

Safety is a Moral Imperative

Key to Safety in Large Scale Factories

by Ron Parker



view®

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Introduction

Recently I had the pleasure of hosting a tour of our factory for someone in the industry who was associated with the NGA and Glass Magazine.

After touring the factory, he asked if View would be willing to share some of the solutions we've implemented to deal with several different safety issues that are common in the glass industry. Safety has always been a big focus for View, so we're more than happy to share some of the ways we manage safety here at View.

While we have a strong safety record at View (TIF – .29, LTIF – 0.0), we are not perfect. We certainly don't know everything and we've got a lot of room to improve. That said, I think some of the methods we employ to approach safety are a little out of the box and hopefully worth sharing for your consideration.

In thinking about this opportunity to share our safety solutions, it seemed to me a perfect example of the old parable about giving a man a fish versus teaching a man to fish.

I could quickly share some harp cart improvements that we've made that have reduced injuries or some PPE recommendations, but everyone's situation is a little different. I'm sure there are hundreds of alternatives to what we've done with these specific issues, and many that are even better than ours.

I decided that rather than sharing one or two specific solutions, it would be better to share some of the more basic principles and strategies we use to manage safety. Ultimately I believe these principles and strategies have led to many of the most effective solutions we've put in place.

So, my next challenge was how to do this without ending up writing a book longer than the entire magazine. In the interest of brevity I will not talk about things that are typical of a good safety program (e.g., proper employee training and coaching, employee involvement, safety meetings, return-to-work programs and compliance with all OSHA requirements: blood-borne-pathogens, fall protection, lock-out/tag-out, MSDS, confined space entry). While necessary conditions, focusing solely on the typical stuff often results in typical results.

Safety is a subject that gets a lot of lip-service in business today and the glass industry is no exception. It is very common to hear companies talking about safety being their "number one goal" or "job one" or "top priority." Yet how often do you see a company actually acting, working, planning, managing and spending as if that were true?

If your answer is anything other than "not very often," I'd like to know what world you work in because it is clearly a different one than I've worked in throughout my career.

If all of us would agree that safety *should be* priority number one, why is it that we would also agree that this is rarely the case in reality?

At View, we take safety very seriously. While our operational goal is to reduce our injury rate by 50 percent every year, our sights are always set on zero injuries. We don't just talk about safety and hope for improvement, though.

We take a methodical and data-driven approach to reducing injuries that is based on an unwillingness to accept that it is OK for someone to get injured at work. Our injury rates are significantly below the U.S. average for manufacturing and declining. This isn't a fluke.

Using the methods described here, I have been able to cut annual injury rates in half every year for 15 of the 22 years that I have worked in the glass industry.

Rather than sharing individual solutions to glass industry safety problems, however, I prefer to share the general approach and some of the tools we use here at View.

Hopefully, you can take some of the ideas that might make sense for your operation and move your safety bar. Perhaps in sharing our approach, others will be encouraged to do the same and together we can make the industry a safer place for all.



View Factory in Olive Branch, Mississippi

Some Background

When I started in management almost 30 years ago, I began as a production supervisor in a Fortune 100 food products company. Not surprisingly, safety was claimed to be "PRIORITY NUMBER ONE."

We had all the safety posters, safety committees and safety inspections you would expect of such a big and successful company. Yet somehow our safety record was no better than average.

At that time, I was responsible for 20-30 employees working in both kitchen and packaging positions. In that role, I quickly became frustrated with the fact that while as an organization one of our main goals was to improve safety, we had no plan or tools or training to accomplish this.

As is too often the case, a good number of our workers' compensation claims were clearly fraudulent. In those cases our hands were completely tied and it tended to make everyone very jaded about injury claims. At the same time, many of my employees were truly suffering from repetitive motion injuries (carpal tunnel and tendonitis) caused by stuffing our product into boxes all day long.

It was very frustrating. There was nothing I could do about the fraudulent injuries and it seemed nothing I could do about the real injuries.

When I left that position to work in another industry, I did so believing that it was virtually impossible to make any significant impact with safety in a manufacturing environment.

My next role was HR manager for a wood products company. In addition to standard HR duties, I was responsible for managing safety at several of our manufacturing plants. Shortly after starting that job, the company experienced a workplace fatality.

