Everyday Transportation Safety Management

A proactive and practical approach for the transportation safety professional

J. J. Keller & Associates, Inc.®
Since 1953

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Introduction

Safety within the motor carrier industry, as with most industries, starts from the top management level and works downward. Just writing a plan or policy is not sufficient. Everyone in the company, from the president down must embrace the values instilled by the safety department.

The above statement is the main idea behind this book — that effective transport safety management influences the behavior and thought process of all employees and crosses all departmental lines. *Effective* transport safety management proactively and positively influences the daily activities and results of the entire organization.

Safety management is a critically important element of any organization. But given the nature of most motor carrier operations — operating large vehicles in all types of conditions, and hauling all types of commodities including, for many carriers, the transportation of hazardous materials — safety management takes on a higher level of significance for motor carrier operations.

An effective motor carrier safety management program can pay for itself in the form of:

- Reduced vehicle accident frequency and severity,
- A higher level of customer service,
- Improved driver and non-driving employee retention,
- A more positive corporate and industry image,
- Reduced insurance premiums,
- Increased overall operational efficiency, and
- Improved bottom-line profitability.

How can you achieve these things? Whether you are a motor carrier safety veteran or a rookie new to the transport safety arena, this publication will help you develop, implement, and maintain a total and comprehensive safety management system for your operation — regardless of type, size, or function.

How to use *Everyday Transportation Safety Management*

There are hundreds, if not thousands, of variables that can impact your safety effort and results on a daily basis. However, you, your employees, and your safety management program have control over most, if not all, of these variables.

This publication is about control. This publication will show you how to gain more control over the variables that impact your safety program and therefore, your safety results.

Whether you need to start from scratch in your development of a comprehensive, integrated safety management program, or only need to improve a few select areas of your safety compliance or training process, this publication will provide the background, guidance, and tools to get you where you want to be.

This comprehensive and detailed "how-to" publication will serve as your complete motor carrier safety *ready-reference* guide by providing valuable guidance, industry best practice examples, and detailed safety management plans, policies, strategies, and resources for the safety professional in the areas of:

- Regulatory compliance,
- Safety rating maintenance,
- Loss prevention, and
- Personnel responsibilities.

There is a perception in the motor carrier industry regarding the safety position — that it's a role that requires an individual to wear many hats (see *Defining the Role* section). Because of this, the typical safety manager must have expertise in several areas, and may master only a few.

For instance, you might be an expert in accident investigation and reconstruction, but lack the skills needed to develop and implement a comprehensive accident-free driver training policy.

Perhaps you are extremely fluent in the Federal Motor Carrier Safety Regulations (FMCSRs), yet your organization continues to operate in violation because your safety and compliance systems are not meeting your expectations.

In other words, you have the regulation-based knowledge, but lack the management and organizational skills to apply your knowledge in the real world — to stay in compliance.

Or, you might be proficient in driver qualification, screening, and orientation (filling empty seats), but feel your driver retention effort could use some help — particularly in the area of driver reward and recognition.

If this is the case, review the *Personnel Responsibilities* section.

Did You Know

Industry studies continue to support the fact that the longer a driver stays with an individual carrier, the safer, more efficient, and profitable that driver becomes. Therefore, a critical element of any motor carrier's safety program would be to have effective human resource initiatives that improve driver retention.

However, the emphasis at many carriers is on recruiting new drivers rather than on retaining existing drivers. Because of this, many safety professionals have become expert in Part 391 — Qualifications of Drivers, thereby filling empty seats, yet lack a thorough understanding of basic human resource management techniques to retain these drivers over the long haul.

This publication was developed for the above situations — as well as hundreds of others. *Everyday Transportation Safety Management* is designed to help you become expert in all areas of transportation safety management — regardless of your background, education, or current level of experience.

Everyday Transportation Safety Management

Whether you're a transport safety rookie, or a motor carrier safety veteran, and regardless of whether you need help and guidance in one or several areas of motor carrier safety management, use this publication as your foundation for achieving safety, compliance, employee retention, and risk management success.

