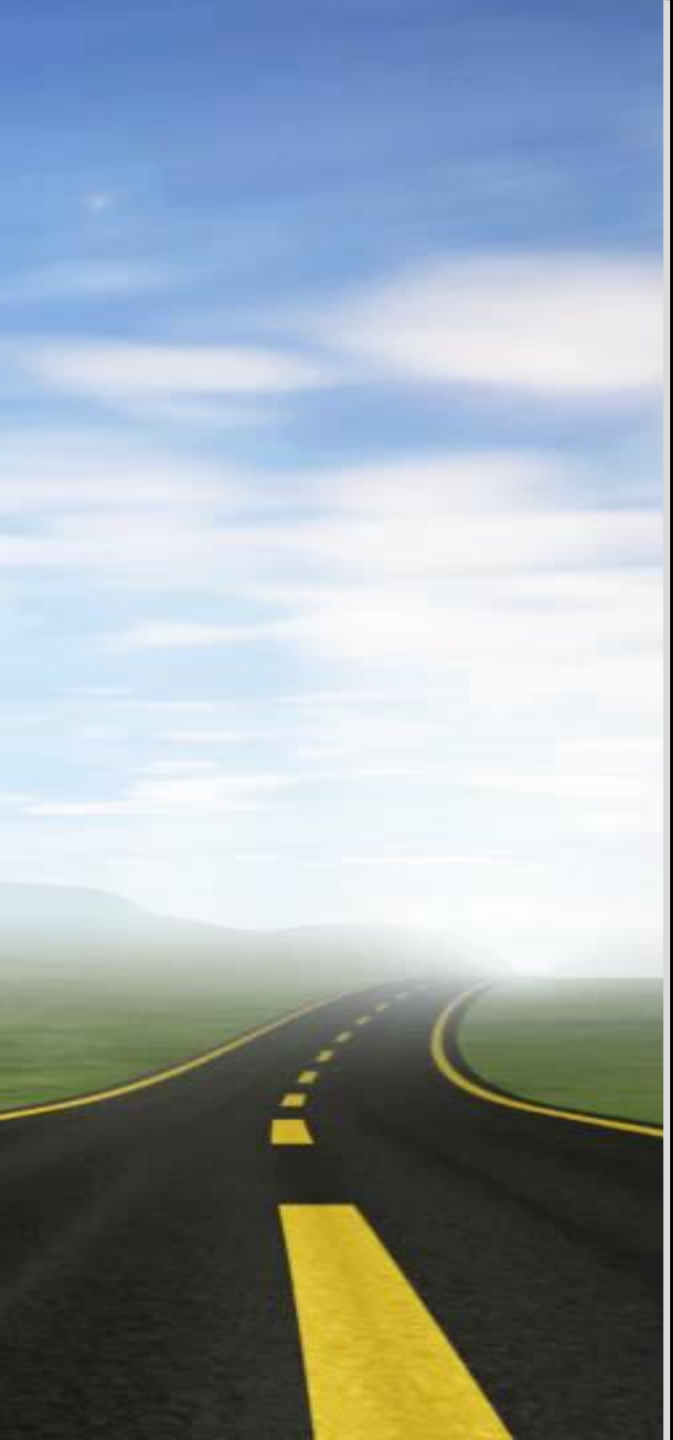

SMART!Hazard Manager
PROCESS EXPLANATION
Rankings
Sorting
Corrective Actions
Filtering
Priorities
Charts
SMART!Hazard
MANAGER

The road to safety success!



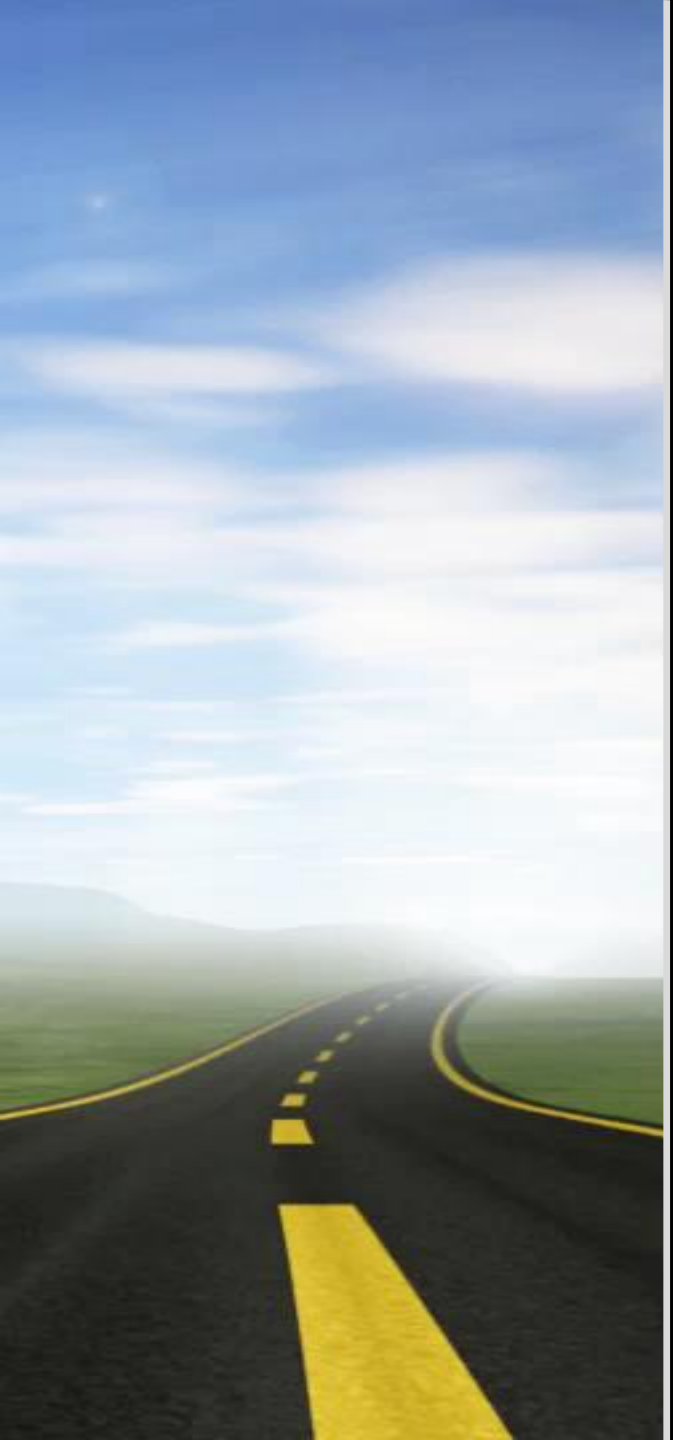
PROCESS EXPLANATION – Ranking the Risk of Hazards

Once you have entered your hazard or concern, you will be prompted to rank the risk of this hazard, based on three criteria:

1. The severity of the resulting injury if an accident occurred,
2. The probability that this accident might occur
3. The frequency that people are exposed to this hazard.

All three of these factors are rated on a 1-5 scale where “1” is the lowest and “5” is the highest.

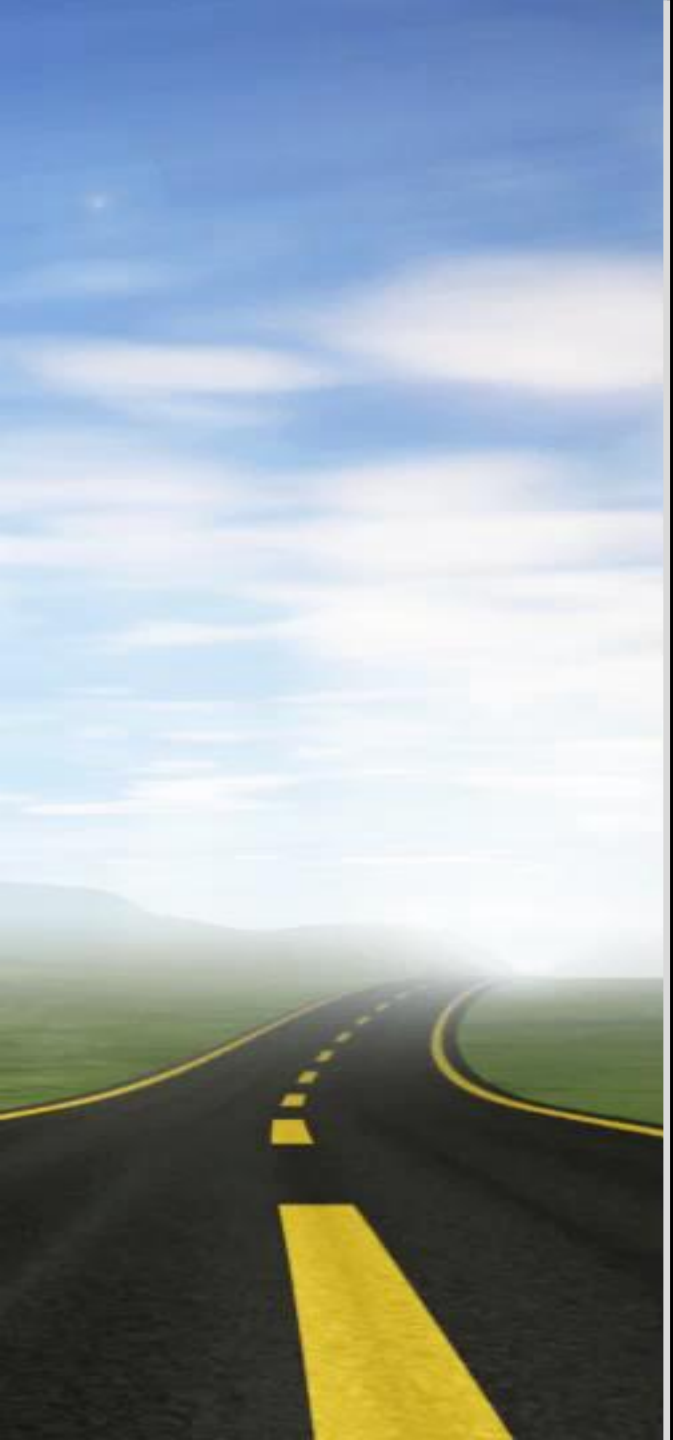
You will pick one rating for each of the three factors.



SEVERITY

The severity of the hazard will be determined based on the following:

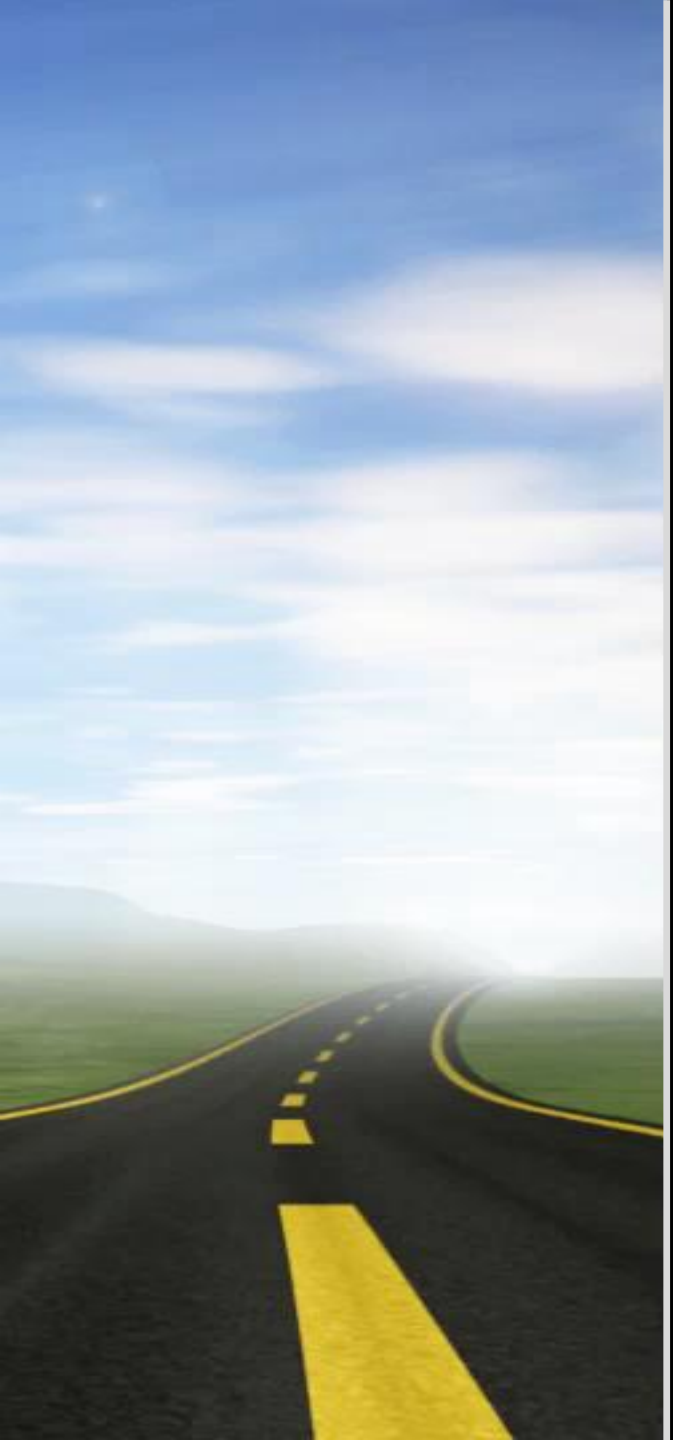
SEVERITY	DESCRIPTION	RATING
Insignificant	No personal injury that requires treatment	1
Minor Injury	Injury requiring minor first aid	2
Moderate Injury	Serious injury requiring hospital/emergency treatment	3
Major Injury	Multiple injuries or serious injuries requiring hospitalization	4
Catastrophe	Major amputation, life changing injury, Death(s)	5



SEVERITY

How badly could this hazard hurt someone?

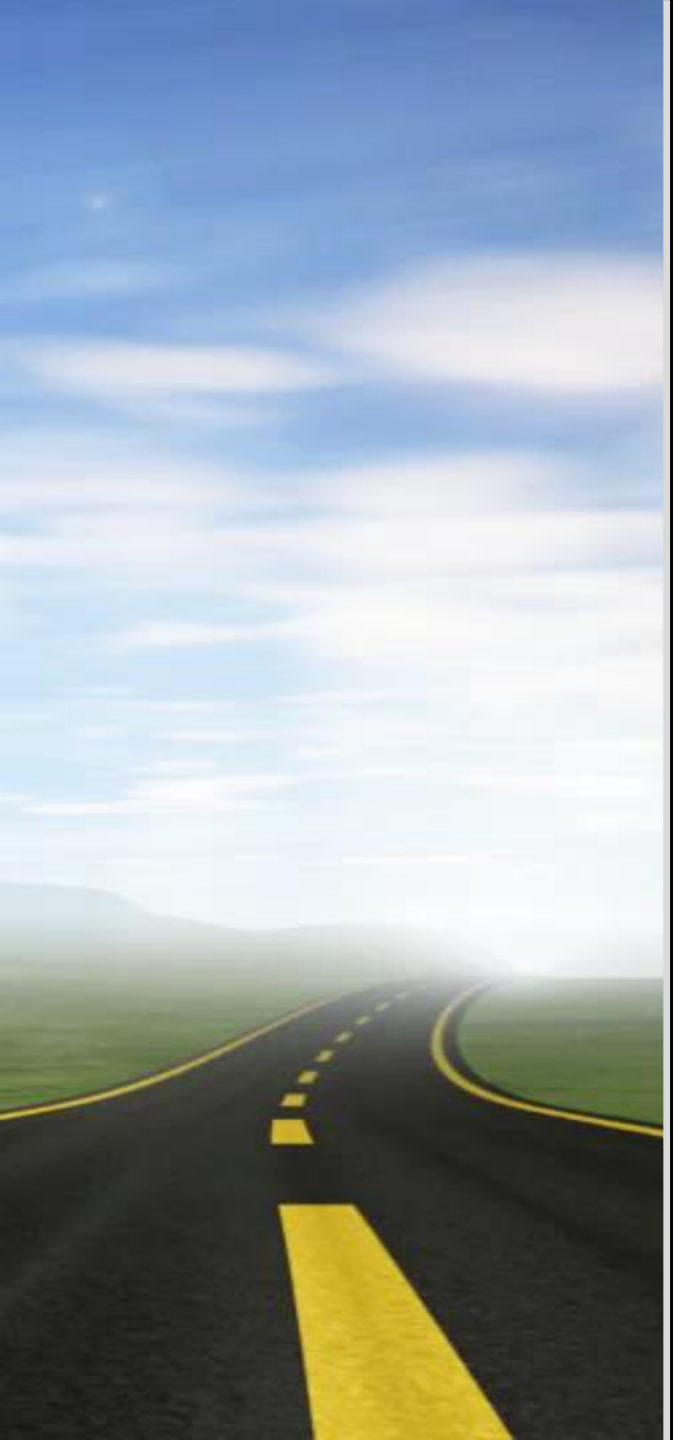
- An example of a catastrophic would be a fall from elevation which would likely kill someone.
- An example of a moderate injury, would be a low hanging bracket, near a walkway that someone might bump into.