Late one night, a worker had decided that turning donuts with a forklift in front of his buddies sounded like a good idea.

He ended up rolling the forklift. He was killed instantly when the roll bar crushed his chest against the pavement. He left behind a wife and three young children.

Because I was new as the safety manager, I had no opportunity to prevent this horrible incident. Yet somehow I still felt responsible. This experience had a profound impact on me. I still get choked up when talking about it 25 years later. I never expected to have to make a phone call to someone's home to disclose that a loved one had been killed at work. I quickly decided I would do whatever I could to make sure I would never be back in that situation. That is where my safety journey really began.

Since my experience with that workplace fatality over 25 years ago, I've worked very aggressively to find ways to really make an impact on workplace safety.

Spending the last 22 years in the glass industry, I've worked for four different companies, ranging in size from one of the biggest to one of the smallest. Fortunately, however, regardless of their size or prior beliefs/practices, all four of these companies have been very supportive of my quest to reduce injuries.

That support has given me the freedom to experiment, learn and continuously improve our approach. That approach is still evolving and improving today, and hopefully sharing it with others will lead to even more improvements and better ways of doing things.

“WHY” is Important

How many times have you heard “safety has to start at the top”? It’s said so often that it is a cliché, but what does it mean?

Should the CEO of every company be out doing daily “safety inspections”? Should the board of directors be wearing steel toe shoes in the conference room?

Clearly safety should be a basic requirement of every company. But the important thing isn’t just where the company places safety in priority relative to other goals. What is truly important is why a company wants to make safety important in the first place.

It is my strong belief that to really impact safety, we need to first agree on why this is important.

Oftentimes, companies decide or are forced to make safety important due to escalating workers’ compensation costs, OSHA fines, lawsuits, or worse yet, only after a severe workplace injury. These “forced” incentives will lead to a predictable set of actions and responses.

As authors Stephen J. Dubner and Steven Levitt cleverly show in their book “Freakonomics,” incentives control behavior and often in unanticipated ways. So if rather than being forced, a company views preventing injuries as something more fundamental and completely independent of cost, you can easily imagine a different set of actions and outcomes.

For me, this realization has led to what I call my “Guiding Principles.” To be truly effective, I believe these principles must permeate the organization from the very top to the very bottom.

Guiding Principle #1 – Nothing the organization makes or does is so important that it is worth someone getting hurt – ever. No amount of profit or customer satisfaction justifies sending someone home in serious pain or worse. Safety isn’t an issue of cost, it is a moral imperative.

Guiding Principle #2 – There is never any task that needs to be done that can’t be done safely given proper understanding, resources, planning and execution. Think nuclear warheads, space missions, bomb squads, bio-hazards...

If these two principles are organizationally ingrained, then every injury represents at some level a failure to act, plan, allocate resources or execute the task correctly.

All of these (acting, planning, allocating, executing) are within our control as we go through our day. This foundation of beliefs and values drives us to examine every safety failure as we would any other failure or problem in our organization – get the data, determine the root cause, put a corrective action in place, monitor the results and adjust as necessary to make sure the solution is effective.

When an organization internalizes these two guiding principles, it becomes everyone's responsibility to keep safety at the forefront of every action. One might expect this approach to be cost prohibitive, but in the long run the opposite is true. The discipline, approach and mentality required to work in an injury-free manner are contagious and will eventually improve many other business metrics such as product quality, housekeeping and waste control.

ACCIDENTS H _ _ _ _ N?

Sometimes something as simple as the words we use can have as much influence on our actions as do incentives.

Take the word “accident” for example. Everyone I’ve ever queried (with the exception of young children) will answer the following fill-in-the-blank question the same way: Oh don’t worry, accidents just _ _ _ _ _ . Usually this is followed with statements like “you can’t prevent them all” or “it’s nobody’s fault.”

This seems almost universal in our culture. Where does this come from? Why are we so quick to write these things off as unavoidable or without blame? This mentality is one of the single biggest factors preventing real progress in the field of safety.

This is such a huge issue that I believe it’s necessary to completely eliminate the use of the word “accident” in an organization.