Bottom line: This publication will help any motor carrier operation become safer, more efficient, and more profitable.

Major section review

We designed this publication with the busy motor carrier safety professional in mind. It's laid out in a user-friendly, *ready-reference* fashion.

This section provides a brief overview of each of the major sections of the publication, so you know where to go for the information you are looking for.

- **Safety Responsibilities** — This first section is designed to provide you with a basic understanding of the scope, main responsibilities and accountabilities, and recommended qualifications of today's motor carrier safety manager. While the first two minor sections contain basic management concepts, and are mainly intended for the new transport safety professional. However, veteran managers can use this section of the publication as valuable refresher training.

  In addition, this first major section reviews the goals and objectives of an effective and comprehensive transport safety program, the development of an overall motor carrier safety policy, and provides a foundation in compliance.

- **Driver Development and Compliance** — The second major section provides a foundation for the expertise required to qualify, screen, orient, and train drivers new to your organization. Here you will learn the regulations and best practices around the CDL program, drug and alcohol testing, driver qualification, and entry-level driver training. Ensuring that your drivers are properly qualified and trained is the foundation of an effective safety management program.

- **Your Safety Fitness Rating** — Compliance with the FMCSRs does not guarantee a safe organization. Safety means much more than simply complying with the applicable regulations. Compliance is only one component of a means to an end — the ultimate goal is to prevent damage and harm to property and people. However, without compliance you will not be allowed to continue to operate. It's that simple. So along with developing and managing your overall safety program, it is your job to maintain your company's satisfactory safety fitness rating. Anything less than satisfactory should not be acceptable. This section will show you how.

- **Loss Prevention** — This next major section covers such topics as current safety management issues, driver and employee safety training and methods of training, and how to secure an acceptable return on your safety program investment — extremely important when trying to get upper management to buy in to your safety vision.

- **Maintenance and Hazmat** — Vehicle maintenance can be a carrier's most challenging CSA Basic, and the processes used every day by drivers and fleet maintenance personnel are critical to staying safe and compliant. Also, many carriers officially do not haul hazmat but can get into trouble if their operations personnel and drivers haul hazmat unknowingly because they aren't knowledgeable regarding basic hazardous material requirements. This section will help you understand the basics to stay compliant in both vehicle maintenance and transportation of hazardous materials.

- **Personnel Responsibilities** — As stated above, the longer you can retain your current fleet of drivers, the safer, more efficient, and profitable they become. Therefore, developing and implementing effective human resource initiatives is among the best ways of ensuring the success of your safety program. This major section will detail such initiatives, along with effective implementation strategies.
- **References** — This section features a detailed *Transport Safety Resources & Support Table* that lists a variety of resources, tools, products, and services available to the motor carrier safety professional. Also included in this last major section is the list of FMCSA Service Centers and the list FMCSA field offices.

Due to the constantly changing nature of government regulations, it is impossible to guarantee the absolute accuracy of the material contained herein. The Publisher and the Editors, therefore, cannot assume any responsibility for omissions, errors, misprinting, or ambiguity contained within this publication and shall not be held liable for any loss or injury caused by such omission, error, misprint, or ambiguity presented in this publication.

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Overview

By now, you should have a firm handle on the relevant Federal Motor Carrier Safety Regulations (FMCSRs). In the *Safety Compliance Management* section of this publication, we provided a variety of suggestions, plans, and strategies to not only get your operation in compliance, but to keep it there for the long-haul.

While compliance is certainly critically important and necessary to your continued safe operation, remember the FMCSRs were not designed to be, or replace, your safety management program.

"Compliance, in and of itself, does not guarantee safety!"

Just because your operation is in compliance, doesn't mean damage won't happen to property, or harm won't come to people. The FMCSRs only tell you what you are required to do. They *don't* tell you how to:

- Establish safety standards,
- Train employees in these standards,
- Measure safety results, or
- Identify safety areas in need of improvement.