PROBABILITY

The probability of the hazard causing an accident will be determined based on the following:

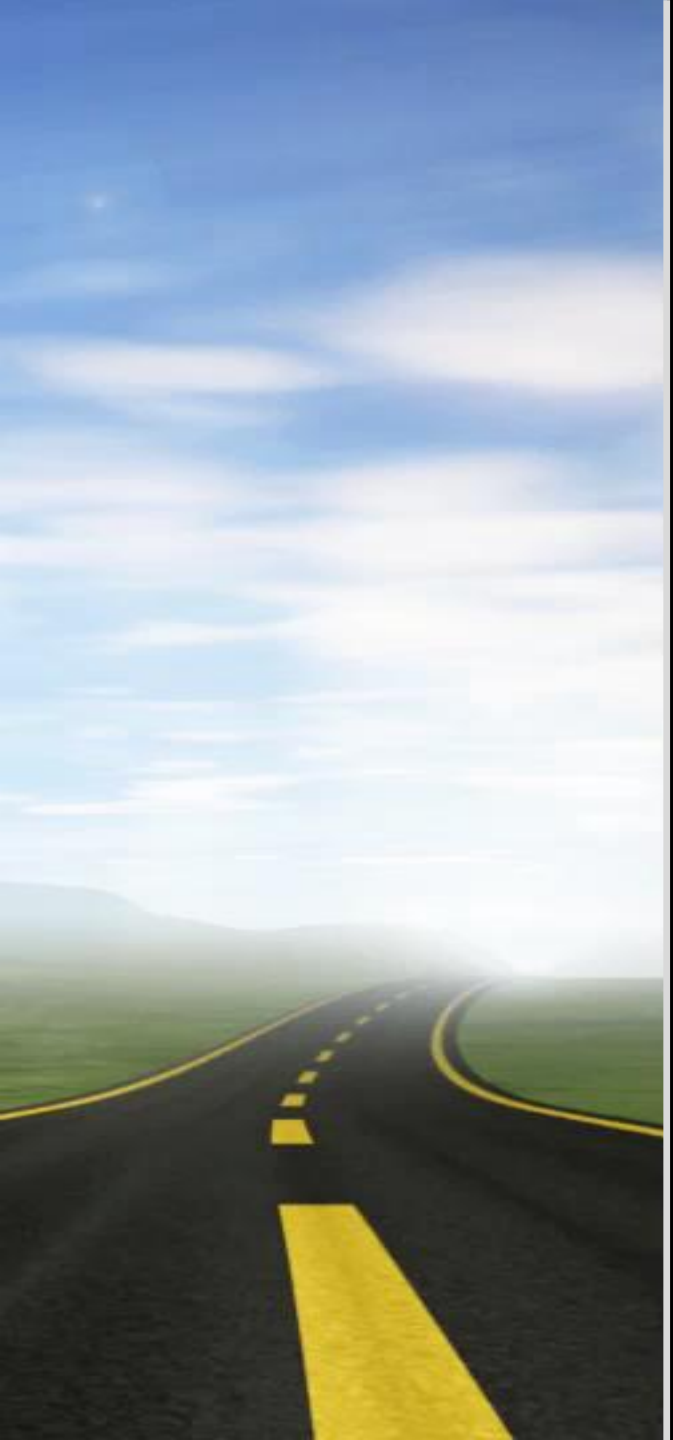
PROBABILITY	DESCRIPTION	RATING
Rare	Would be extremely unlikely to occur	1
Unlikely	Would take two or more things to go wrong to occur	2
Possible	Could occur with wrong action	3
Likely	Could occur with just inattention	4
Almost Certain	Will probably occur	5



PROBABILITY

How likely is this situation to cause an accident?

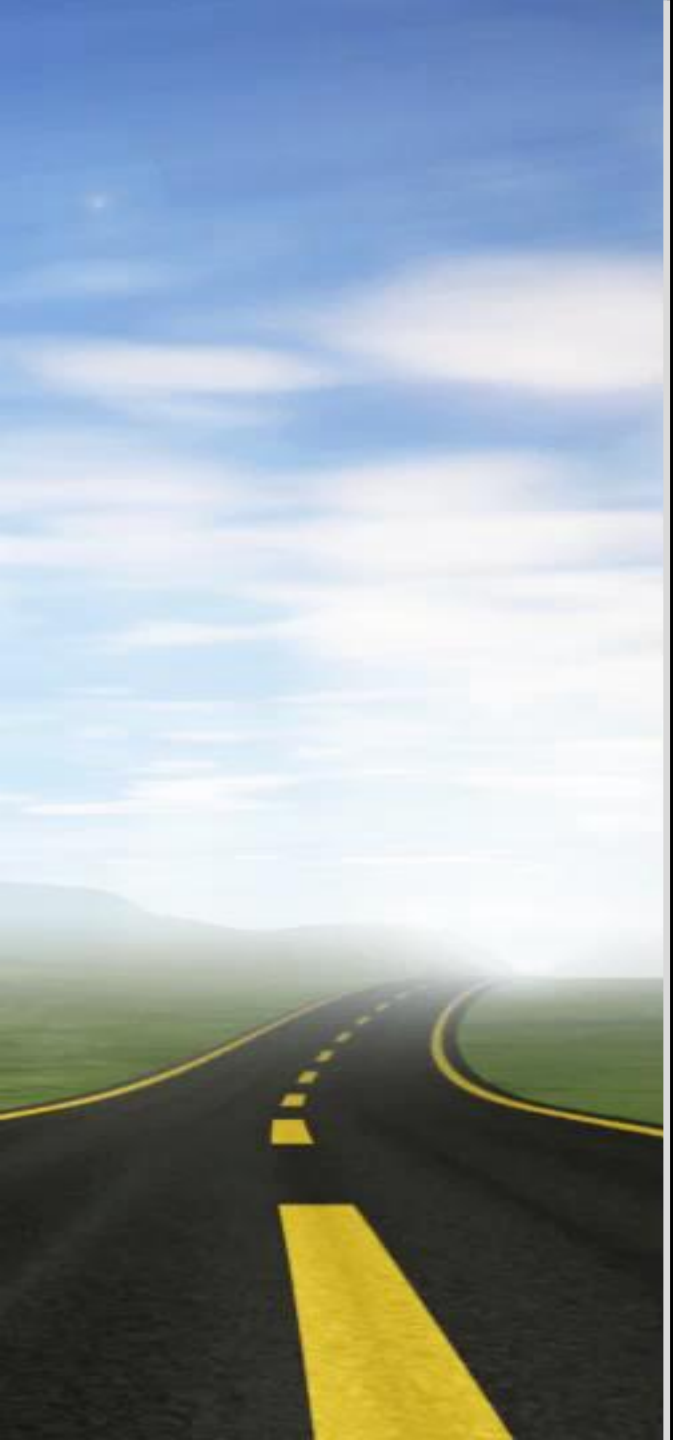
- A broken step on a staircase is almost certain to cause someone to trip.
- Walking across a very slippery floor is likely to cause an accident, with just inattention.
- Getting struck by lightning, while working outside, on a beautiful sunny day would be rare and extremely unlikely to occur.



FREQUENCY

The frequency someone being exposed to the hazard will be determined by:

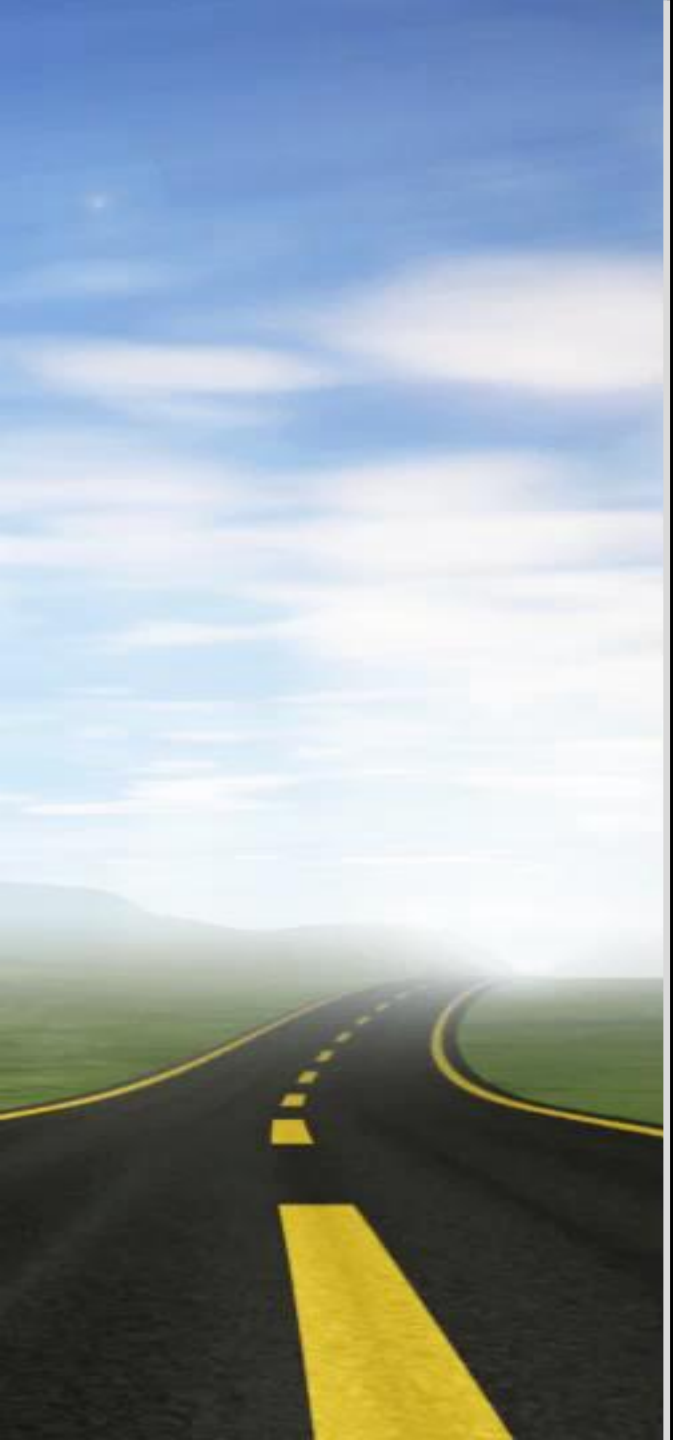
FREQUENCY	RATING
< 1 per month	1
< 1 per week	2
< 1 per day	3
< 1 per shift	4
> 1 per shift	5



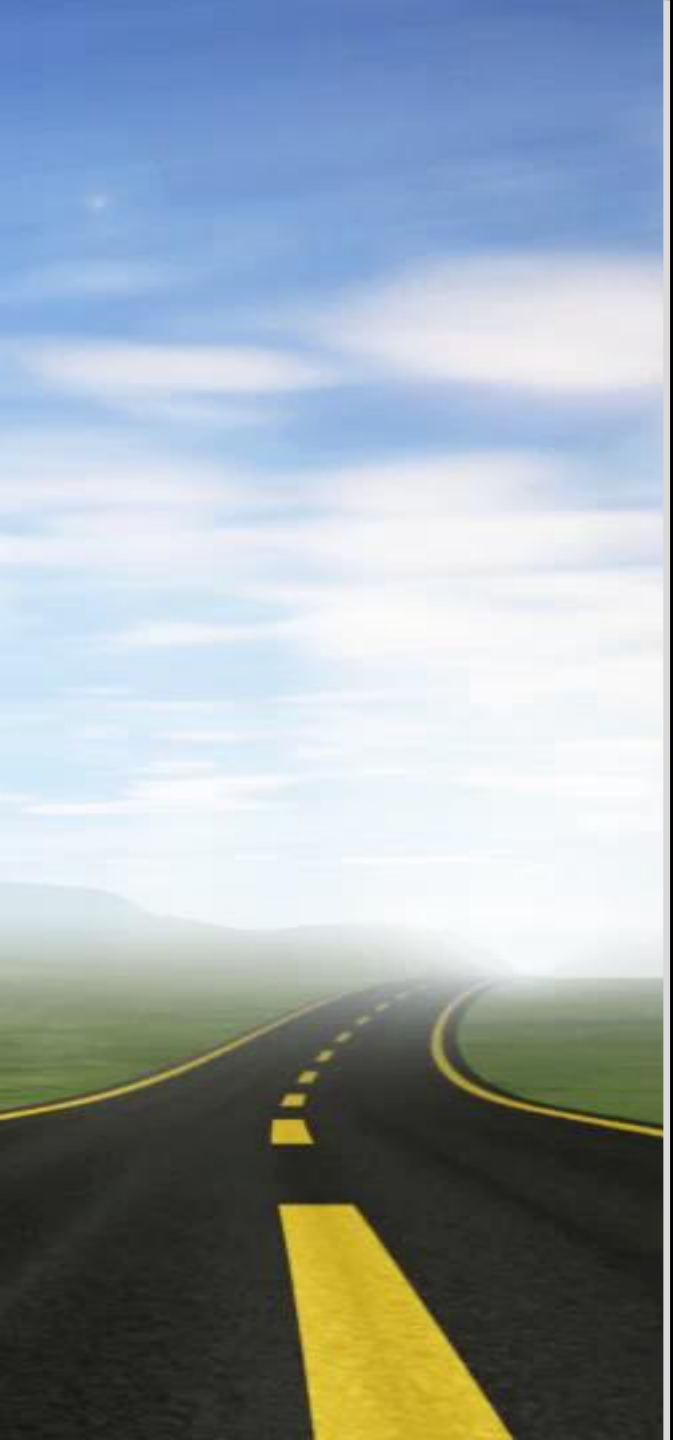
FREQUENCY

Frequency is simply how often anyone is exposed to this hazard.

- A slippery spot, on a main walkway where there is constant traffic, would clearly be > 1 per shift.
- A mechanic walking across a slippery spot in a mechanical room to read a gauge only once a quarter would be < 1 per month.