In our culture, saying something was “an accident” seems to immediately deflect responsibility and imply inevitability. I would encourage anyone who wishes to improve safety to completely abolish the use of the word “accident” in their organization. In my opinion this is an absolutely necessary step in reducing injuries.

Just getting rid of the word isn’t enough, though. It must be made clear to everyone why that word is taboo. They must be taught to internalize the new paradigm you are trying to realize — that all accidents are avoidable, all accidents happen for a reason, and ultimately someone is almost always “to blame.”

The blame issue is important- not to punish or humiliate, but to identify the decision or action that, had it been done differently, would have prevented the accident. So in this new paradigm, if the word accident can’t be used, how do we talk about safety failures?

I’ve found using the word “injury” to be far more effective. Injuries hurt. Injuries are painful and personal.

In people’s minds, the word is often associated with other words that lead to interesting ways of looking at the problem such as “injury prone.”

There are also safety situations (accidents) that happen where no one was injured that must still be addressed. What words do we use for those?

At View, we break down all safety situations into one of the following categories:

Near Miss Incident

Property Damage Incident

First-Aid Injury

Recordable Injury (recordable per OSHA regulations)

Lost Time Injury

Life Altering Injury

The Safety Pyramid

Classifying safety incidents this way has a purpose. Injuries don't occur every time someone makes a mistake or makes the wrong choice.

In fact, typically all of us get away with cheating safety precautions all the time, whether we're not following the speed limit, using cleaning chemicals at home without proper protective wear, doing yard work without safety glasses on our eyes or gloves on our hands, using a chair to change a lightbulb instead of a ladder or standing on that "not a step" top step of the ladder.

We get in the habit of cheating because we get away with it most of the time. We hear about others getting hurt doing the same thing but that only happens to someone else, so we continue.

In reality the more times you take a given risk, the higher the probability that you will end up paying for it sooner or later. If you buy enough lottery tickets, sooner or later you'll win something even though the odds are very, very low.

We look at injuries the same way. We use what we call the "Safety Pyramid" to explain this concept to employees.

If for obvious reasons our objective is to eliminate life-altering injuries (the top of the pyramid), what is the best approach?

Thankfully, these are very rare events. As such, they are extremely hard to predict.

In general, there is a common relationship which applies to each level of the pyramid; the more incidents you have at any given level, the higher the probability that a future incident will be more severe and end up at a higher level. Fortunately, we can use these probabilities to our advantage.

Intuitively we all know that the more "near misses" we have, the higher the probability that one of them will end up resulting in a small injury requiring first aid.

Logically, we can probably agree that the more minor first aid injuries we have, the higher the likelihood one will require outside medical attention and result in a "recordable injury".

The same applies to lost time injuries and life altering injuries. This realization leads to the conclusion that if you want to reduce the odds of the top of the pyramid happening, you need to reduce the volume of incidents below it.

Obviously this doesn't guarantee that nothing higher up the pyramid can happen, but it does dramatically reduce the odds/probabilities/risk.

That is why it becomes critical to focus on identifying, reporting, investigating and reacting to incidents as low on the severity scale as possible.

Getting everyone to report incidents when they are still at the “**Wow, that was close**” level and putting fixes in place there will reduce the rates above.

At View, I know we’re successful and making progress when I see lots of near-miss investigations because I know these near-miss events happen every day throughout the factory. Catching them and fixing them while they’re still low on the pyramid is critical.



Human Nature and Probabilities

Something about human nature leads us all to believe that uncommon bad things happen to others but not to us.

Risk is all around us constantly, whether at work, driving to work or simply out playing golf. Yet oddly, we tend to ignore risks even when given multiple warnings.

Take driving, for example. We've all been on the freeway driving while distracted due to something in our car. We're not fully engaged in what is happening around us and then we go to change lanes. All of a sudden someone honks at us from our blind spot and gives some very upset hand signals.

We hear that voice in the back of our head saying, "**Wow, that was close!**" That was a free and painless warning. Do you take heed and commit to paying better attention, checking mirrors and turning your head before turning the wheel or do you share your own hand signal and wonder why the other guy thinks he's so perfect?