The regulations should be used as the framework of your safety program.

Key Definitions

Common cause variation — Variation that arises from defects that occur commonly in a process or system and makes up around 94 percent of all variances.

Continual improvement — Is a type of change that is focused on increasing the effectiveness and/or efficiency of an organization to fulfill its safety policy objectives.

Corporate negligence — Occurs when the organization did not take reasonable steps to protect the public.

"Go-team" — Is a team comprised of company leaders assembled to support the driver, correctly collect and document information, get evidence preserved, liaison with emergency services (including law enforcement), and oversee equipment and cargo recovery in the event of a major accident. This team can be made up of company safety and management personnel, legal counsel employees, third party adjusters or administrators (TPAs), insurance company representatives, equipment and cargo recovery specialists, and clerical personnel.

Inputs — Those elements introduced to a process in order for the process to begin and continue. Generally, inputs are divided into 5 categories that are methods, machine, materials, people and environment.

Interrogatories — Are formal written questions which usually require answers to be given under oath.

Litigation — An action brought in court to enforce a particular right. The act or process of bringing a lawsuit in and of itself; a judicial contest; any dispute.

Negligent entrustment — Occurs when the organization entrusted an individual that should not have been entrusted due to lack of qualifications, lack of skills, or poor performance.

Negligent hiring — Occurs when due to the individual's history and/or the organization's lack of adequate background investigation, the organization hired, or placed into a position, an individual that should not have been hired for the position he/she was performing.

Negligent retention — Occurs when an individual was kept in a position when the individual should have been removed or discharged due to poor performance.

Outputs — Are the end result (or deliverable) of a process such as a product or service.

Process — Means a series of steps or actions that lead to a desired output. A process can be affected by one or more inputs.

Root Cause Analysis — A useful process for understanding and solving a problem by determining what negative events are occurring. Then identify key points of failure. Finally, determine solutions to address those key points of failure, or root causes.

Special cause variation — Variation that stems from fleeting or random events and makes up approximately 6 percent of all variances in a process.

Spoliation — Is the destruction of evidence, which is a criminal offense and can lead to unfavorable evidentiary rulings in a civil case (judge instructs the jury to assume the missing evidence is damaging).

System — Means a network of interrelated and/or interdependent processes that work together to achieve an overall goal or series of goals.

Total Quality Management (TQM) — Is a comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through ongoing refinements in response to continuous feedback. TQM is a philosophy and system for doing business originally developed and promoted by Dr. W. Edward Deming.

In Depth

Getting Started

How should you start the process of developing or revising your current safety effort? To begin with, you will need to understand a few established *safety management basics*. The goal of this section is to:

1. Introduce you to a few industry-accepted **principles** of safety and risk management, and
2. Outline the basic **elements** of a motor carrier safety program.

To Illustrate

Corporate safety philosophy: As a safety professional you must influence the entire company to understand, accept, and operationalize your safety vision. Getting office employees and drivers to believe in your overall safety philosophy should be a top priority.

Loss Prevention: Your Risk Management Program

Safety Management Principles

As your organization's safety professional, your main responsibility is to direct and guide individual and company *behavior*. Your safety program provides the boundaries and parameters within which employees are trusted to make safe decisions — this is *guiding*.

In order for your safety management program to be most effective, it needs both management commitment and employee involvement. These two elements are absolutely essential to the success of your safety effort, and therefore, your company.

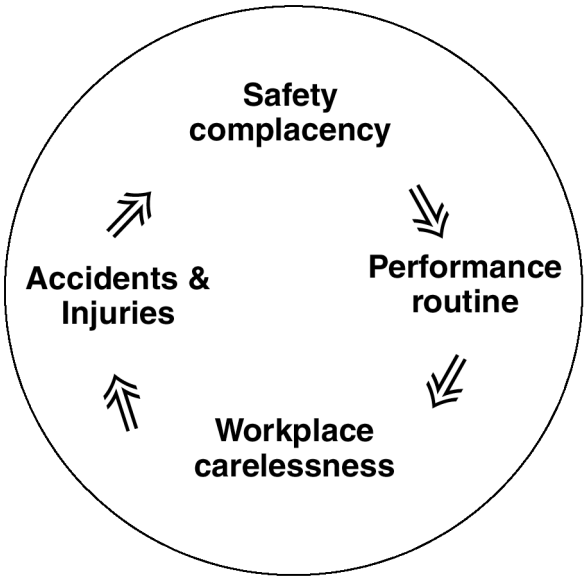
Communication and education are critically important. The following overriding safety principles must be communicated to all employees — from top management down to individual drivers:

- **Instill safety accountability** — Everyone in the company must understand that safety *is not* a department, person, or policy.

  Excellence in safety is achieved when each and every employee — from the CEO to individual dispatchers and drivers — accepts personal responsibility for safety and holds safety as a value, not a priority. Priorities can change moment to moment, values are what people judge to be important in their lives.

- **Avoid safety complacency** — Even with the most well-run and efficient safety program, and the most detailed safety policies and procedures, accidents and injuries can still happen.

  Your overall safety effort needs to be a living, ever-changing, and adjusting program. Employees should always perform their duties with a high level of safety consciousness — never assume any work activity or process is completely safe.



- **Understand loss events do not happen by chance** — Your drivers and non-driving employees need to realize that accidents and injuries (loss events) happen as a result of either an unsafe behavior (*behavioral cause*) or a specific unsafe work process or condition (*situational cause*). Therefore, accidents and injuries can be prevented by eliminating certain unsafe behaviors, and correcting safety defects in your work processes, activities, and conditions.

- **Safety is predictable** — If an unsafe behavior is not changed, or an unsafe work condition is not corrected, eventually an accident or injury will occur. However, if the unsafe behavior is confronted and changed to a safe one, and if the unsafe work condition is eliminated or modified, an accident or injury is far less likely to happen.

Elements of a Safety Management Program

Most effective motor carrier safety management programs share common fundamental elements. When combined into a cohesive system, these elements can produce a continually improving safety management program that produces consistently positive results:

- **Identify safety deficiencies** — Predicting your safety results begins with inspecting and analyzing your organization's current work processes and activities. What are your greatest safety and loss prevention concerns — vehicle accidents, injuries, driver turnover, all of the above? In its simplest terms, the process of *continual improvement* stresses developing standard procedures for virtually every work activity, and continually improving these processes.

Best Practice

Continual improvement: Continual improvement is a type of change that is focused on increasing the effectiveness and/or efficiency of an organization to fulfill its safety policy objectives. Put simply, it means *getting better all the time*. There are ten steps to understanding the concept of continual improvement. They are:

1. Determine current performance,
2. Establish a need to improve,
3. Obtain commitment and define improvement objectives,
4. Organize the necessary inspection resources,
5. Analyze results to determine the cause of current performance,
6. Define and test solutions that will accomplish the improvement objective,
7. Develop improvement plans which specify how the changes will be implemented,
8. Identify and overcome any resistance to the change,
9. Implement the change, and
10. Put in place controls to hold new levels of performance and then go back to step one.

- **Develop your safety standards —** Once you have established your starting point and identified unsafe behaviors and work activities in need of correction or improvement, the next step is to determine exactly what the corrections and/or improvements should look like.

  In other words, you need to develop detailed safety standards and procedures for virtually every work activity and process of the organization — everything from how you expect your drivers to get in and out of their vehicles (3-points of contact) to how your dispatchers use their computers (office ergonomics).

Loss Prevention: Your Risk Management Program

For most motor carrier operations, employee risk exposure can be divided into two basic categories:

1. **Drivers** who are exposed to both driving hazards and the potential for personal injury, and
2. **Non-driving employees** are generally only exposed to potential personal injury hazards.

So, as the safety professional at your organization, you need to develop standards for *safe driving* (see *Preventing Vehicle Accidents*) as well as general *workplace safety* (see *Preventing Workplace Injuries*).