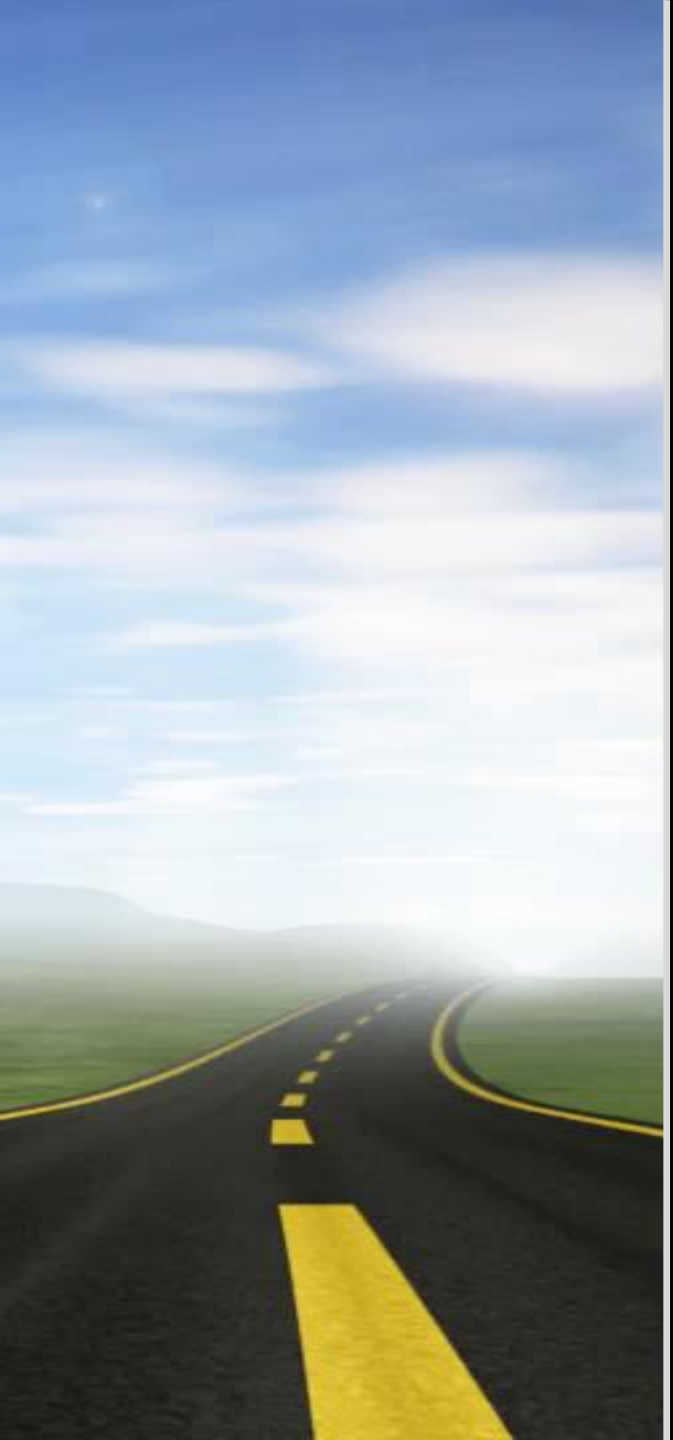
IF THE TYPE OF HAZARD IS AN ERGONOMIC RISK THEN THE POPUP LISTS WILL CHANGE TO THE FOLLOWING:



ERGONOMIC POSTURE

The posture of someone being exposed to an ergonomic hazard will be determined by:

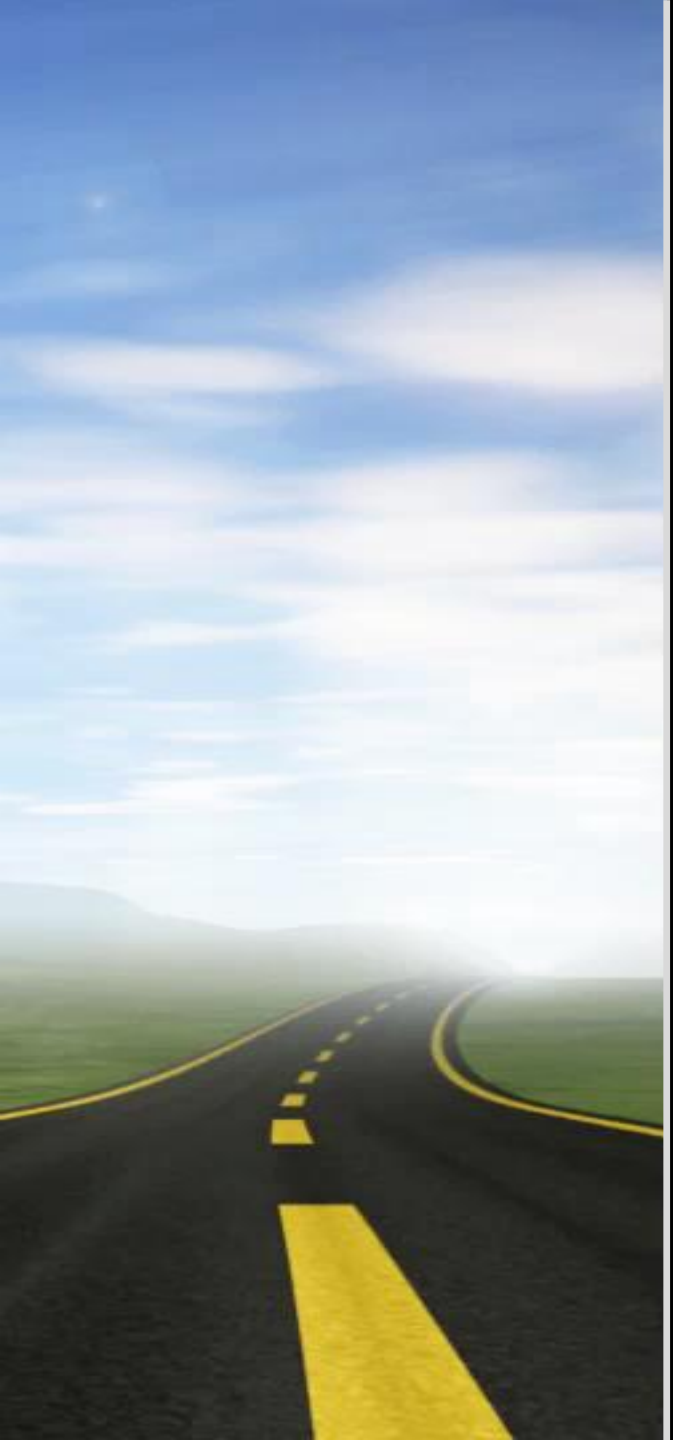
POSTURE	DESCRIPTION	RATING
Insignificant	Completely neutral, no bending or rotation.	1
Minor	Very minor bending, no force required to move body part into position to accomplish task (no load).	2
Moderate	Moderate bending or rotation, very little force required to move body part into position to accomplish task (no load).	3
Major	Significant bending or rotation, requires significant force to move body part into position to accomplish task (no load).	4
Extreme	Maximum bending or rotation possible, requires significant force to move body part into position to accomplish task (no load).	5
When there are significant multiple awkward postures involved, use the next higher rating.		



ERGONOMIC - POSTURE

How awkward is the posture for this hazard?

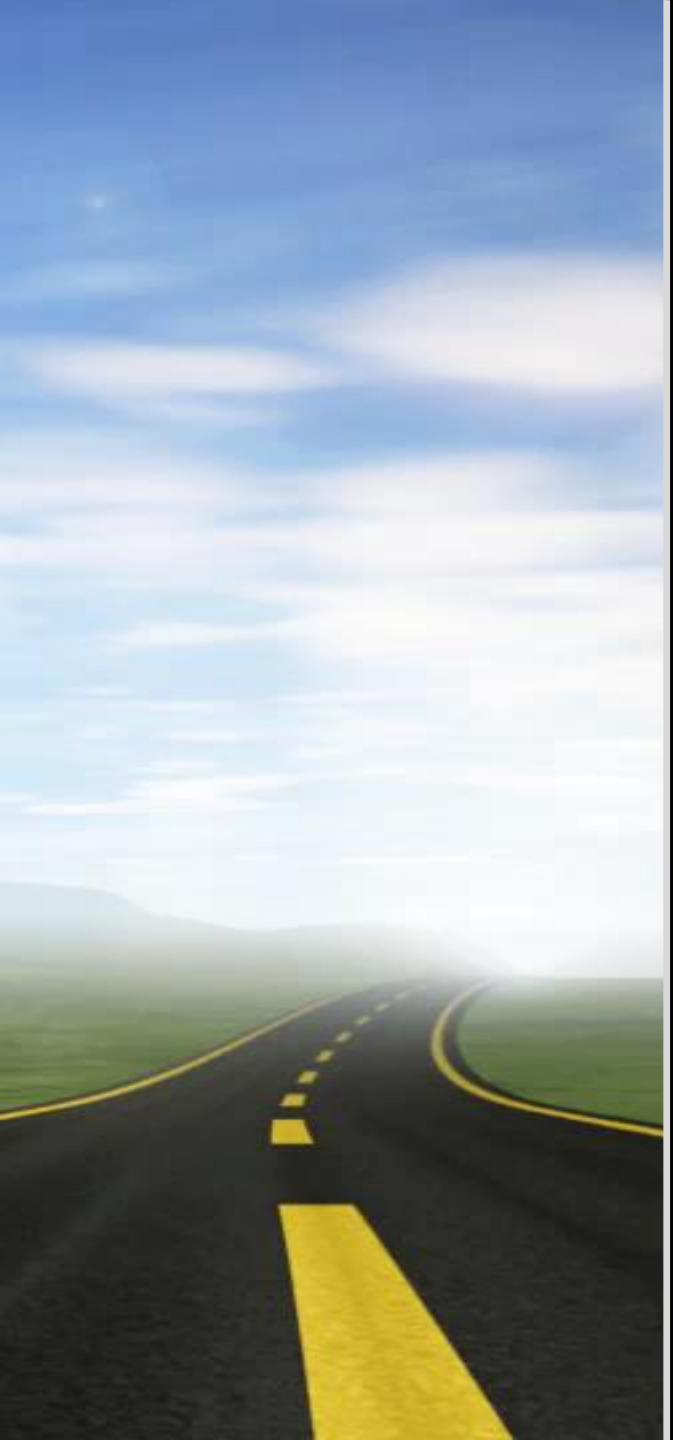
- An example of an extreme posture would be: attempting to reach an object that is just barely in reach.
- Reaching to the far side of a pallet without stepping on the pallet or walking around the side of the pallet, would be an extreme posture.



ERGONOMIC - POSTURE

How awkward is the posture for this hazard?

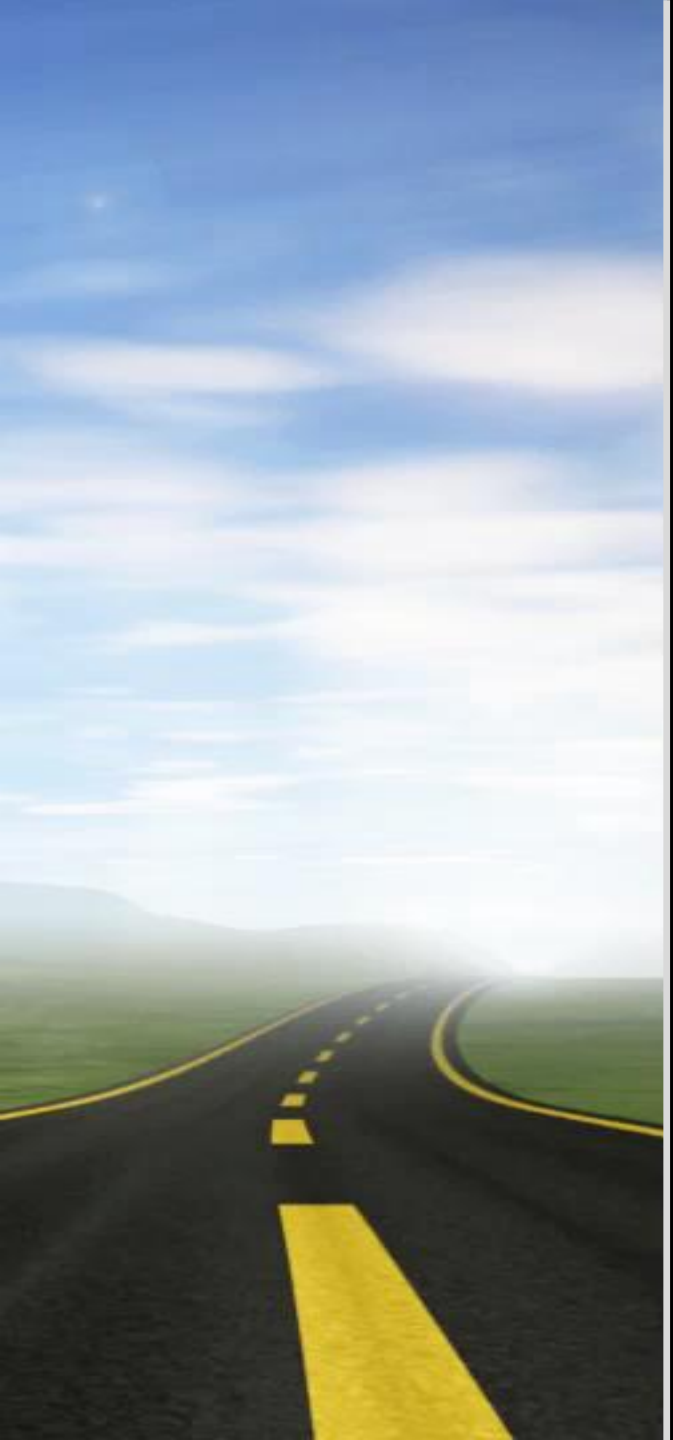
- An example of a moderate posture would be picking up a small box off of a table.



ERGONOMIC FORCE

The force required for an ergonomic hazard will be determined by:

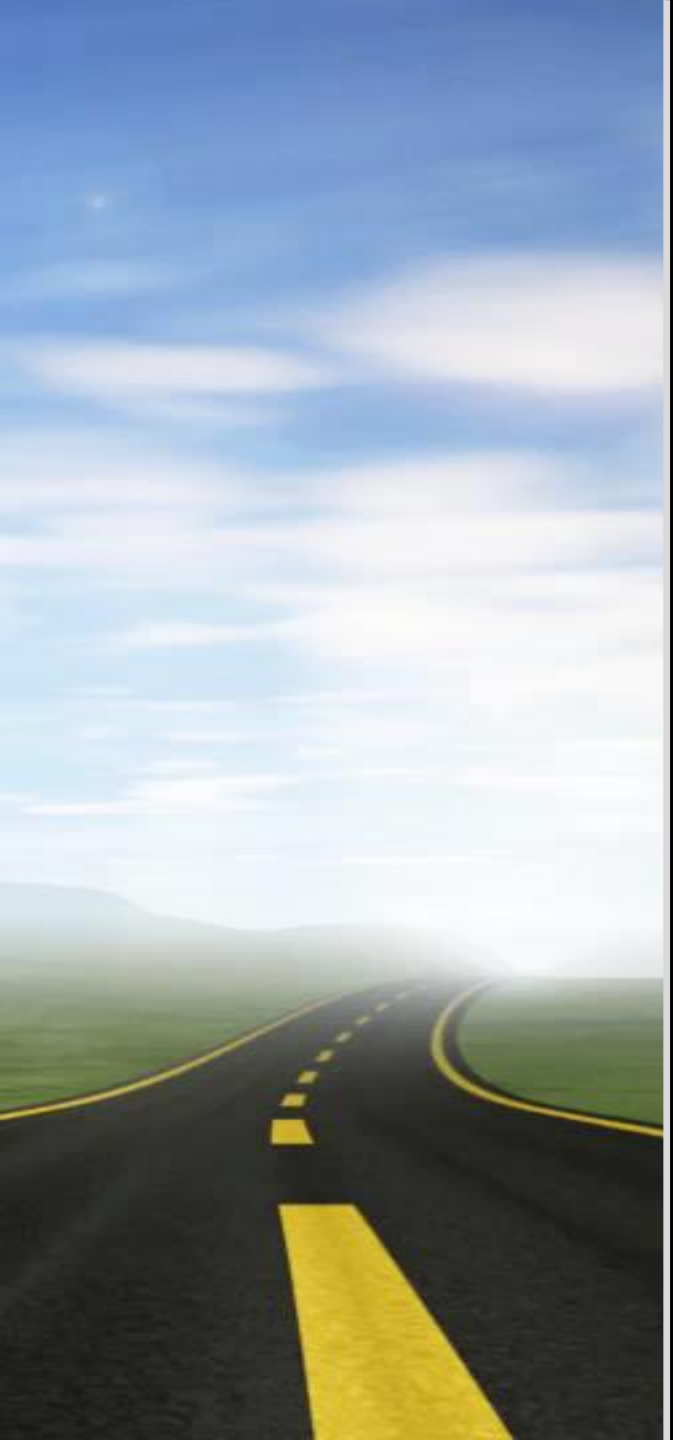
FORCE	DESCRIPTION	RATING
Insignificant	None.	1
Minor	Minor force.	2
Moderate	Moderate force.	3
Major	Almost maximum individual can exert.	4
Extreme	Maximum individual can exert.	5
When there are significant multiple forces involved, use the next higher rating.		



