

# TRIR

The definitive guide to understanding your TRIR and how it affects your business, your pre-qualification paperwork, and your ISNetworld account.

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## **TRIR – Total Recordable Incident Rate**

The TRIR is a simple formula comprising of three elements:

- Total number of hours worked by all employees during the year.
- Total number of OSHA-recordable incidents (nonfatal injuries and illnesses) that occurred during the year.
- And the number 200,000

These three numbers are solely responsible for your company's TRIR.

The TRIR is the main indicator used by hiring clients to determine if your company is "safety conscious" or not.

### **What you will find in this book:**

- Why the TRIR exists.
- What the TRIR tells us.
- Understanding the TRIR formula.
- 4 Tactics to lower your TRIR.

## **WHY THE TRIR EXISTS**

The TRIR is your company's "safety grade" and was created in the early 1970s as a way for OSHA and the Bureau of Labor Statistics (BLS) to compare the relative safety of different companies against one another.

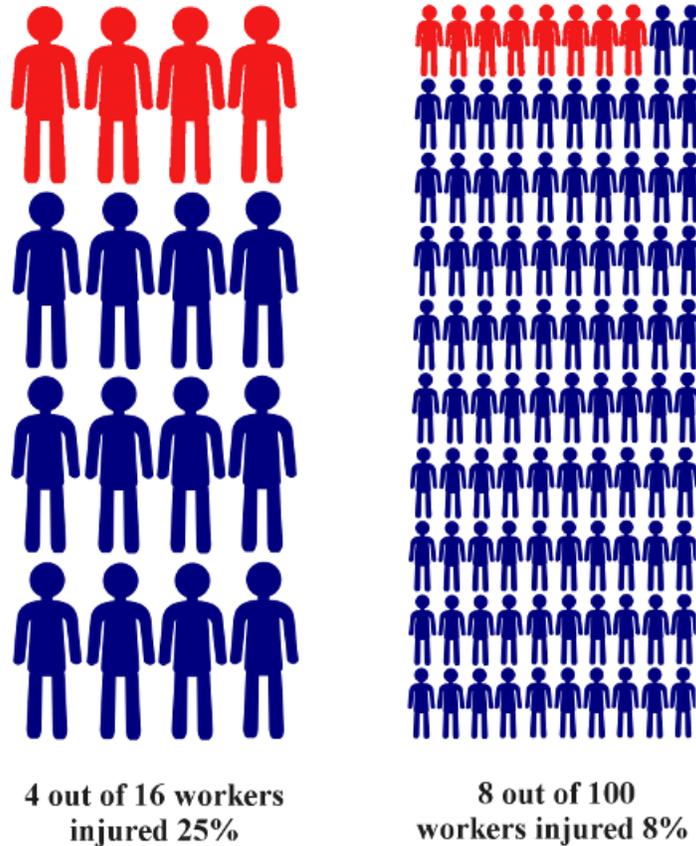
Before the TRIR was created, it was impossible to evaluate a company's safety record based solely on the number of on-the-job injuries and illnesses that occurred throughout a given year.

For example, if a company had four employees who suffered injuries and a second company had twice as many injuries with eight employees injured, which one has a better safety record? The answer depends on one other factor.

What if I also mention:

- The first company had a total of 16 employees, meaning 25% of their employees suffered an injury.
- And the second company had 100 employees, therefore only 8% of their work force was injured.

The first company had a 25% injury rate and the second company had an 8% injury rate.



“The TRIR was created to fairly evaluate the relative safety performance of companies against each other.”

By comparing what percentage of a company's employees were injured, we can easily determine which company had a better safety record.

## AND THAT IS WHAT THE TRIR TELLS US

The TRIR tells us what percentage of the workforce suffered an OSHA-recordable incident. The lower the TRIR, the better.

Let me illustrate this with an example.