- **Train all employees in your standards —** Once you have established a safety standard, you need to train the affected employees in the standard. You are responsible to show and teach them exactly what is expected in the way of behavior and performance. There are two components to training:
  1. The actual training of employees in your new standards, and
  2. Management follow-up and enforcement.

Regardless of the type and method of training, if employees are allowed to deviate from the new standards, your safety results will not improve. Continual enforcement and enthusiastic follow-up are essential ingredients toward the success of your established safety standards. Allowing deviation from your standards will significantly impact your safety effort. Once deviation is accepted, a new, lower standard is created and your safety standards are compromised.

To Illustrate

Operations vs. Safety: Review the *message* sent by this safety manager in the following example. Consider how this scenario would play out at your company:

John, the operations manager, approaches Linda, the safety manager, with a problem. John explains that one of his drivers has just been involved in a minor fender-bender vehicle crash. The problem is, this is the driver's third preventable accident within the last 18 months. The company's safety standard for accidents dictates termination of employment for this driver.

"I know our policy, but the driver's overall performance has been good, and all three accidents have been very minor. In fact, none have exceeded $500 in damage. The driver has agreed to go through our defensive driving course again, and with six of my trucks already sitting idle, I really can't afford to lose another good driver," explains John.

Linda responds by saying, "You have no problem with me, John. Just get the general manager, vice president, and director of human resources to agree to change the current standard to read *'drivers who incur 3 accidents within an 18-month period shall be terminated — except if the driver's overall performance is good, the company has idle trucks, and the accidents were minor,'* and I'll keep your driver on."

The message Linda is sending to John is very clear:

"Don't ask me to make an exception (deviate) from our established driver accident frequency standard.
If we need to modify the standard to better meet our needs or serve our customers, let's all talk about it, agree to it, and officially change it. But please don't ask me to make an exception."

Of course you want to incorporate a certain amount of flexibility in your safety program.

Just understand that if management agrees to too many exceptions, lower safety standards and expectations will be created thereby increasing potential liability.

However, it works the other way also. Drivers, supervisors, and all employees will learn immediately that current need or crisis will rarely compromise the established safety standards. Deviation is simply not an option in most situations.

- **Measure, monitor, and record —** Unless you implement an effective system of *monitoring* and *measuring*, you will not know if your new safety standards and training efforts are positively impacting your overall results.

  In addition, all collected data must be maintained so that a historical record can be developed over time. Your recordkeeping system should provide sufficient data that can be used to target specific areas in need of improvement and employees in need of training or other corrective action.

Two of the more easily recognized industry measures include the *accident rate* and the *injury incident rate*:

$$\frac{\text{Accidents x 1,000,000}}{\text{Miles driven previous 365 days}} = \text{Accidents per million miles}$$

$$\frac{\text{Lost workday cases x 200,000}}{\text{Employee hours worked previous 365 days}} = \text{Incident rate}$$

Again, the above represent two of the more obvious measurements. In addition to these standard industry measures, you'll want to develop others that meet the unique needs of your operation.

- **Reinforce, recognize, and encourage —** The final element of an effective motor carrier safety management program involves the management activities of providing:
  - Constant reinforcement of your established safety standards,
  - Appropriate recognition of employees who consistently meet your safety standards, and
  - Enthusiastic support and encouragement for all employees to help them behave and perform according to your safety standards.

Loss Prevention: Your Risk Management Program

Total Quality and Your Safety Program

The purpose of developing and implementing a comprehensive safety program is to:

- Increase consistency, structure, and order to your entire operation;
- Add accountability and predictability of safety results as management tools;
- Communicate the safety goals, values, and philosophy of top management; and
- Improve overall safety results and profitability.

The above points go align with the *Total Quality Management* (TQM) concept. TQM is a philosophy and system for doing business originally developed and promoted by Dr. W. Edward Deming.

No, we are not about to embark on a course on how to develop and implement a TQM program for your organization.

However, when you go about the task of developing or improving your safety management program, you may be, by design or not, adopting many of the concepts of TQM.