ERGONOMIC - FORCE

How much force is being required?

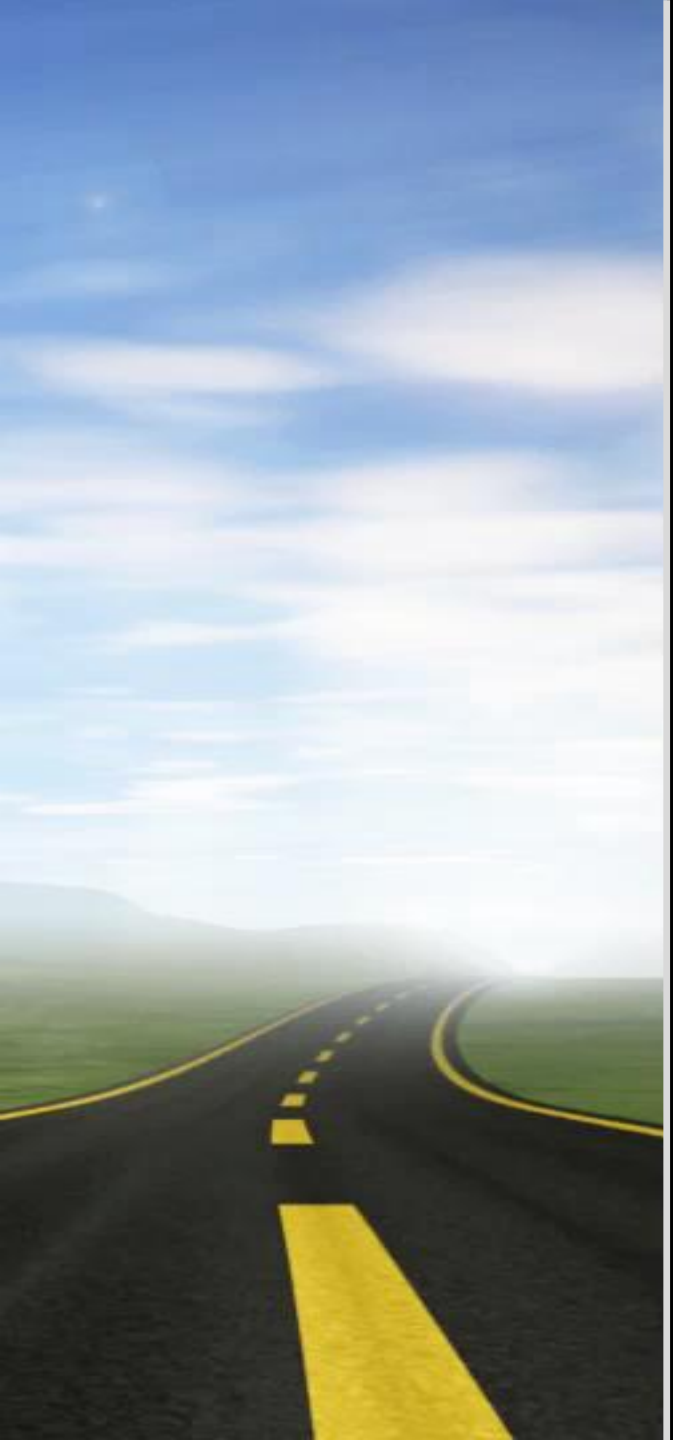
- An example of maximum would be tightening a large bolt as tight as you have the strength to do.
- An example of a moderate force would be carrying the average bag of groceries into the house.



ERGONOMIC FREQUENCY

The frequency of someone being exposed to the hazard will be determined by:

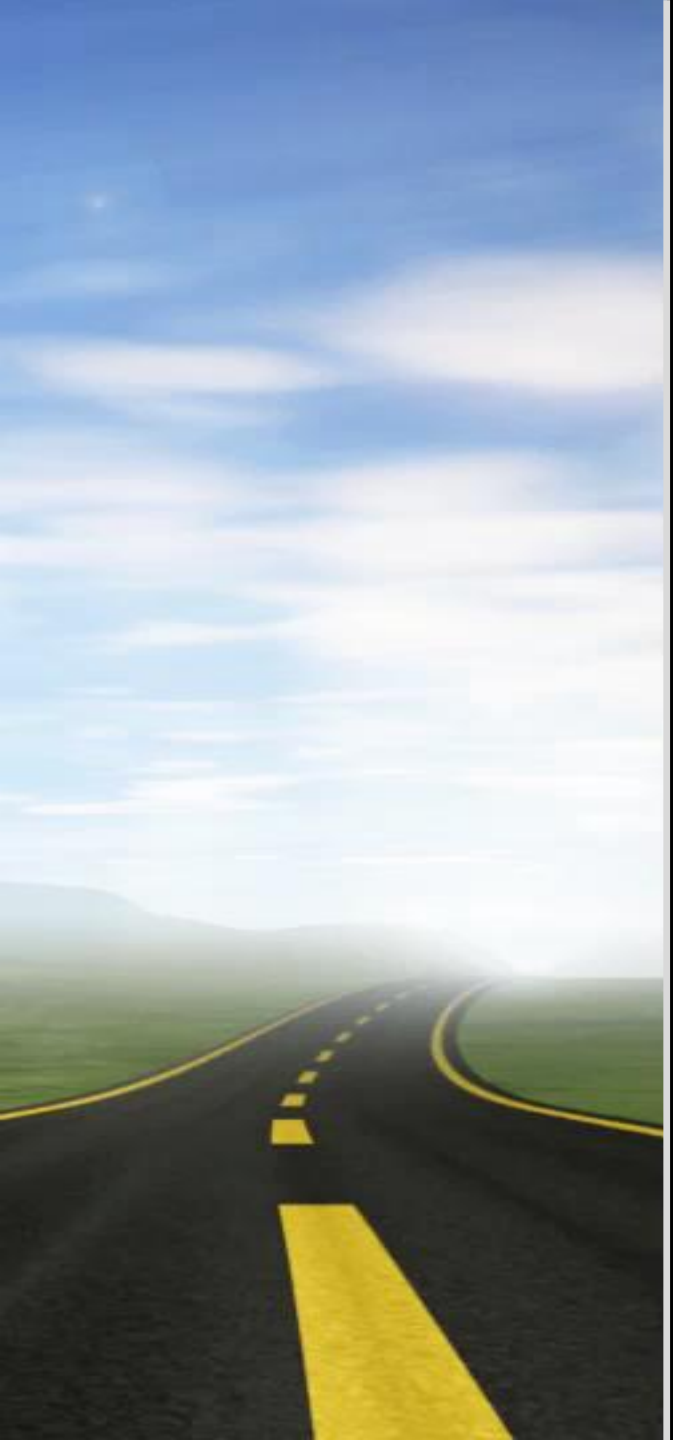
FREQUENCY	DESCRIPTION	RATING
Insignificant	Very little movement, mostly at rest, almost everyone considers very easy job.	1
Minor	Easy job for most but some consider it somewhat tiring by end of day. Plenty of down time.	2
Moderate	Moderate movement but enough rest time from movement to generally recover. Moderate amount of downtime.	3
Major	Very tiring with most everyone feeling exhausted well before the end of the day.	4
Extreme	Constant, no rest between tasks, almost everyone considers extremely demanding job. Nobody likes to do this job.	5
When there are significant multiple movements involved, use the next higher rating.		



ERGONOMIC - FREQUENCY

How frequent is the motion?

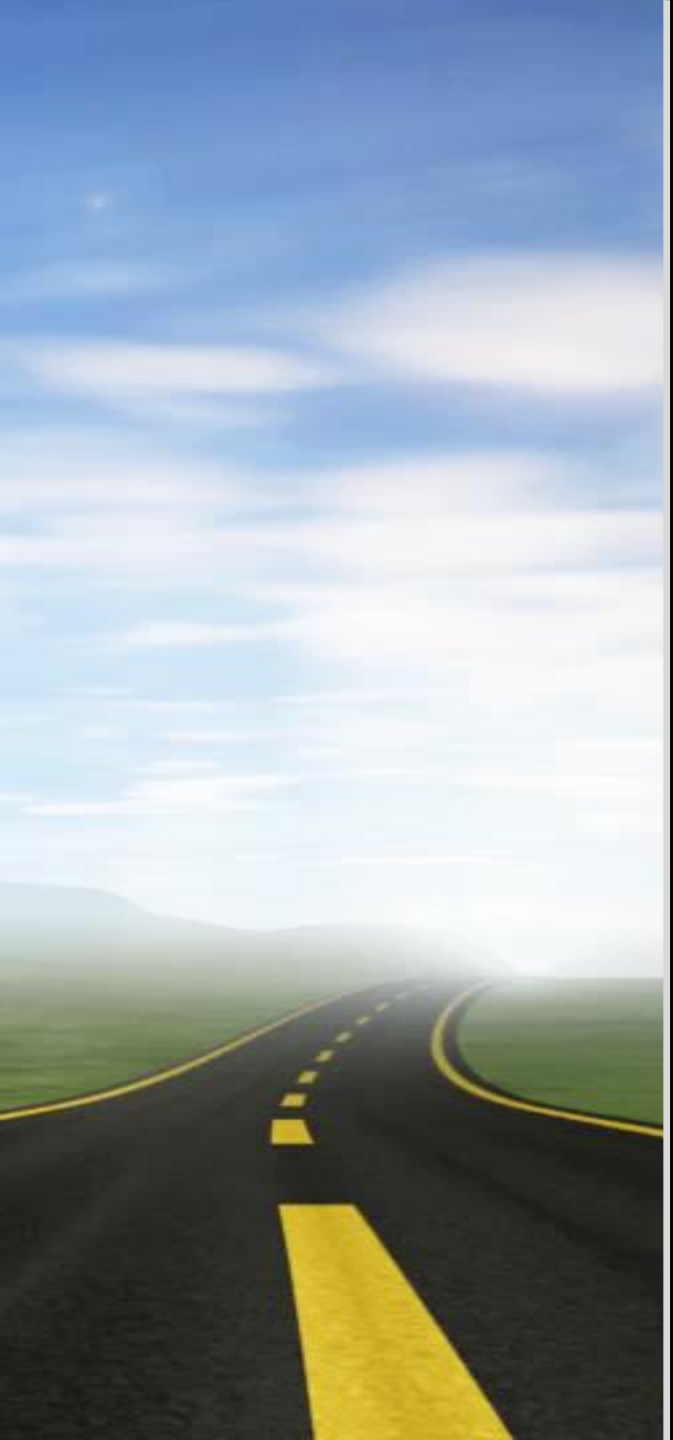
- An example of constant frequency would be the placing of an item off a conveyor line that allowed for no break between items.
- An example of moderate frequency would be the picking up of boxes off of a conveyor and then stacking the box onto a pallet and having a wait time between boxes of about the same time it takes to pick up and place the box on the pallet.



PICTURES

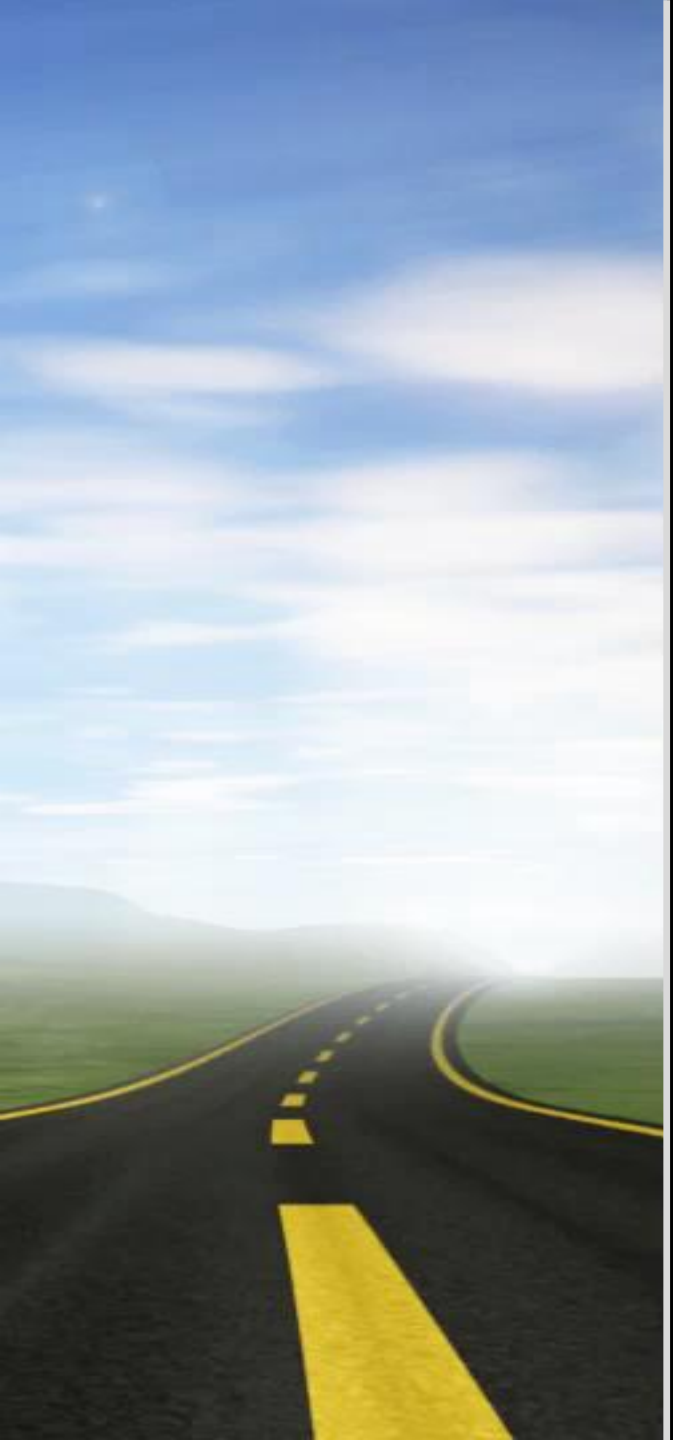
Don’t forget to take or import a picture before you save your entries if you desire.

Pictures can be added easily at a later time as well simply by going to the EDIT screen.