If this happens frequently, the odds are stacking up that sooner or later when you make that mistake and the guy in the other lane happens to be distracted as well (putting on makeup, texting, talking to a passenger, reading a book, etc.), you are going to find yourself in a very bad situation.

Work is no different. Almost without exception when we've conducted post incident investigations and determined the root cause to be an unsafe act, if the responsible individual is able to reflect honestly about the mistake he or she will inevitably admit that he or she had been doing it that way for a long time.

He or she will realize and admit that he or she reached around that guard several times a day for years. Then one day he or she reached around the guard at the same instant someone called their name, or at the same time a sensor happens to be out of alignment, such that it sees their hand as a part to be processed and bad things happened.

In my experience, injuries rarely happen the first time someone makes the wrong choice. So to prevent injuries it's critical to get people to recognize the near miss, to listen to that voice in the back of their head saying "**Wow, that was close.**"

That voice is their chance to correct before an injury occurs. Getting in people's heads and helping them to recognize the warning signs before bad things happen is a critical tool in reducing injuries.

Getting them to report it at that level can be even more challenging, but if you can do it, you've won a major battle in the war on injuries.



Cutting Line Operator Personal Protective Equipment (PPE)

- 1. Hard hats used to protect from falling objects.*
- 2. Face shields and protective eye wear protect operators from flying objects.*
- 3. Cut, puncture, and flame resistant jackets, aprons, chaps and armguards are used to protect operators from cuts.*
- 4. Cut line operators use two pairs of gloves while handling glass, Kevlar gloves that are medium cut protection. Placed over the Kevlar are Golden Rabbit gloves that have a good abrasion and tear resistance and are designed to work well in wet and dry environments.*

Roll The Dice – Probabilities

If you examine enough incident investigations, whether they are workplace safety incident investigations, FAA investigations of aircraft crashes or detailed traffic “accident” investigations, you begin to see some patterns.

Identifying and understanding those patterns can lead to solutions for prevention. It seems these patterns are almost universal.

The first pattern to understand is that in the majority of cases, when things go wrong, often times it takes a combination of errors before the negative results are seen.

With aircraft incidents, for example, it is almost always a combination of several factors such as weather conditions, mechanical failures and pilot error.

Any one of the conditions wouldn't have resulted in a crash, but when combined it's a different story. This is important because the same is true at work with injuries.

For example, let's imagine that a machine stops because a sensor failed to function. The operator then walks up and tries to restart it, but it won't run. (S)he then opens the machine and sees that a sensor has come out of its mount. The operator reaches to grab the sensor and slide it back in its mount and gets a severe electrical shock.

What is the cause of this injury? The investigation shows that when the sensor came loose, it caught in the machine and was partially cut, exposing the power supply wire.

In addition, the machine (a glass washer) had many leaks such that the floor was very wet in the area where the operator was working, compounding the severity of the shock.

Many investigations would stop there and identify mechanical failure as the root cause.

All machines wear and malfunction from time to time. Out of our control, right? Blame goes to the maintenance guy or the equipment supplier, right?

In reality, we know all machines can fail. It's like blaming the plane crash on a freak weather condition.

Unfortunately, we can't control or perfectly predict the weather. The apparent logical conclusion is that there is no solution and freak weather is just a risk we'll have to take.

Unsafe Acts vs. Unsafe Conditions

One of the most important and useful insights I've come across in my search for better safety tools started with a simple statistic I found so long ago that I can't remember the source. That statistic is that 95 percent of all injuries are caused by "**unsafe acts**" rather than "**unsafe conditions**".

Initially, I struggled to believe this based on my experience at the big food company. After all, that back injury happened because someone slipped on a wet floor and another happened because someone tripped over an extension cord. These are clearly unsafe conditions, not unsafe acts, right?

Almost everything listed on every safety inspection conducted by every safety committee in every company I've seen is an unsafe condition.

Lots of people and resources are focused on dealing with these things — just ask your maintenance department. How often do you see an unsafe act identified on an internal safety inspection? Yet despite our efforts focusing so heavily on conditions, they seemed to always be present no matter how hard we try to focus on preventing them. And somehow the same injuries happen over and over again.

The problem with focusing on conditions is that they are often perceived as being out of our control. We can't keep the floor from being slippery when it was just mopped. We can't run the factory without extension cords across the floor from time to time. After our safety inspection we go correct the hazard, yet it always seems to happen again.