Basically, TQM is a corporate business management approach that can be summarized as follows:

1. TQM asserts that customer needs (both external and internal) and business philosophy are inseparable — understanding your customers and exactly what their needs are, and then developing a strategy to meet them — in essence making their needs *your* needs.
2. Quality improves (in this case, safety results) as deviation from set standards (variance) decreases. Therefore, work processes and systems which promote continuous improvement, eliminate defects, and ensure that every aspect of the business is aligned to meet or exceed customer needs, are put in place.
3. TQM utilizes statistics to monitor variation and deviation from specification limits. Statistical data is the basis for measuring nonconformance incidents, problem solving, and continuous improvement initiatives.
4. Deviation is the result of two kinds of variables:
   - *Special cause variation* stems from fleeting or random events and makes up approximately **6 percent** of all variances in a process, and
   - *Common cause variance* arises from defects in a process or system and makes up around **94 percent** of all variances.
5. TQM utilizes the active commitment and participation of all employees to meet customer needs.

As the safety manager for your organization, who are your customers? Basically everyone — drivers, dispatchers, maintenance personnel, top management, other company shareholders, and the general public.

You are responsible for delivering safety to these people — to prevent damage to their property and harm to their bodies.

In order to do this from a quality management perspective, you need to utilize a four-step process improvement approach:

1. **Collect** and measure the data of the *process*,
2. **Identify** root causes,
3. **Develop** and implement solutions to correct or eliminate the root causes, and
4. **Monitor** the solutions for improvement, then go back to step one.

TQM terms defined (a short list)

Before exploring the quality approach to safety any further, we should take a quick time out in order to define several important terms we will be using in the pages to follow:

- **Customer** means any person who receives the product of a process. In this case, your customers include anyone who would benefit from an improvement in the organization's safety performance (this is your product).
- **Inputs** mean those elements introduced to a process in order for the process to begin and continue. Understanding how these inputs interact and affect a process is a key consideration in examining any process. Generally, inputs are divided into 5 categories:
  1. **Methods** including criteria and various documentations used in a process,
  2. **Machinery** or equipment used in the process,
  3. **Materials** which are used in a process,
  4. **People** who operate or manage a process, and
  5. **Work environment.**
- **Outputs** mean the end result (or deliverable) of a process such as a product or service.
- **Process** means a series of steps or actions that lead to a desired output. A process can be affected by one or more inputs.
- **System** means a network of interrelated and/or interdependent processes that work together to achieve an overall goal or series of goals.
- **Variation** means fluctuation in a process that directly affects the desired or expected output.

Your safety management program as a system

We now know that a system is made up of a number of processes, with each process having its own individual desired result (output).

All motor carriers have work processes. For instance, you have a process for recruiting and screening drivers, maintaining your vehicles, assigning loads and other work assignments, auditing logs, etc.

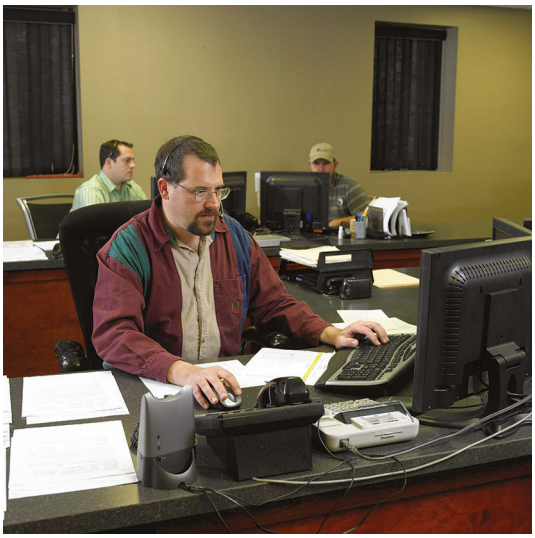
How these processes are performed and who performs them will determine the end result. Review the following work process examples. How effective are they? What are the defects? How could they be improved?