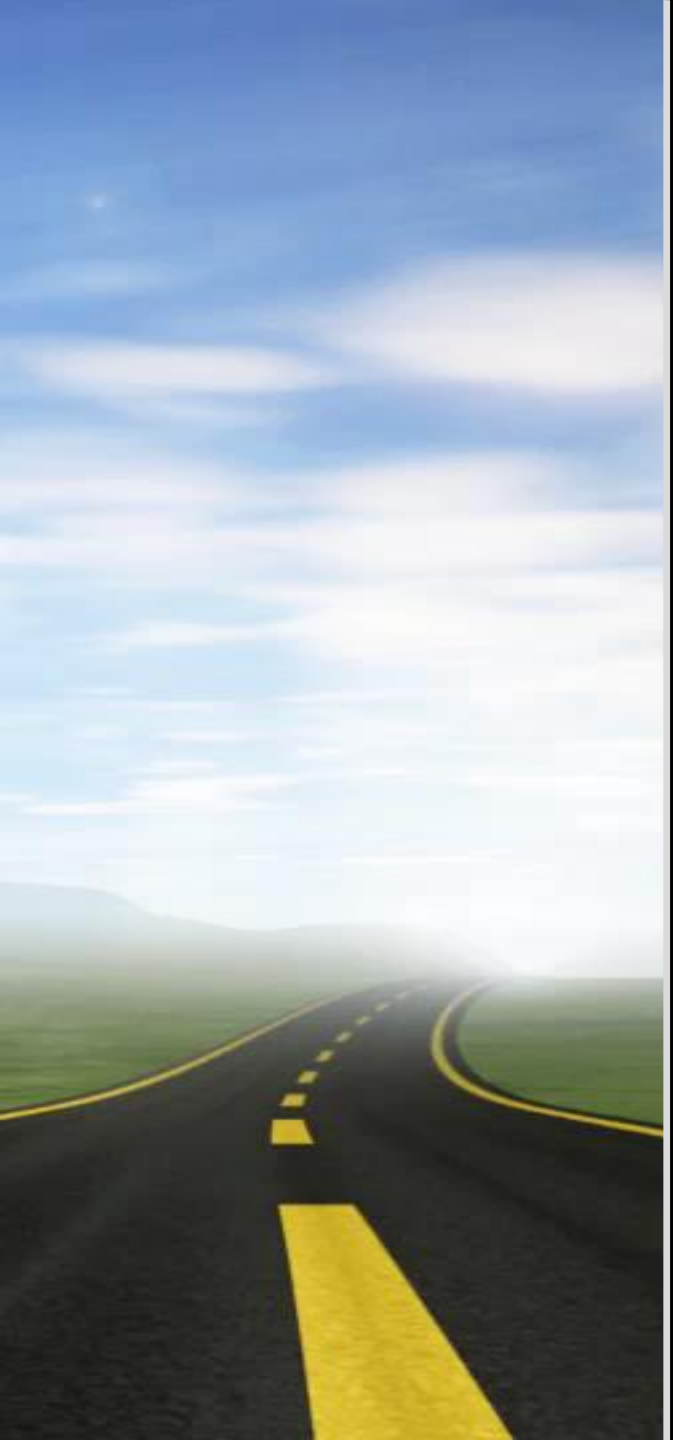
PROCESS EXPLANATION

Smart!Hazard Manager utilizes the hierarchy of controls to assist you in establishing the best risk reduction action.



HIERARCHY OF CONTROLS

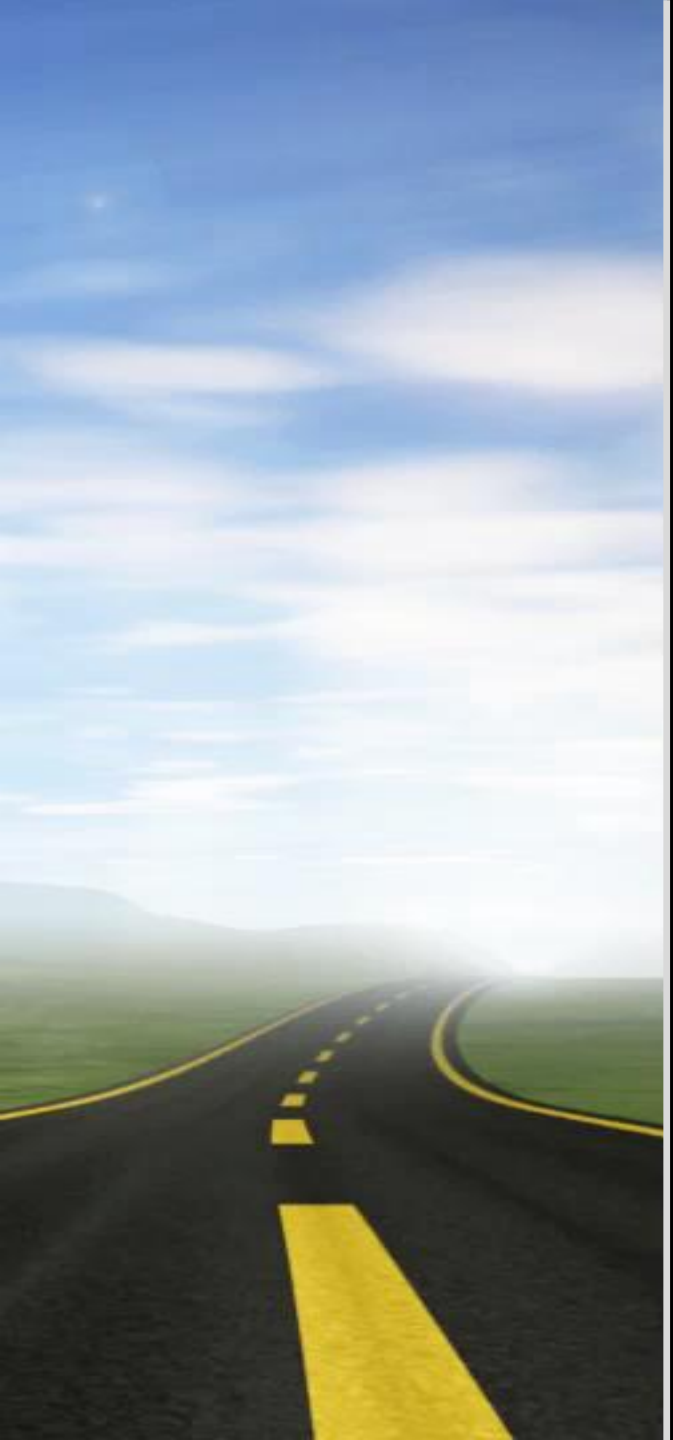
Resolving of hazards needs careful consideration. Frequently we jump to the first thing that comes to mind without thoroughly thinking about other, possibly better options. The SMART!Hazard Manager assists you in this thought process by forcing you to think through what is referred to as “The Hierarchy of Controls”



HIERARCHY OF CONTROLS

First, start with the question: can this hazard be eliminated?

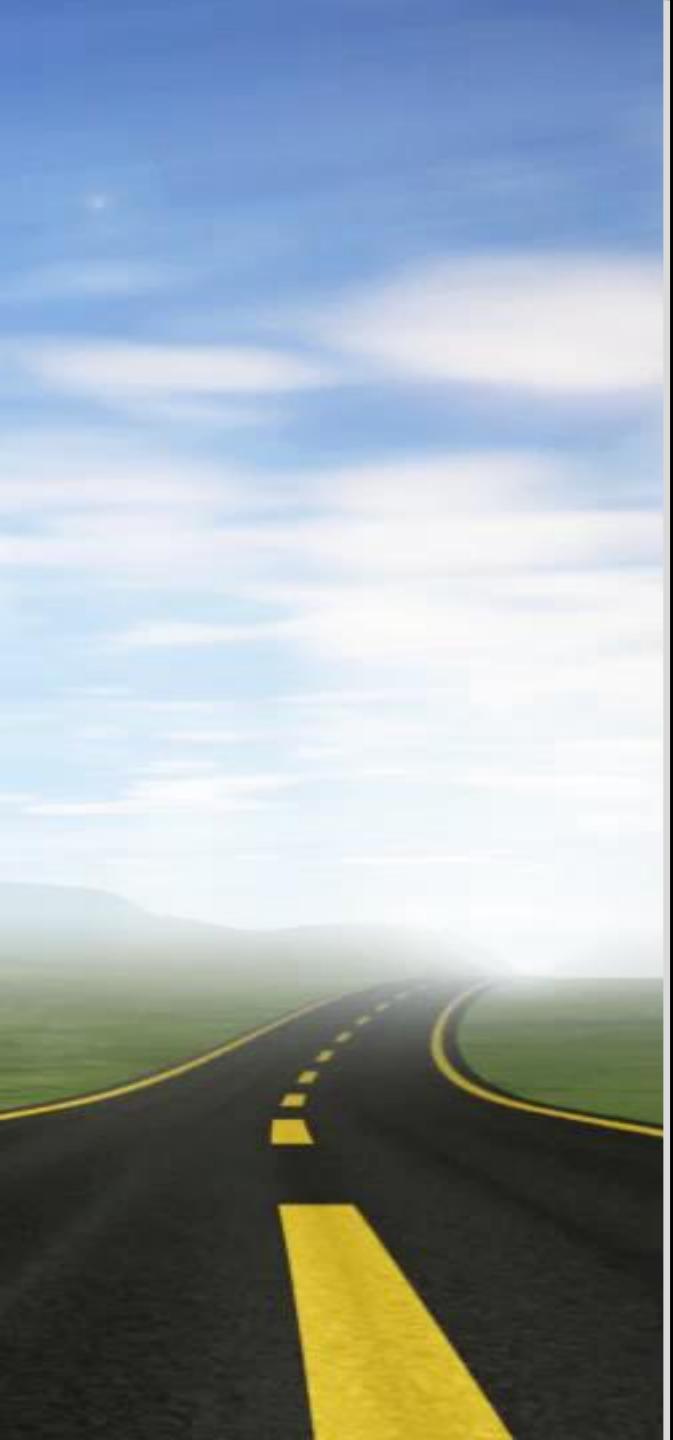
An example of this could be the elimination of a fall hazard by moving the operation to the ground level.



HIERARCHY OF CONTROLS

If the hazard cannot be eliminated, can something else be substituted?

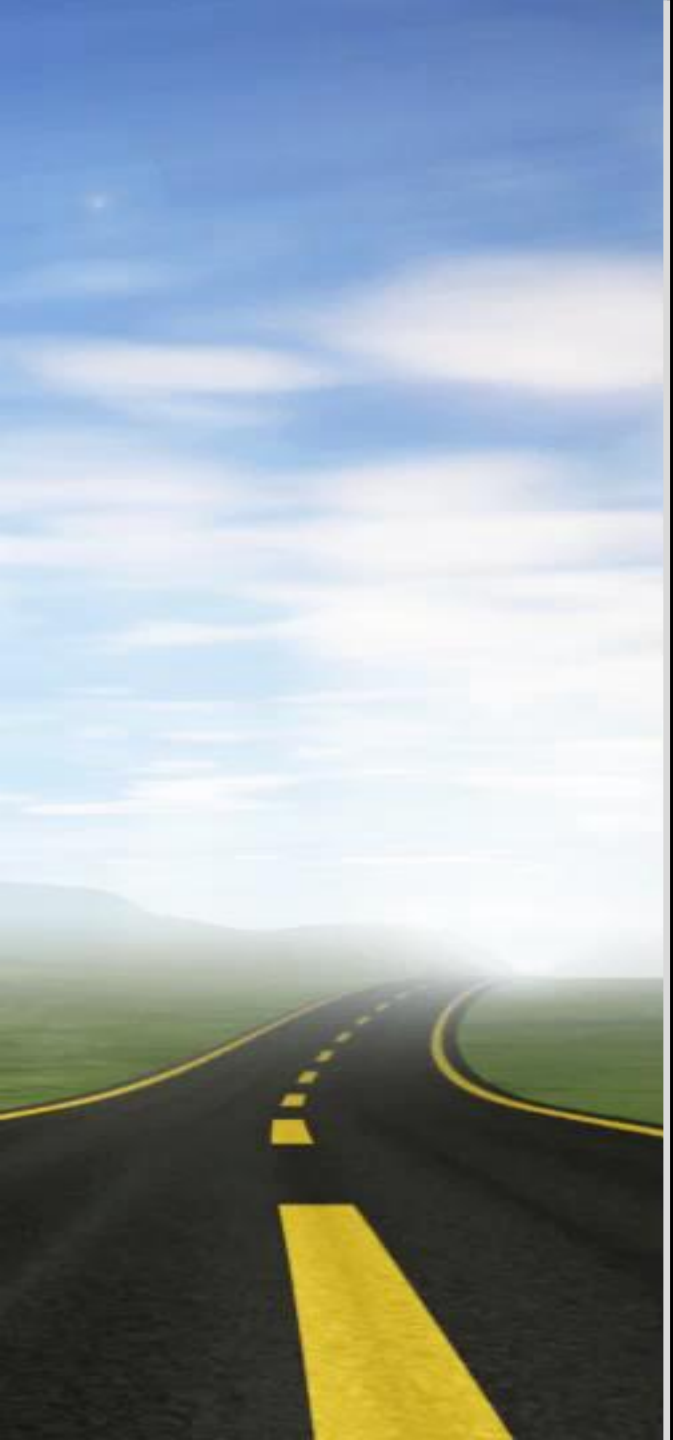
An example of this could be replacing 50 pound bags of a product that require manual lifting with a 2000 pound supersack that must only be moved with a hoist.



HIERARCHY OF CONTROLS

If there is no way to eliminate the hazard or substitute something else then can something be engineered to control the hazard?

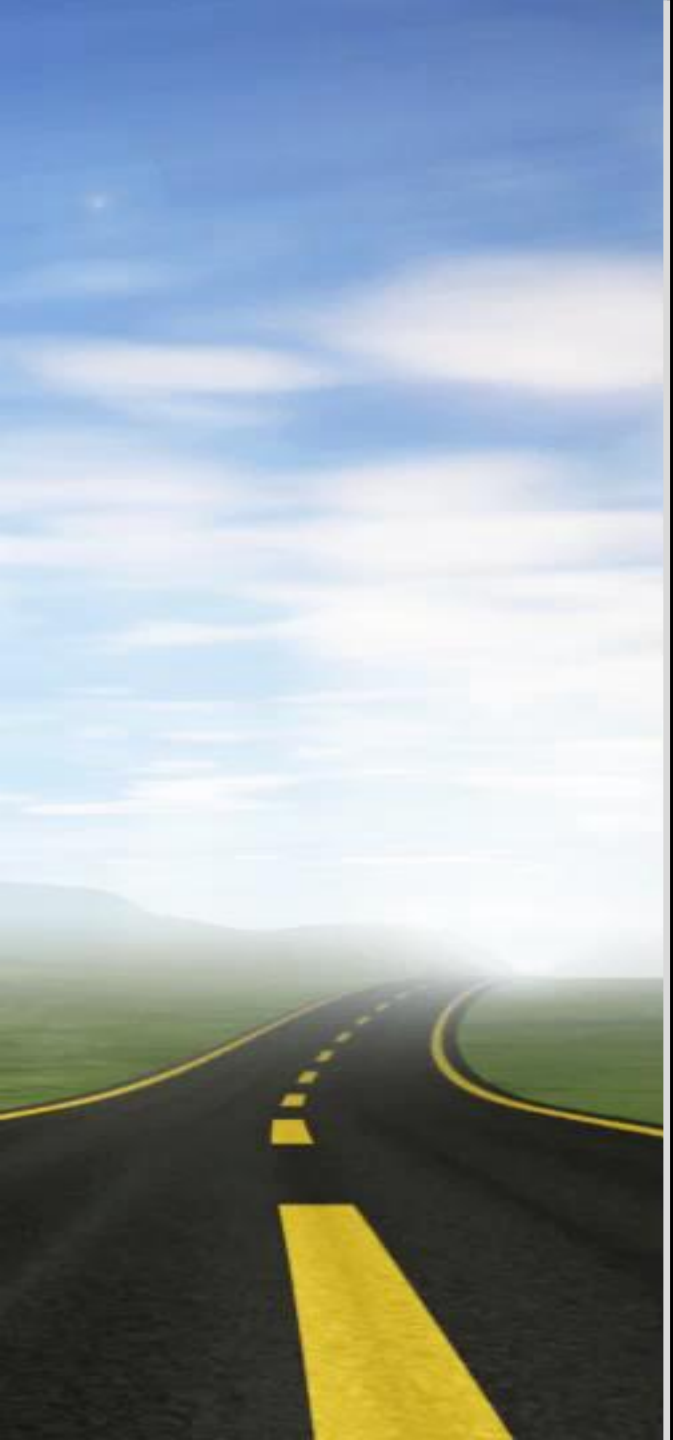
Installing a machine guard is a typical example.



