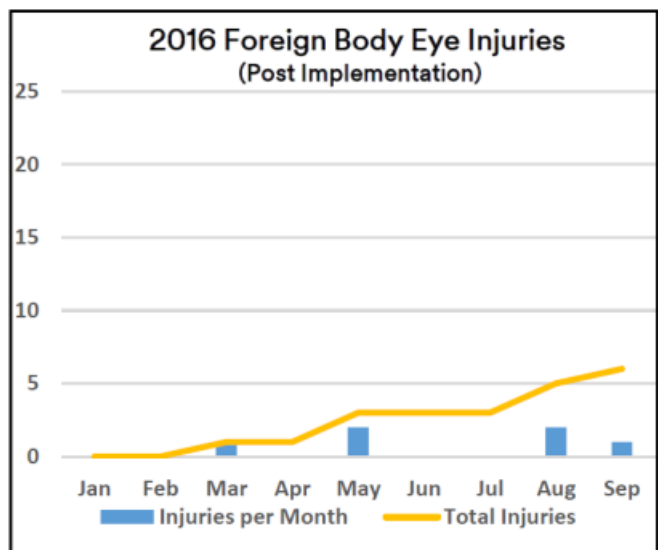
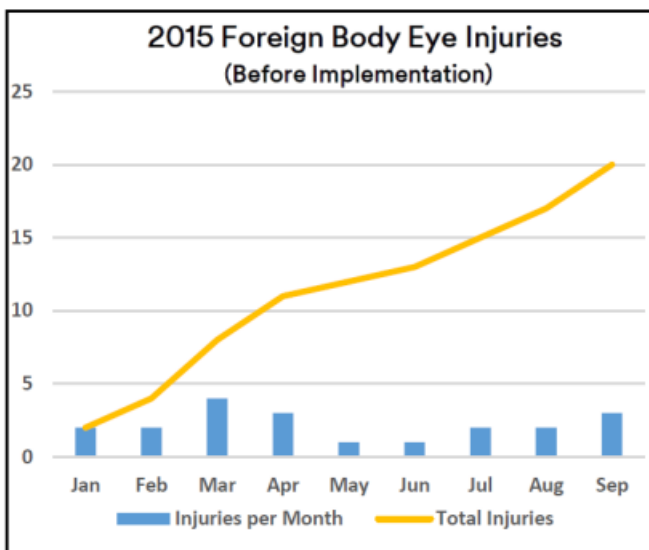
## Case Study: North American Rail Car Manufacturer Realizes Significant Eye and Face Injury Reduction

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*Foreign body eye injuries decreased over 70% year-on-year in areas that implemented the 3M™ Adflo™ Powered Air Purifying Respiratory Protection (PAPR) Systems.*

### Organization

With over 1,500 employees and 600 certified welders, FreightCar America Inc. is one of the largest North American manufacturers of railroad freight cars. Headquartered in Chicago, IL, FreightCar America has been manufacturing quality railcars since 1901. FreightCar America is also a leading manufacturer of railcar parts for the railcar industry.



## Worker Health & Safety Challenges

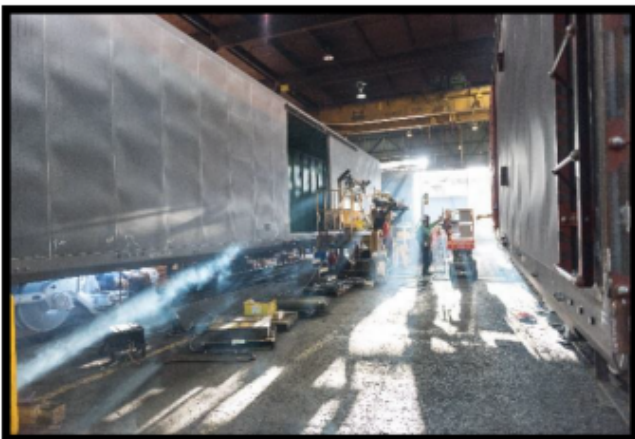
FreightCar America historically utilized various auto-darkening filtered welding helmets, protective eyewear and hearing protection to meet OSHA requirements for head & face protection. When Environmental Health & Safety Director, Russ Lazzell, came on board in 2012, he discovered what he thought was a higher than normal number of eye injuries. Further investigation found that many of the eye injuries were caused by foreign bodies, and not the result of direct impacts during the working process. Russ and senior leadership became determined to create a world class health and safety culture at FreightCar. He chartered a comprehensive, company-wide eye injury reduction program. This was critical in regard to the safety and health of workers as well as driving operational efficiency. High eye injury rates often result in higher worker compensation claims and lost time costs from worker treatment and recovery off the job. Russ also implemented the 2012 American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) recommendation for respiratory exposures to manganese to combat contact with the harmful particulates produced in welding fumes.

Based on these safety and health improvements, Russ knew he needed to look at his workers' personal protective equipment (PPE) in a new way. He began searching for an alternative PPE solution to help meet these new requirements.

**NOTE:** This story captures the experience of one manufacturer at its facility (ies). Other companies at other facilities may have different experiences – results may vary.

## Trial & Implementation

FreightCar tried the 3M™ Adflo™ Powered Air Purifying Respirator with 3M™ Speedglas™ 9100 MP Welding Helmet, a system whose primary design is respiratory protection, but other benefits include eye and face protection, as well as enhanced worker comfort and productivity. The welding helmet has an integrated grinding shield. If the welding filter is flipped up for grinding and set-up procedures, the same level of foreign body eye and face protection is maintained. The helmet also connects to a breathing tube to deliver clean, filtered air from the PAPR System. To assure the workers would be receptive to the new systems, Russ worked with 3M to have multiple workers trial the product for several weeks in their working environment. Although multiple other industry offerings were included in the trial, the workers preferred the 3M system due to overall comfort. FreightCar America implemented over 700 3M systems across all facilities in heavy manufacturing areas. 3M assisted in "train the trainer" classes as well as training with individual workers on proper use and care of the safety equipment. According to Russ, "The support we received from 3M at each of our facilities has been above and beyond. Just amazing."



## Worker Health and Safety Benefits

With ACGIH's TLV for manganese being considerably more stringent on manganese exposure than the OSHA Permissible Exposure Limit (PEL), the 3M PAPR System was able to meet FreightCar's increased respiratory protection requirements while providing an Assigned Protection Factor (APF) of 25, whereas a negative pressure half face respirator provides an APF of 10. The workers also reported a noticeably improved working environment especially by eliminating the need to be clean shaven or fit tested. Lastly, the PAPR unit provided airflow across the workers' face which was not only refreshing but significantly reduced fogging of safety glasses, a known contributor to foreign body eye injuries.

## Outcome

Nine months after implementing the 3M systems, Russ and the company achieved what they set out to do: FreightCar America met ACGIH's TLV recommendation and foreign body eye injuries were reduced by over 70% year-on-year in areas that implemented the PAPR systems. Russ attributes the 3M system as a significant factor in lowered worker compensation claims as well as markedly improved employee morale. "The investment that FreightCar made in these systems just reaffirms to our employees that FreightCar truly does care about their health and safety." Indeed, FreightCar America now has happier, more comfortable employees and the world-class health and safety culture Russ and senior leadership set out to create.

Click to learn more about *3M™ Adflo™ Powered Air Purifying Respirator Protection (PAPR) Systems*.

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