If we look at it differently, however, it immediately leads us to actionable solutions.

We Can Control Our Choices and Actions

If we go back to our earlier plane crash analogy, we left off with the weather being out of our control and thus an unavoidable risk. But we also said these events are typically a combination of variables that all went wrong at the same time.

If this is true, then all we have to do is make sure one of those variables didn't go wrong, and we have a chance of preventing the bad outcome.

In my opinion, one of the biggest opportunities we have to prevent bad outcomes is controlling the human reaction to the situation.

In the example of the operator getting shocked, we have a solution already in place — Lock-out/Tag-out. Had the operator followed proper L-O/T-O procedures, no injury would be possible.

The operator chose to take action before isolating all energy sources. That incorrect decision/choice/act is the failure that resulted in the injury — not the mechanical failure.

If the operator can internalize and take accountability for this, then he or she can make the right decision next time and the injury will not recur.

If someone suffered a back injury when he or she tripped over an extension cord left on the floor, common sense says the injury was due to an unsafe condition. But how do you prevent that?

There is no way to find out who left it there or why. No one is running in to claim responsibility. And in reality, the cord was there to solve another unsafe condition — to power a fan that was placed to help dry a spill that happened earlier.

There is no way to power the fan there without running a cord across the floor. Unavoidable, right? Just an “accident”. Nobody's fault. Focus on the choices and decisions that led to the condition or outcome.

In reality, this happened first of all because the injured individual chose to walk over the cord rather than pick it up or simply carefully step over it. Perhaps he or she didn't even see it because he or she were busy or in a hurry. Drill even deeper and ask why, why, why. Why did you trip on it rather than carefully step over it? Why didn't you see it? Why weren't you watching more carefully? Why were you in a hurry?

Clearly someone chose to leave the cord where it created a hazard — who and why? Why didn't (s)he mark the hazard with safety tape or cones so even someone in a hurry who's distracted would notice it? The answers to these questions lead to

choices that people made. That choice or decision is an inflection point where intervention will change the outcome.

This line of inquiry leads to the obvious alternatives. It leads to better choices and better actions, even if they are as simple as staying vigilant, always being aware of your surroundings, and always expecting the unexpected. These alternate behaviors are the necessary “safe acts” that prevent injuries.

Individuals can choose to act in the safest manner or choose to ignore safety.

If you can identify the choice or decision point that led to the injury, you are well on the way to a solution. Usually, it is as simple as making a better choice when faced with a potentially hazardous condition.

Obviously, not all situations are that simple and sometimes the right choice is unclear, but getting people to realize they made a choice and that there were better alternatives is the first step.

If they can accept accountability for the wrong act/choice/decision, then they can prevent the injury in the future. If safety is at the forefront of our minds, we can almost always find a safer way, and it's usually free or very cheap.

The trick is recognizing when to stop and think about a better way.

Expecting the Unexpected

Another fundamental thing we try to teach people is to always expect the unexpected. For example, this is the first principle taught in firearm safety — never point a gun at anything you don't want to shoot.

You must always assume the gun is loaded and assume that it will go off unintentionally. That one very simple precaution would prevent almost every “accidental” firearm injury. Why would anyone approach carrying around large, awkward, heavy, razor sharp pieces of glass any differently?

If I hold a large sheet of glass so that the top is actually leaning back over my head and I mistakenly bump something on the floor, I'm in trouble.

If I carry that same piece of glass such that if it breaks it will fall straight down, then a simple mistake won't send me to the hospital.

Always expect the machine to start on its own, the glass to break, the forklift driver to not see you, the floor to be slick, the chemical to be dangerous and the gun to be loaded.

If you expect it and prepare accordingly, you probably won't get hurt.

No New Injuries

One of the things I've learned from my experience working in many different industries, companies, and facilities is that, in general, there are no new injuries in a given factory or workplace.

In other words, in any given setting it is very rare that something totally new happens. We could all probably list the 5–10 most common injuries that we see in our workplaces.

Knowing what those are is a big clue as to where to start if you want to reduce future injuries. The past often predicts the future, so if you want to prevent the next injury from happening, find the most common past injuries.