HIERARCHY OF CONTROLS

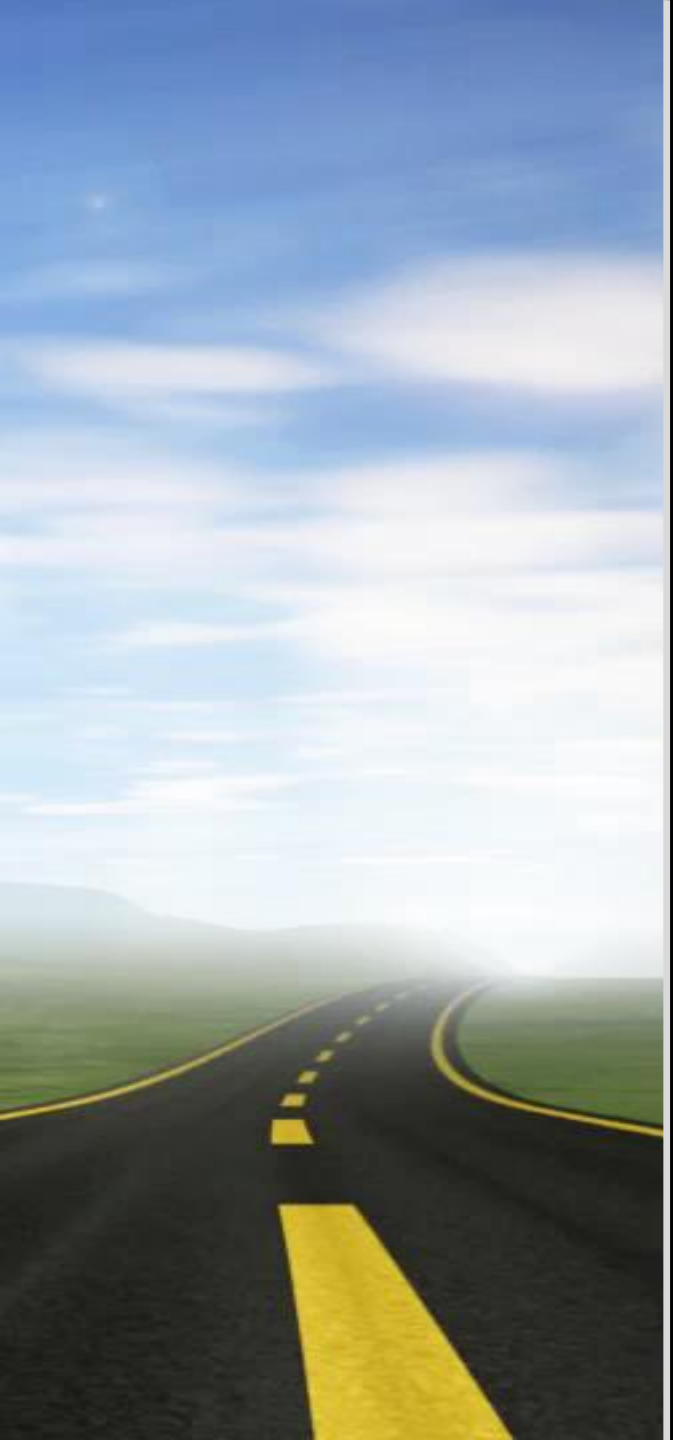
If Eliminate, Substitute, and Engineering won’t work then you will have to rely on administrative or personal protective equipment to control the hazard.

These should only be last resort solutions as they are not as effective as eliminate, substitute, or engineering controls.



PROCESS EXPLANATION – Management Controls: Developing Priorities

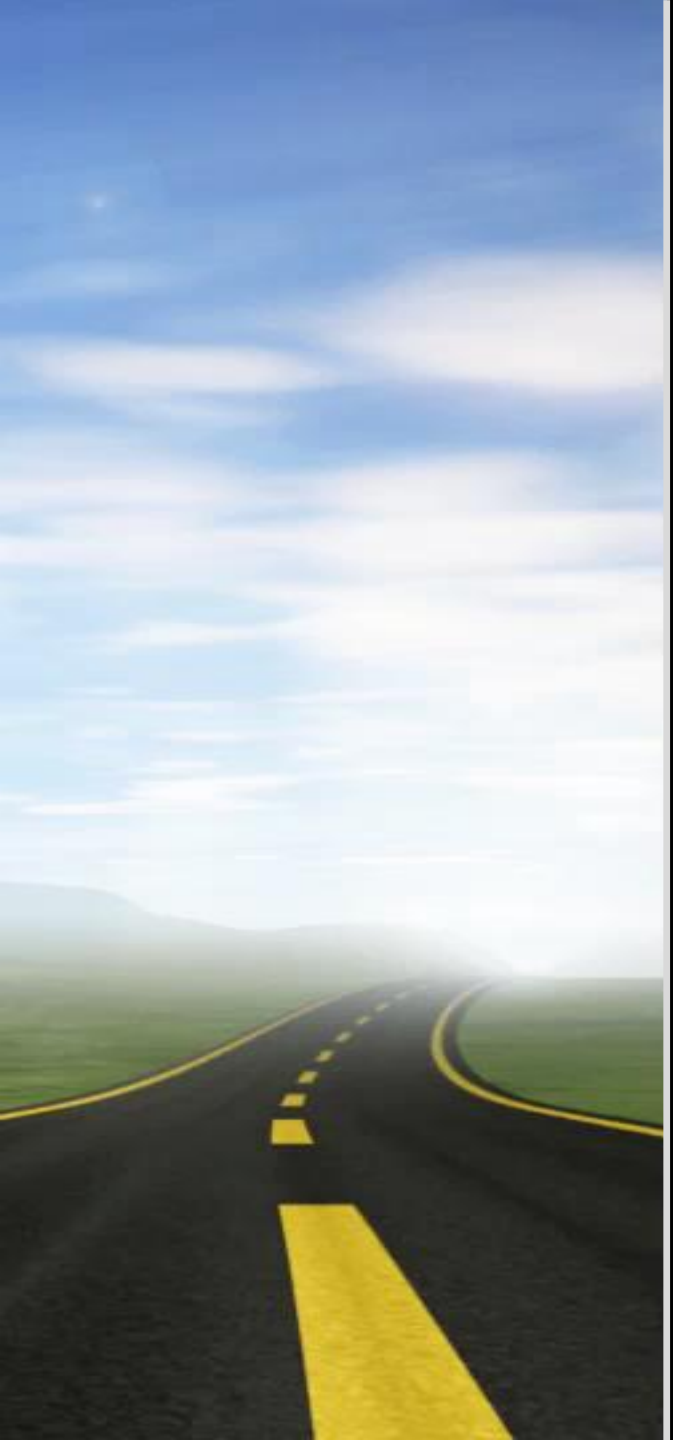
After you have ranked your hazard and established the best risk reduction action to resolve this hazard, you will need to address 6 management related issues to establish the priority given to resolving this hazard relative to all other hazard resolutions.



PROCESS EXPLANATION – Management Controls: Developing Priorities

1 - COMPLIANCE

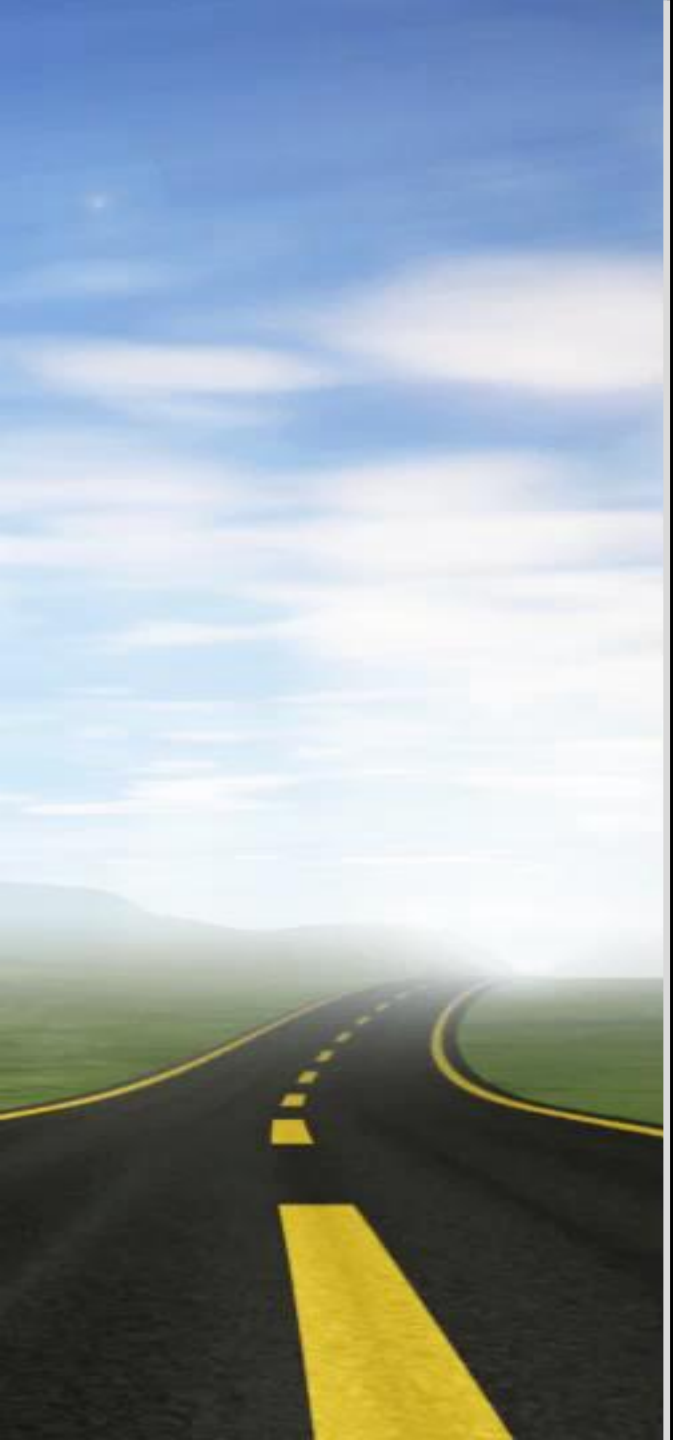
Is this a regulatory or company requirement?



PROCESS EXPLANATION – Management Controls: Developing Priorities

2 - IMPLEMENTATION TIMING

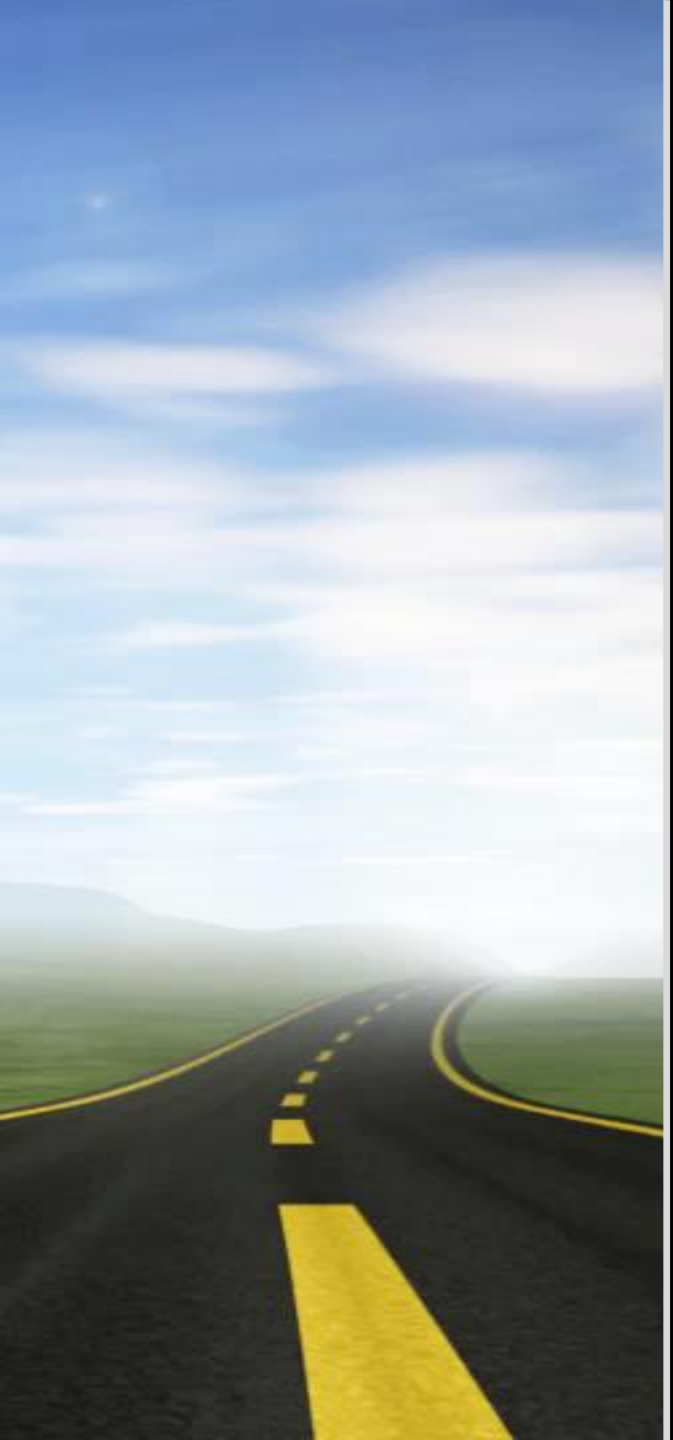
How soon can this hazard be resolved?



PROCESS EXPLANATION – Management Controls: Developing Priorities

3 - READILY AVAILABLE

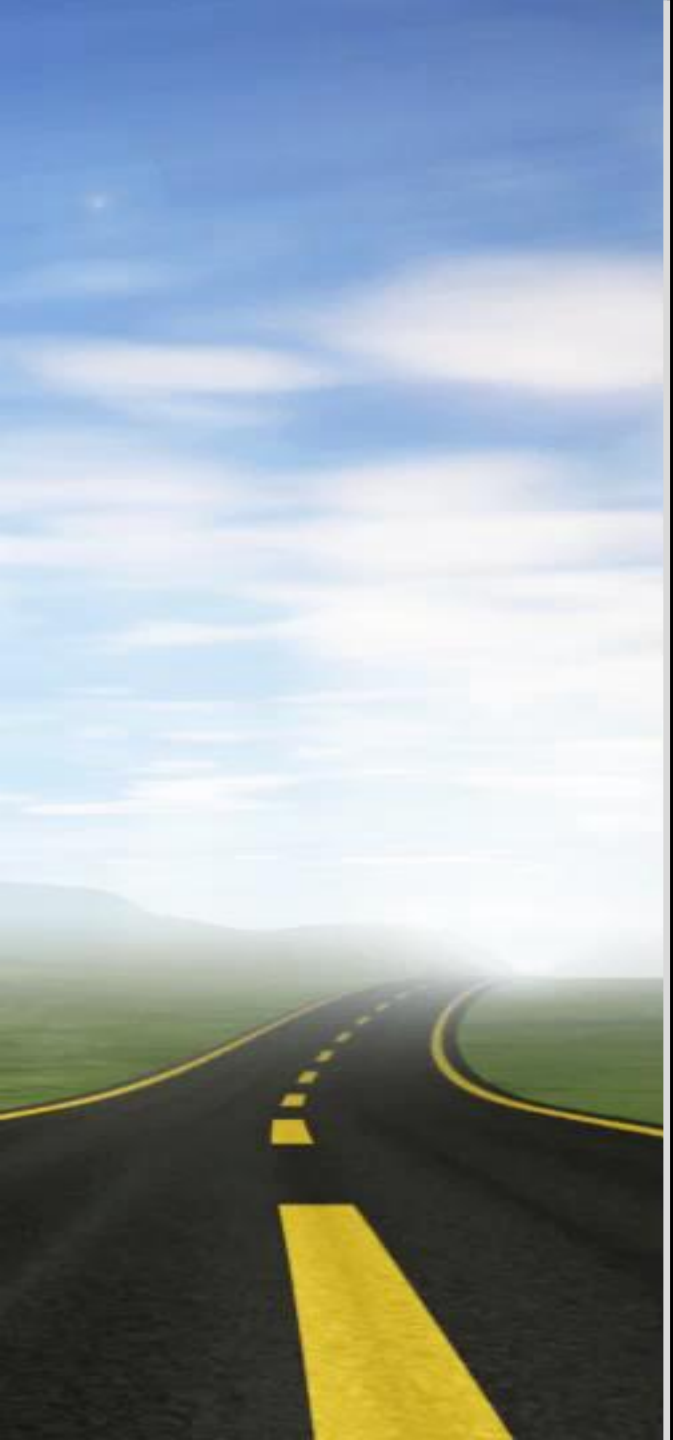
Does the resolution require engineering or considerable design work to customize a solution?