If a company has 100 employees and their TRIR is a 3.0, that tells us that 3% of their workforce (or 3 out of 100 employees) suffered an OSHA-recordable incident (an OSHA-recordable incident is an injury or illness suffered by an employee which must be reported on your company OSHA forms, more on this later\*.)

If a company has 10 employees and 2 of them suffer an OSHA-recordable incident, their TRIR is going to be a 20, or 20% of their workforce suffered an injury or illness.

(\*It is possible for a single employee to suffer multiple OSHA-recordable injuries or illnesses, thus making it possible to have a TRIR greater than 100.)

“A perfect TRIR is zero. A TRIR of zero tells us that 0% of your workforce suffered an OSHA-recordable incident.”

## UNDERSTANDING THE TRIR FORMULA

$$\text{TRIR} = \frac{\text{(Number of OSHA-recordable incidents)} \times \text{(200,000)}}{\text{(Total number of hours worked by everybody in the company)}}$$

There are three parts to the TRIR formula and understanding them can help reduce your company's TRIR.

1. Total number of OSHA-recordable incidents (or the number of injuries and illnesses to a company's employees.)
2. The number 200,000.
3. Total hours worked by everybody in the company.

“Many mistakes are made with items 1 and 3 causing a company's TRIR to be much higher than it should be.”

Item 1: Total number of OSHA-Recordable Incidents

The first item is the total number of OSHA-recordable incidents. This number can be found on the company's OSHA 300 forms. The lower this number is, the lower the TRIR will be. In the next section, I will explain how to evaluate your company's OSHA forms to ensure that only OSHA-recordable incidents are recorded on your OSHA forms and not First Aid cases. A First Aid injury is not required by OSHA to be recorded on your OSHA forms.

## Item 2: The Number 200,000.

The second item is the number 200,000. This number is included for two reasons.

First, it makes the TRIR easier to read. Without the number 200,000 in the formula, a typical TRIR for a company with 1 injury would read 0.000005 (5 zeros after the decimal point.) This is a difficult number to read. And this number 0.00005 (4 zeros after the decimal point) looks very much like the first number, but it is actually 10 times larger.

With the number 200,000 included in the formula, the first TRIR becomes "1" and the second TRIR becomes "10". These numbers are much easier to read and understand.

Any large number could have been selected to make the TRIR easier to read, but the second reason the number 200,000 was chosen is that it represents the total number of hours that 100 full-time employees would work in a single year.

- 1 full-time employee will work 2,000 hours in a single year (40 hours per week x 50 weeks per year.)
- 100 full-time employees will work 200,000 hours in a single year.

Why is this important? The number 200,000 makes the TRIR represent the **percentage** of employees that were injured in a business.

- A TRIR of 3.5, means that 3.5% of your workforce suffered an OSHA-recordable injury.
- A TRIR of 12.3 means that 12.3% of your employees suffered an OSHA-recordable injury.

## Item 3: Total Hours Worked by Everybody in the Company

The last item is in the denominator, or bottom, of the formula and it is the total number of hours worked by all employees and owners. This number needs to be as **large** as possible. As your total number of hours worked goes up, your TRIR goes down. I'll show you the common mistakes that most businesses make when computing their total hours worked.

# 4 TACTICS TO LOWER YOUR TRIR

## Tactic 1: MAKE SURE YOUR OSHA-RECORDABLE INCIDENTS ARE NOT ACTUALLY FIRST AID CASES

Your company will undoubtedly be graded by your clients on your TRIR average for the last three years. And the number one mistake companies with a high TRIR make is that they report injuries on their OSHA forms that are actually First Aid cases and not OSHA-recordable incidents.

There is a very fine line between what is considered a First Aid injury and an OSHA-recordable injury. First Aid injuries are not added to your OSHA forms and therefore keep your TRIR down. The more OSHA-recordables you must report the higher your TRIR will be.

Let's look at a quick example.

If you had 100 employees that worked a grand total of 200,000 hours for the year, let's see how your TRIR is affected with an increasing number of OSHA-recordable incidents.