Once you've determined the unsafe act or decision that most commonly leads to that injury, go watch your operation through that lens.

The Pareto Principle in Safety

The 80/20 rule is alive and well in the world of safety. For example, in almost every new setting I worked where safety records were kept, a quick review typically confirmed that 80 percent of the injuries happened to 20 percent of the workers.

Often if you have 10 people doing the same job for 20 years, you can find some who have never had even so much as a Band-Aid, a few others who've had multiple injuries and one guy nicknamed "Lefty" for a reason. Is this just random chance?

You don't have to study much injury data to learn it's not just chance. You've heard the term "injury prone"? This isn't a genetic condition or a contagious disease, but I do firmly believe it exists. In reality many factors lead to people being "injury prone".

Some have very poor spatial awareness — they're the ones that put that ding in your car door or clipped your mirror off when you were parallel parked.

They'll be the ones who hit a building column with a forklift and blame it on the area being congested. Some may have substance abuse problems. Some may just be Type A personalities and always hurrying. Others are just careless.

There's always the practical jokers or the ones who like to horseplay. Some just act without thinking ahead. And some just don't care.

How much time and money you invest in trying to help someone who's "injury prone" learn to work safely must be balanced against the risk (s)he is putting on themselves and others around them.

Progressive discipline has its place, but when it comes to things that result in the risk of serious injury to self or others, sometimes the best thing you can do for all involved is to help that person find a different job where (s)he can work safely.

I've disciplined and in the most severe cases even fired people for safety violations (even when they were injured) and have never had a wrongful discharge action as a result.

Don't be afraid to do what is best for them, those around them and the company. It isn't fun or popular, but it is far better than getting a call in the middle of the night with news of a life-altering injury.

When We Fail and Bad Things Happen

Sometimes bad things happen no matter how hard we try to prevent them. How we react when things go wrong is just as important as the things we do to prevent them from going wrong.

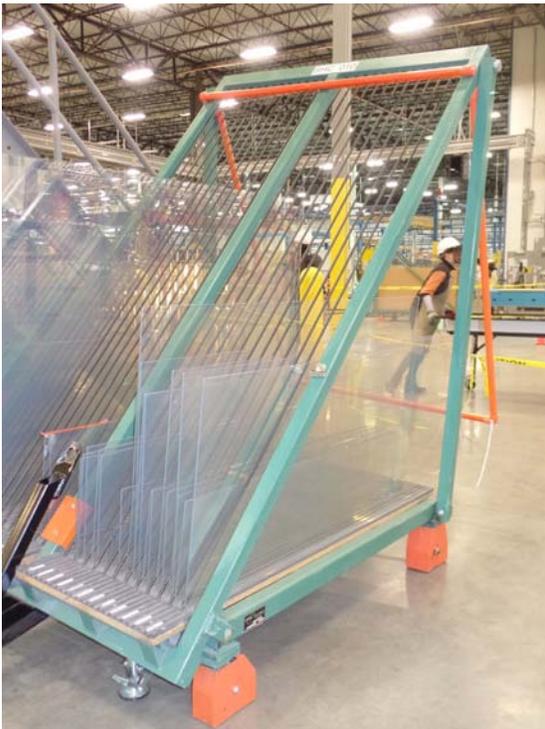
Proper incident investigation is a critical tool for preventing future injuries, but also in making sure the damage from mistakes is minimized.

As I pointed out earlier, I consider lots of near miss incident investigations a good thing. Anything above that level on the pyramid is bad, but still very critical to do quickly and do well. When something bad happens, there should be a very clear, well-understood and well-documented process for reacting.

At View, we utilize a very thorough, detailed and well-documented incident investigation procedure. Below are some of the important elements of that procedure.