PROCESS EXPLANATION – Management Controls: Developing Priorities

4 - FINANCIAL REQUIREMENTS

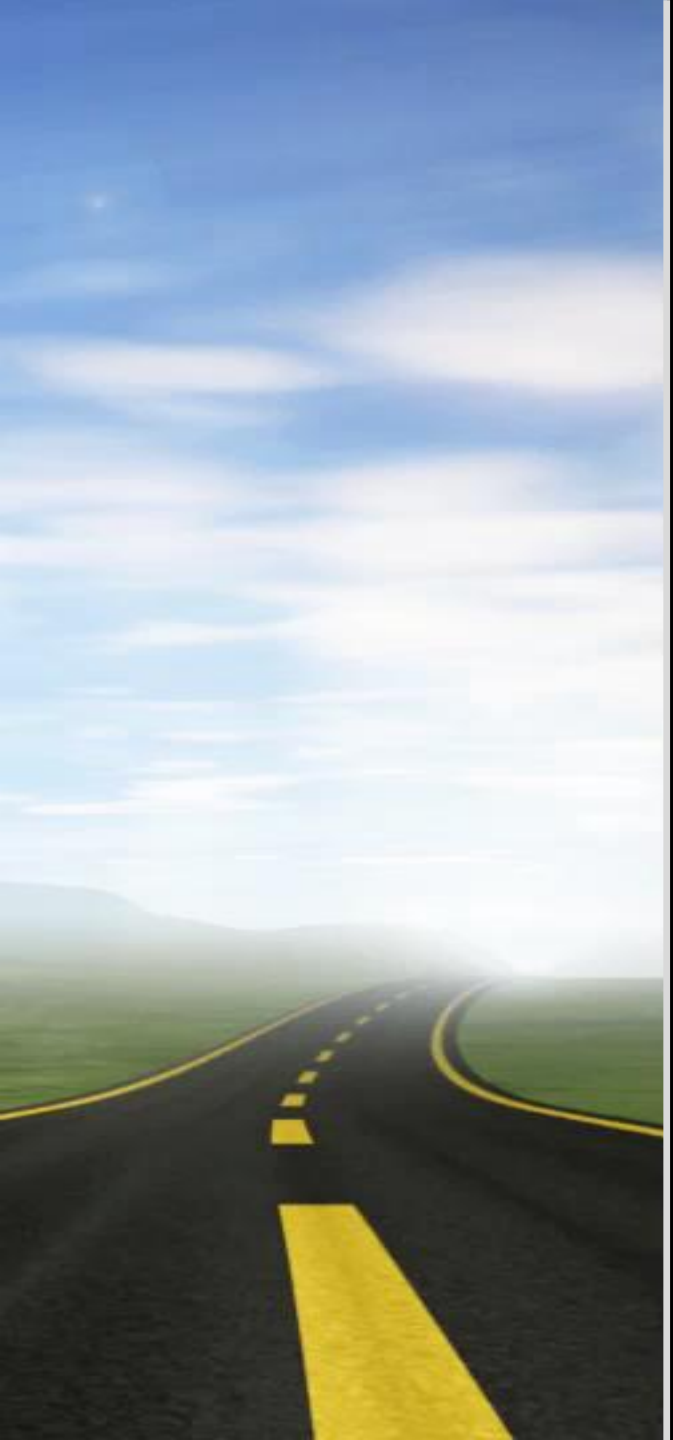
How much will it cost to resolve?



PROCESS EXPLANATION – Management Controls: Developing Priorities

5 - BUSINESS REQUIREMENTS

Can this be resolved with the equipment/process operating or will it require a significant shutdown?

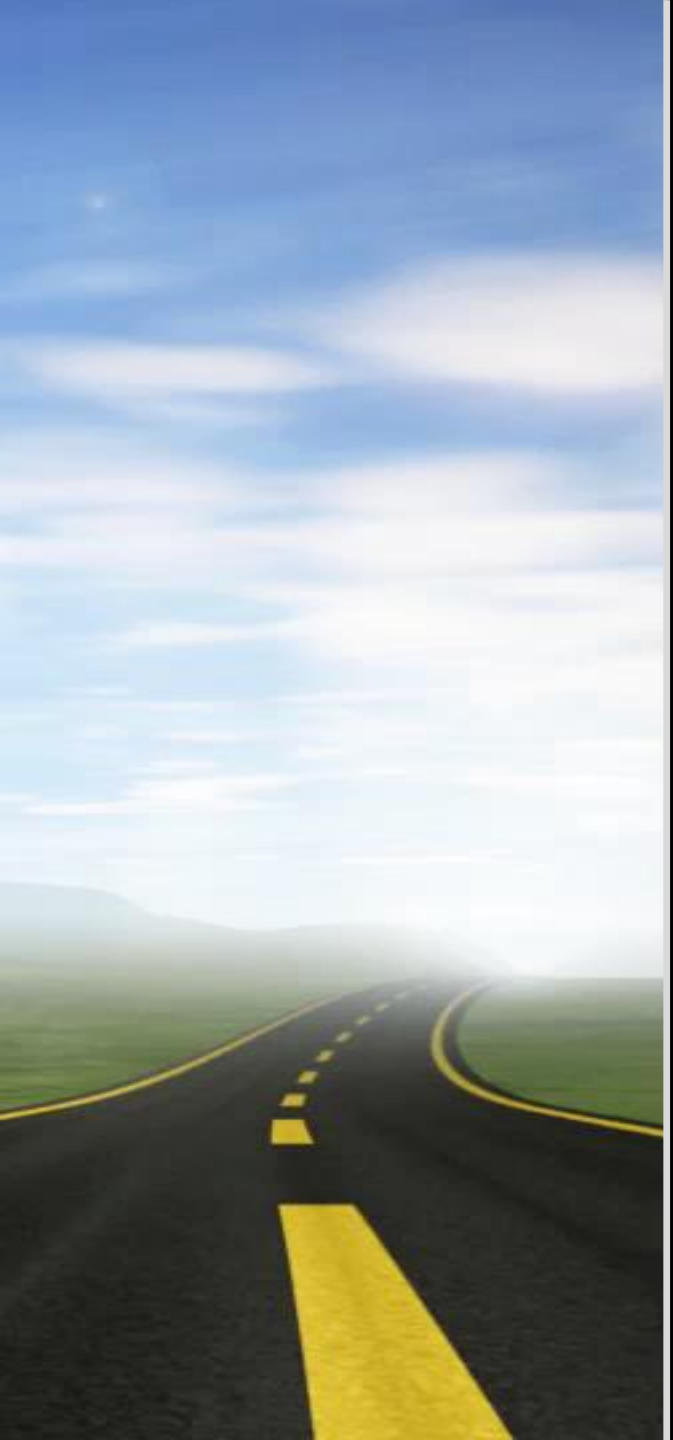


PROCESS EXPLANATION – Management Controls: Developing Priorities

6 - VIEWS OF RELEVANT PARTIES

Does your manager or others with influence object to this resolution?

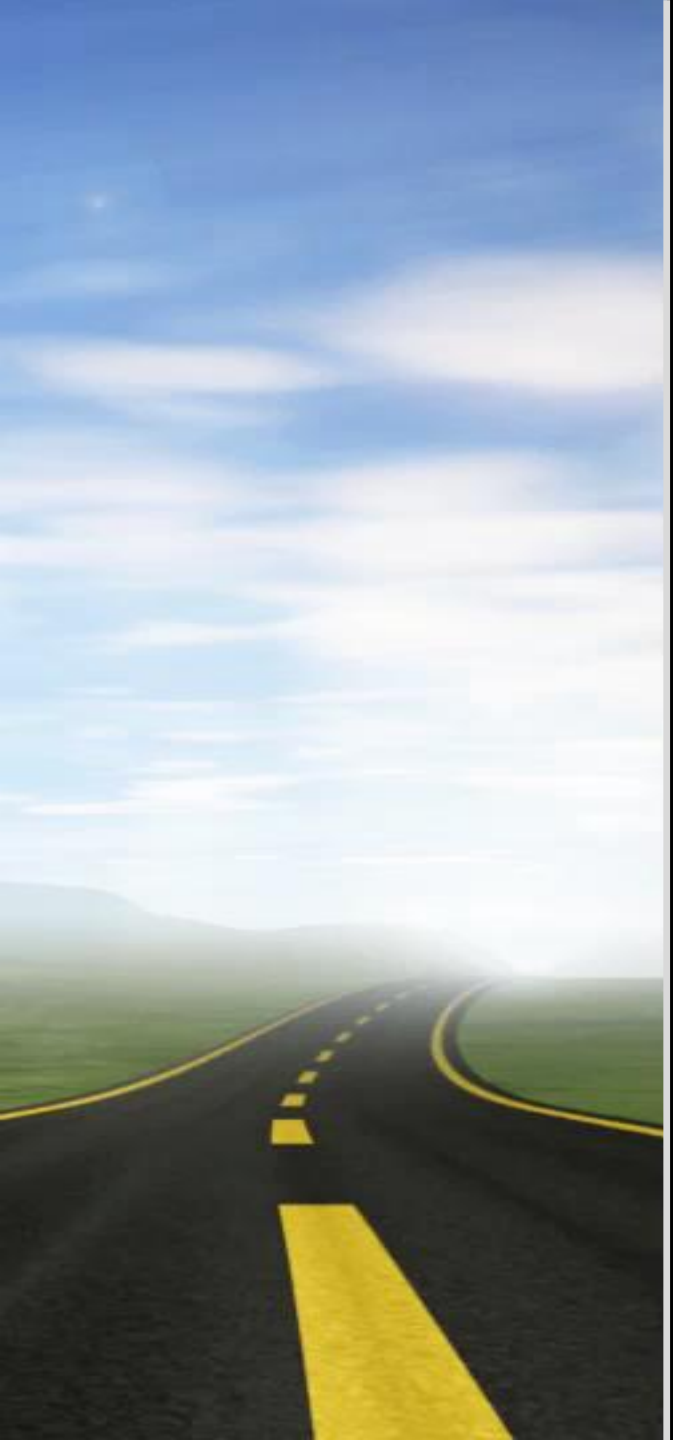
For example, a machine that has been hand-loaded for 30 years may be in need of a guard – but the guarding can’t be accomplished without a major upgrading of controls at a very high cost – which the business just can’t justify. Sometimes this is just the reality and must be factored into the priority decision.



PROCESS EXPLANATION – Sorting features and Charts

Once you are finished entering a hazard you can go to the “VIEW HAZARD” screen.

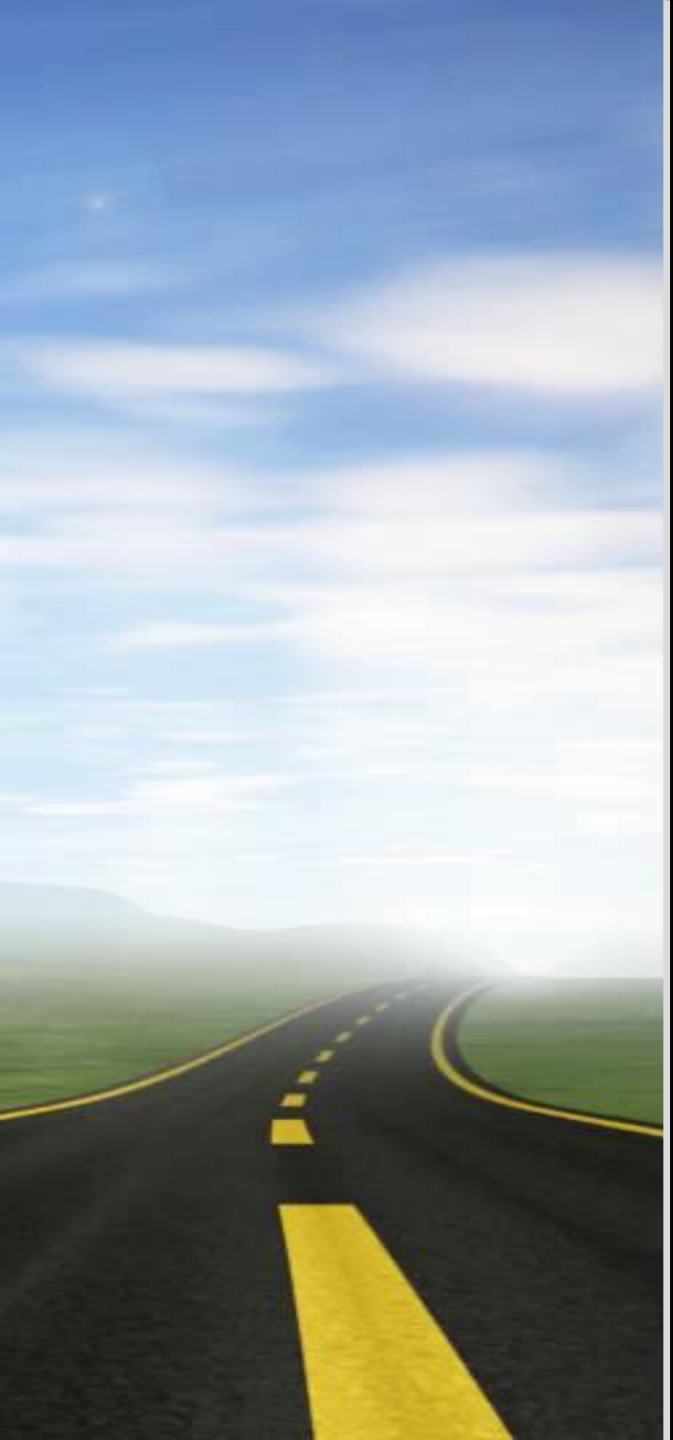
Here you can review all of your entries and sort and filter your data any way that you might like.



“VIEW HAZARDS” screen

On the “VIEW HAZARDS” screen you can select what is shown.

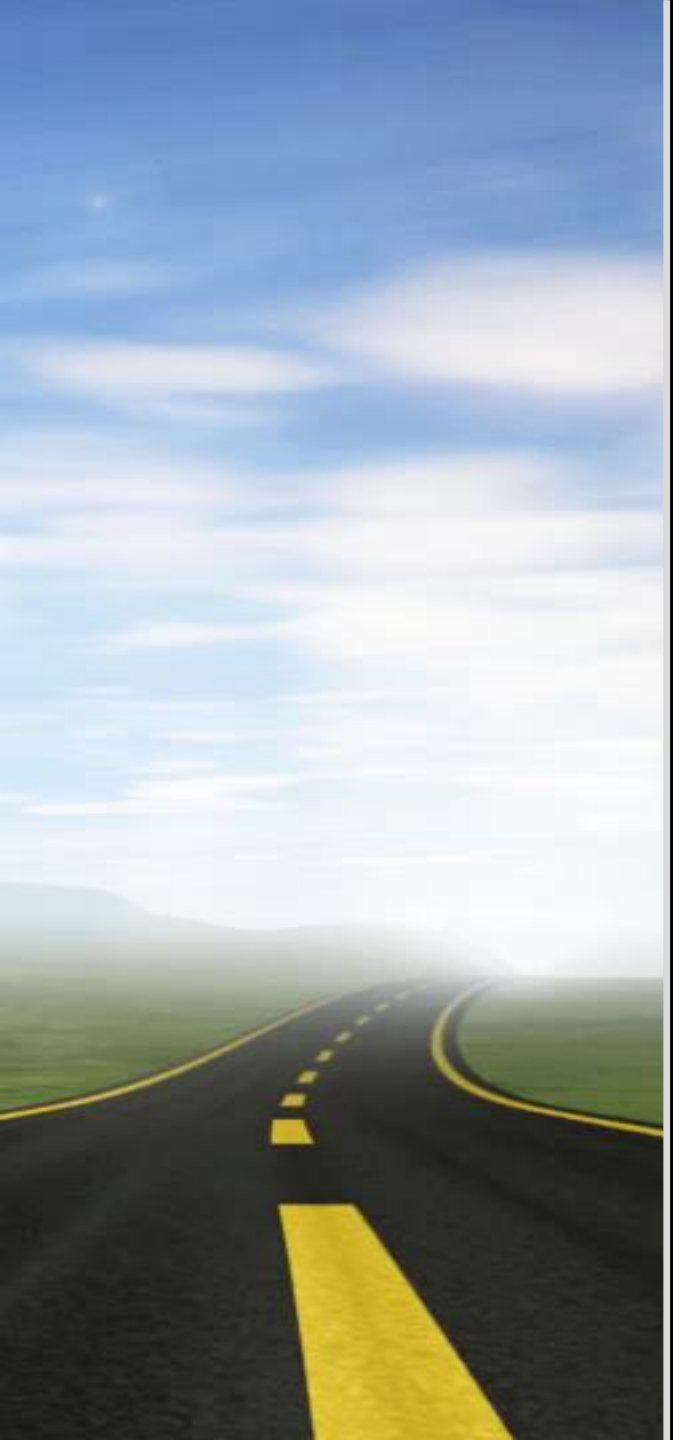
- Located in the top right of your screen is an “INCLUDE” button that allows you to display “Completed”, “Active”, or “On Hold” hazards that are in the system.
- Simply click each box that you are interested in.
- After clicking appropriate box(s) click out of the box somewhere and the table will reset to your selections.