Think in terms of inputs and outputs, and ultimately the impact to the customer(s):

Loss Prevention: Your Risk Management Program

Motor carrier failing work process examples:

- **Dispatch** — A dispatcher grants a driver's request for additional time off without notifying the operations manager who reports 23 available drivers to load planning. Load planning, not realizing actual working capacity is now 22, goes about the task of securing 23 loads.
  - What is the cost of this dispatcher's decision? How do you explain giving back a load to a customer? What part of this process is failing?
- **Log auditing —** A driver consistently submits records-of-duty status rife with 11, 14, and 70 hour violations. However, your log auditing process only identifies the violations. Feedback is not communicated to the driver or his dispatcher. The driver does not receive corrective action and/or refresher *hours-of-service* training. Since behavior that is reinforced tends to continue, the driver's logging behavior goes unchanged.
  - What are the possible ramifications of this failing process? To the driver? To the organization?



- **Driver recruiting** — The company is experiencing unacceptably high driver turnover — over 90 percent in some months. Because of this, too many trucks sit idle and, because of the reduced fleet capacity, loads are being turned down daily. With operations screaming for more drivers, your recruiters lower their hiring standards and start going through the motions with regard to background checks — resulting in a lower quality of driver, higher vehicle crash frequency, decrease in the level of customer service, and continued high driver turnover.
  - What is the root cause of this failing process? When attempting to fix it, where should your focus be?
- **Vehicle maintenance** — Tractor 527 is scheduled for a preventive maintenance service over the weekend. On Sunday morning, the shop foreman sends the assigned mechanic off on a road service call because another driver ran out of fuel 20 miles from the terminal and is in need of assistance. Arriving back at the shop, the mechanic realizes he is way behind schedule. Because of this, he rushes the PM service on 527, and fails to notice a cracked main leaf spring. Monday afternoon, the driver of 527 is put out of service at a roadside inspection site. The load will be late. The driver suffers hours of needless downtime. And the company incurs the cost of an expensive road service call.
  - What broke down in this maintenance process? What are the defects? How would you improve this process?

Each above example represents a failing work process. But why are they failing? Because even with the most detailed and comprehensive work process, there will be *variation*.

To Illustrate

In a perfect world there would be no variation, and all your processes would go according to plan. Taking the above examples, in a perfect world:

1. A formal *request for time off system* would be established that takes individual decision making (variation) out of the process. Accurate and timely communication of current capacity is the result.
2. The log auditing process wouldn't stop at *violation identification*. Violation feedback would be forwarded to dispatchers. Dispatchers would be required to either counsel their drivers or arrange for refresher training. A progressive corrective action process would be set in motion. And every step in this process would be documented and kept on file. Safety improves.
3. A shift in priorities places more focus on driver retention. A series of initiatives are implemented to discover the root causes of driver turnover. Once identified, a driver retention plan is developed. Results are monitored, and adjustments are made. Drivers become more satisfied. Turnover is reduced. Hiring standards are raised. Operations stays at near-full capacity.
4. Drivers are properly trained in fuel management — including how to calculate the *miles per gallon* performance of their assigned tractor. The driver does not run out of fuel on his way to the terminal. The mechanic does a thorough PM on 527. The cracked leaf spring is discovered and replaced. 527 is not placed out of service. The load is delivered on time. The driver of 527 retains his job satisfaction level.

Your ultimate goal is to create a virtually self-sustaining, integrated safety management system with clearly defined objectives.

Understanding variation

As stated above, in a perfect world, there would be no variation. Your work processes would be performed flawlessly every time, and there would be no accidents or injuries.

But we do not live in a perfect world. Variation does exist, and it will impact your processes and safety results. However, we can learn from, and limit the impact of, variation in your overall safety program.

There are two types of variation:

1. **Common cause** variation is a source of variation caused by *unknown factors* that result in a steady but random distribution of output (results). Common cause variation is a measure of a process' potential, or how well the process can perform when special cause variation is removed.

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