- 1) Every safety incident must be thoroughly investigated
- 2) Immediately when an incident is reported:
 - A. Assess the risk — is the scene secure and safe — don't make a bad situation worse
 - B. Is anyone injured?
 - i. If yes, administer first aid — call 911 if appropriate
 - ii. Transport the injured person(s) to a pre-designated medical facility if non-emergency treatment is required
 - iii. Always accompany the injured employee through the visit — these events can be very stressful and people often do better when there is someone with them to help ask their healthcare professional questions and to help them remember the healthcare professional's instructions
 - iv. Assist in answering questions and clarifying if the individual is upset, confused or stressed
 - v. Explain modified duty options to attending physician to prevent time loss if possible
 1. The fastest way to heal and return to normal life (and income) after an injury is to return to a normal routine (work) as soon as possible
 - a. Sitting around often prolongs recovery time
 - b. Workers comp always pays less than normal paycheck
 - C. If no one is injured, or after caring for anyone injured in the incident, start the investigation by controlling the scene to prevent further damage or injuries
 - D. Conduct the incident investigation quickly while memories and details are sharp
 - E. Take lots of pictures from different angles and distances
 - F. Identify any witnesses and get statements from them
 - G. Walk through the incident with the individuals involved and document everything

- i. Drill down; keep asking why, why, why until you identify one or more decision points or actions that led to or contributed to the outcome
 - ii. Identify a different action or choice that would have avoided the negative outcome
 - iii. Make sure the responsible individuals recognize and take accountability for choice/decision/action and understand the proper reaction should they find themselves in a similar situation in the future
 - H. Institute policies, procedures, engineering solutions that prevent the wrong decision in the future or prevent injury should the wrong decision be made again
 - I. Use progressive discipline where appropriate. Be sure to recognize when situations are so severe, negligent or reckless that continued employment risks life or limb. Don't be afraid to help someone find a safer place to work if the risk of continued employment in your setting is too great
- 3) Once an investigation is complete, share the learning
 - A. If the situation is very serious, share it with everyone in the facility within 24 hours or less so it won't happen to someone else while you are institutionalizing the corrective action
 - B. If the incident is minor, at least share it with everyone else at your next monthly safety meeting so they can learn from it
- 4) Track all incidents in a database — that data will tell you when you are making progress. Your incident history is also your radar as you fly through the clouds toward an injury-free future. When history is forgotten, it will repeat itself



Harp cart with safety modifications made based on learnings from previous injuries

- 1. Orange drop bar placed in rear of cart to inform operators of the furthest point the glass extends past the back of the cart.*
- 2. Floor brakes to prevent cart from moving while loading or unloading glass.*
- 3. Wheel covers to prevent carts from rolling over operator's feet. Operators are also required to push carts, never pull them.*

Some Final Thoughts

At View, we have used the ideas and tools I've discussed to dramatically reduce or eliminate many of the injuries typically seen in the glass industry. I personally have done this at four different glass companies in two different countries.

These operations ranged from a small local glass fabrication operation to one of the most technologically advanced glass factories in the world.

Whether you are cutting lami with lighter fluid and a hand cutter or using lasers to oblate micron thick glass coatings, the principles and methods needed to eliminate injuries are the same.

The biggest contributors to improvement are also the cheapest ones. Changing how people think about safety, accidents and injuries costs nothing.

Sometimes when I get a call in the middle of the night, I immediately worry that I'm going to hear about another horrible workplace fatality. That fear drives me to keep improving.

One of the last things I often remind my employees of at our factory safety meetings is to get to that next level — to totally eliminate injuries completely — there is a final piece to the puzzle that is critical. That final puzzle piece is the hardest yet simplest thing of all to do.

When you've got everything else in place and ingrained, once or twice a year you may still have a near miss that pushes over to become an injury. This could be due to a new rare situation you've never seen before or perhaps even an old one that has been absent so long people forgot to watch for it.

The best way to prevent these from happening and to go from very low injury rates to zero injuries is to get everyone to take responsibility for not just for their own safety, but also for the safety of those around them.

Do this as if lives depend on it every hour of every day. If keeping everyone safe is treated as if it is the sole responsibility of management, injuries will always be present.

We cannot rely on a few sets of management eyes to spot the next injury before it happens. To succeed, we must have every set of eyes watching everyone around them with full knowledge of our safety history and the principles described above.

Last but not least, when it comes to improving safety we must keep our eyes, ears and most importantly our minds open.

Great ideas come can come from surprising sources. It is with an open mind that I say if you have any better ideas or approaches, please call me.

I am still hoping that someday before I retire I will be able to sleep all the way through the night without worrying about getting that phone call.