“VIEW HAZARDS” screen

On the “VIEW HAZARDS” screen you can select how the table is sorted.

- Sort the table by any column that you would like.
- The default sort is always by PRIORITY (highest priority listed first) but this can be changed to sort by other columns simply by clicking at the top of each column.
- If you want to reverse the sort order and go from low to high, just click on the column a second time.
- Click again to go back to high to low order.

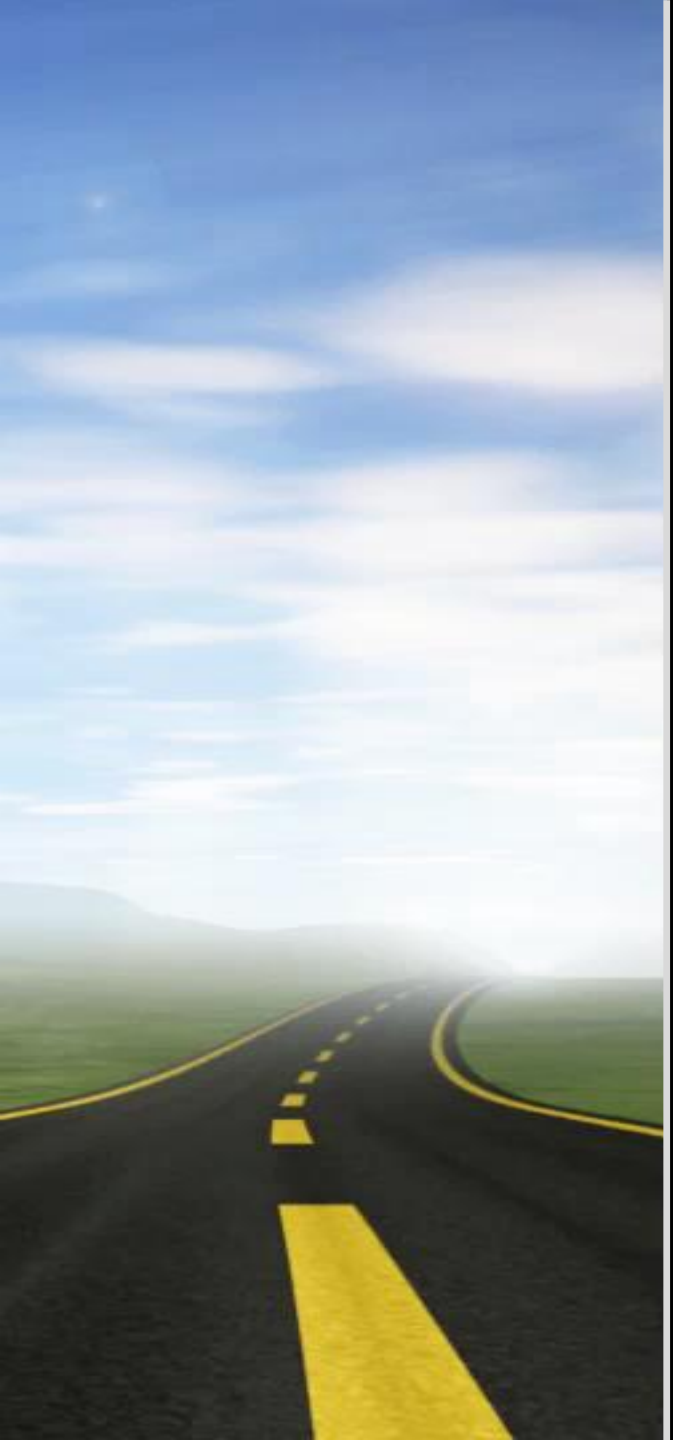


“VIEW HAZARDS” screen

On the “VIEW HAZARDS” screen you can search or filter any column for anything that you would like.

- Simply type in the empty box at the top of a column the word you would like to search for, click on the filter and select appropriate filter, and the table will search and show you the results.

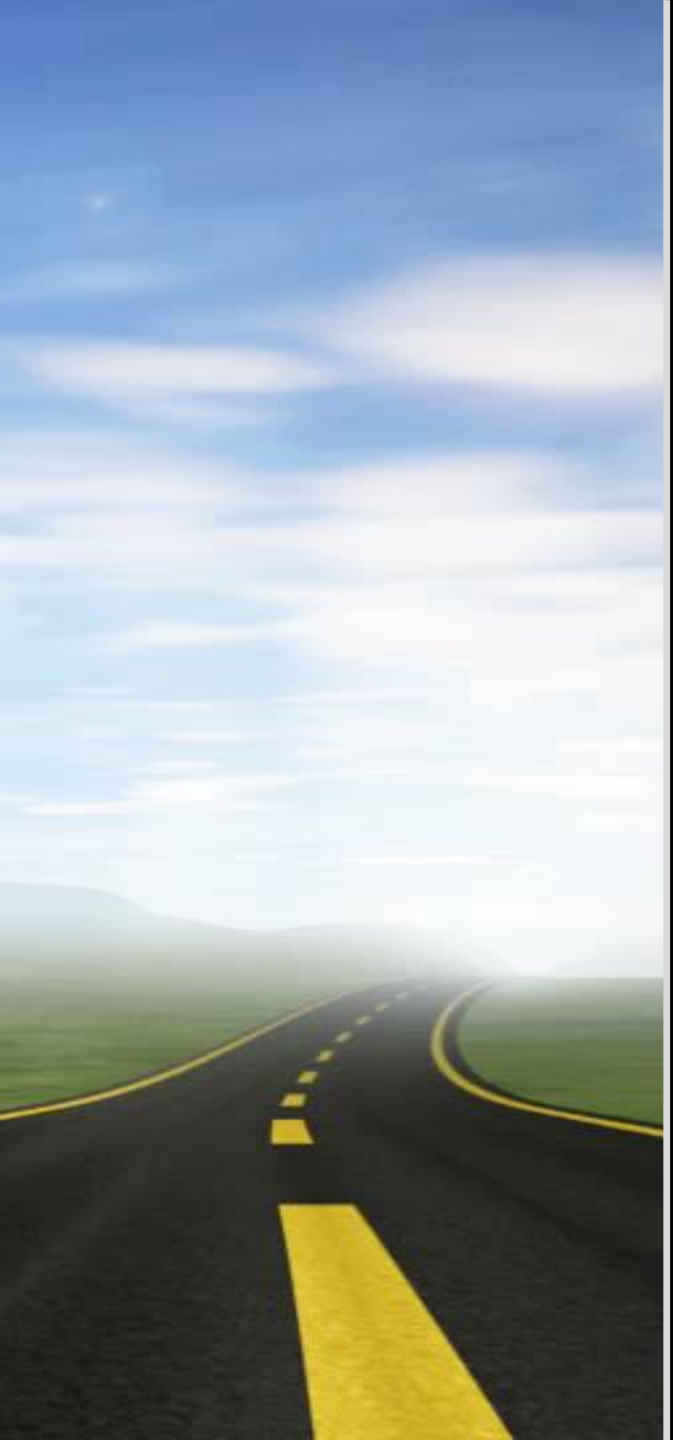
- For example, if you want to see all areas that have had a guarding concern, you can simply type in “GUARD” into the Hazard column, click on the “Contains” filter, and see all hazards in all areas that have a guarding concern.



“VIEW HAZARDS” screen

On the “VIEW HAZARDS” screen you can search or filter any column for anything that you would like.

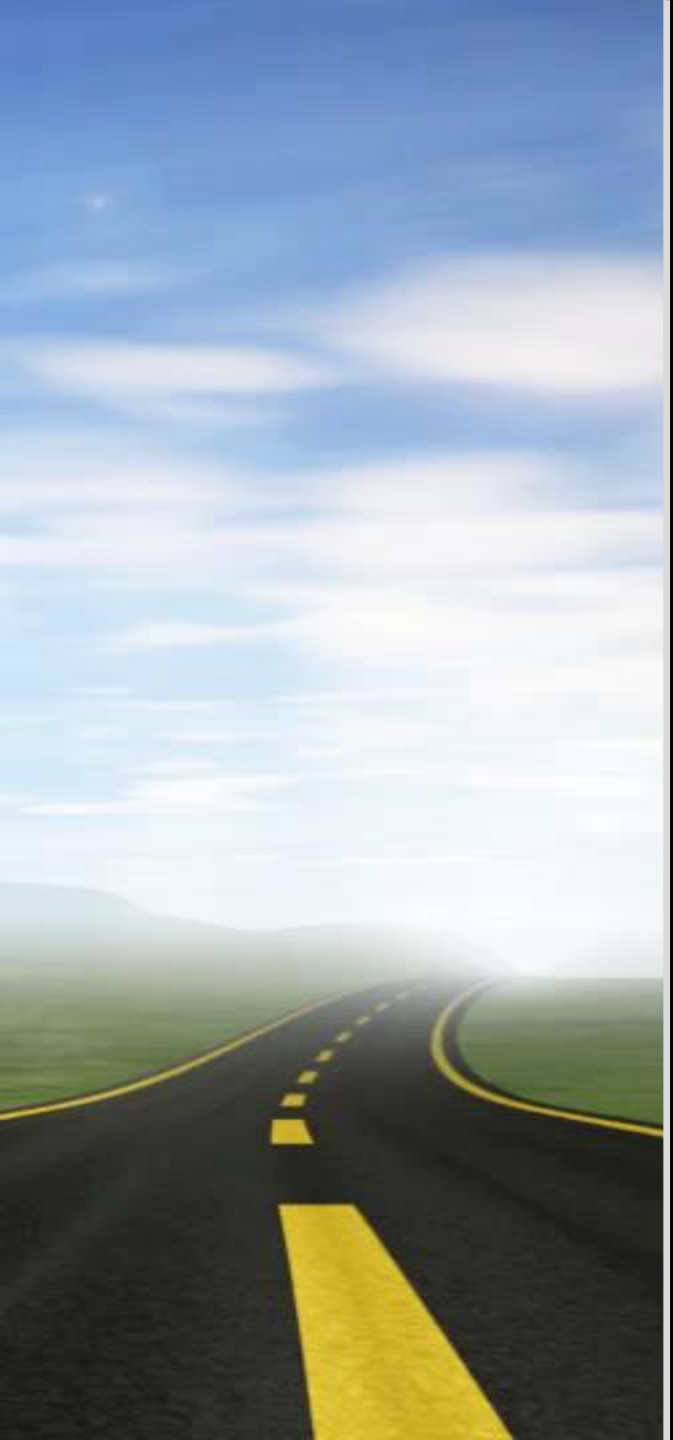
- Another example is that you can search the “Category” column any category such as entries from accidents (categorized as “Incident” in the SMART!Hazard Manager app – so just search for “I” in the Category Column). This gives you in an instant all corrective actions (again, called “Risk Reduction Action”) associated with all accidents in the company.



“VIEW HAZARDS” screen

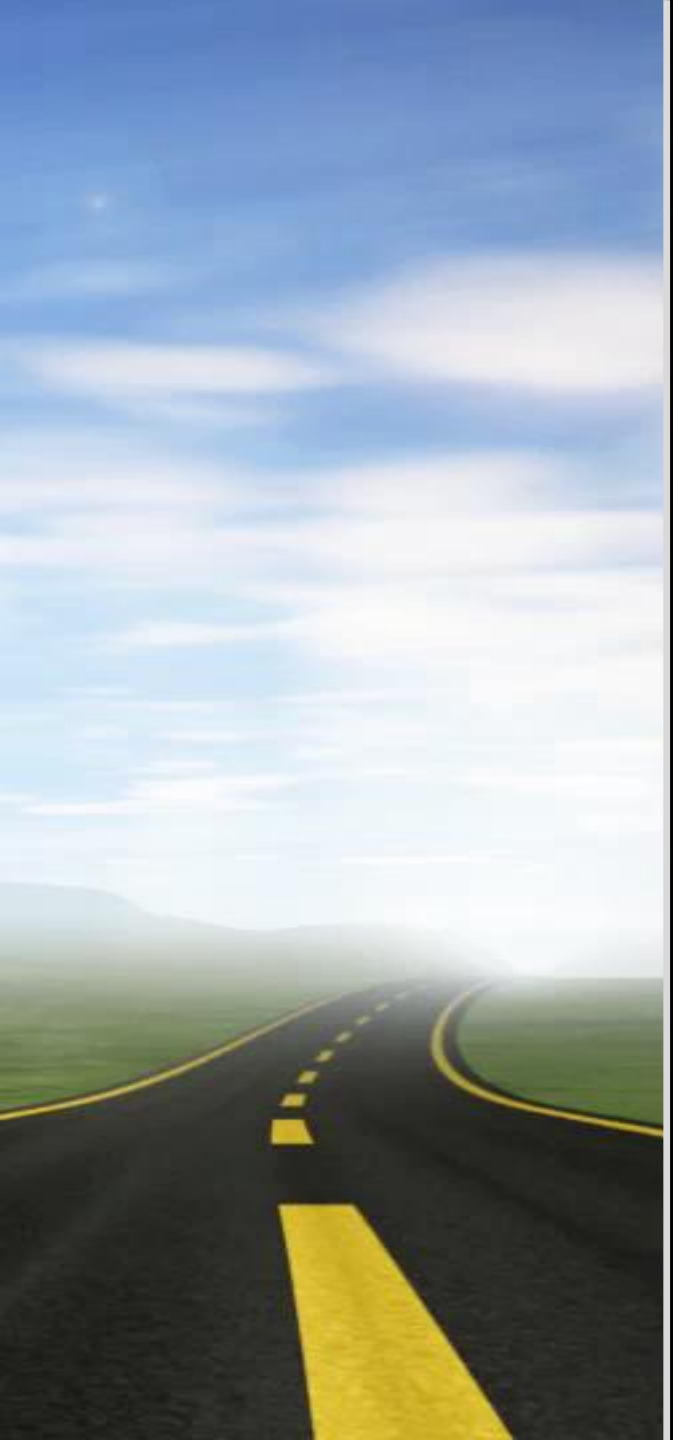
On the “VIEW HAZARDS” screen you can go to the “Edit” screen for any hazard listed.

- To make any changes to any aspect of a hazard click on the edit icon ( )on the far right of that row and you will be taken to the edit screens for that hazard.



VIEW CHARTS

- Click on the “VIEW CHARTS” button and you are taken to additional charts that are not on the home dashboard.
- All aspects of your data can be found and filtered in the VIEW CHARTS section of the app.
- Simply select what you want to show, hit refresh, and you will instantly see all of your information in graphic form.



VIEW CHARTS

- If you want to use a chart as you see it on the screen in an email or presentation, simply use the “Print Screen” function on your PC and paste it anywhere that you would like.
- You can also export data from the “VIEW HAZARD” screen.

The road to safety success!