One OSHA-recordable, your TRIR is a 1.0

Two OSHA-recordables, your TRIR is a 2.0

Three OSHA-recordables, your TRIR is a 3.0

If you have 20 employees that worked a grand total of 40,000 total hours (1 full-time employee works 2,000 hours in a year, 20 full-time employees would work 40,000 hours in a year), this is how your TRIR would be affected by OSHA-recordable incidents.

One OSHA-recordable, your TRIR is a 5.0

Two OSHA-recordables, your TRIR is a 10.0

Three OSHA-recordables, your TRIR is a 15.0

Every OSHA-recordable makes the TRIR go up. And depending on the size of the company, a single OSHA-recordable can mean the difference between a business being considered "safety conscious" or not.

Just as a reference, most hiring clients consider a TRIR above 3.0 to be very poor, but this also depends on the types of work a company performs. Some types of work are simply more dangerous than others. As you might expect, a worker has a significantly less chance of an injury working in an accounting office than working as a roofing contractor. The TRIR industry average for accounting offices is a 0.1 and the TRIR average for roofing contractors is a 5.6. Workers are 56 times more likely to be injured as a roofing contractor than they are as an accountant. Your clients recognize the vast differences in the hazards of certain occupations and your TRIR will be graded against your industry average. In other words, your TRIR will be judged against other companies that perform the same types of work that your company performs. More on this later.

The first step I take when helping a company with their TRIR is to review their OSHA forms for the last three years and remove any First Aid cases from their OSHA forms that they have incorrectly recorded as an OSHA-recordable incident.

Here is the process:

1. Make a copy of your OSHA forms for the last three years.
2. Scratch through all of the entries that have lost work days or work transfer days associated with them. Those are automatically OSHA-recordable incidents (assuming the employee was engaged in work-related activities at the time of the injury.)
3. Scratch through all entries where the employee received prescription medication in excess of what can be purchased over the counter. These are also automatically OSHA-recordable incidents.

All entries that remain have the **possibility** of being a First Aid case and could potentially be removed from your OSHA forms.

## What is a First Aid case and what is an OSHA-recordable incident?

These three situations are always OSHA-recordable incidents (if the employee is engaged in work-related activities):

- Any fatality is an OSHA-recordable incident.
- Any incident that results in days away from work is an OSHA-recordable incident.
- Any incident that results in an employee not able to perform their normal duties and is on restricted work duty or is transferred to another job while they heal will always be an OSHA-recordable incident.

Here are some situations that are considered First Aid cases and *not* OSHA-recordable incidents as described by OSHA (United States Department of Labor 1904.7(b)(5)(ii).) Look through this list and see if it applies to any remaining entries on your OSHA forms. If so, you can remove that incident from your OSHA log.

- Using a non-prescription medication at non-prescription strength (for medications available in both prescription and non-prescription form, a recommendation by a physician or other licensed health care professional to use a non-prescription medication at prescription strength is considered medical treatment for recordkeeping purposes);
- Administering tetanus immunizations (other immunizations, such as Hepatitis B vaccine or rabies vaccine, are considered medical treatment);
- Cleaning, flushing, or soaking wounds on the surface of the skin;
- Using wound coverings such as bandages, Band-Aids, gauze pads, etc.; or using butterfly bandages or Steri-Strips (other wound-closing devices such as sutures, staples, etc., are considered medical treatment);
- Using hot or cold therapy;

- Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for recordkeeping purposes);
- Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.).
- Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister;
- Using eye patches;
- Removing foreign bodies from the eye using only irrigation or a cotton swab;
- Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs, or other simple means;
- Using finger guards;
- Using massages (physical therapy or chiropractic treatment are considered medical treatment for recordkeeping purposes);
- Drinking fluids for relief of heat stress.

## What if the person administering the treatment was a medical doctor, is it an OSHA-recordable incident?

According to [OSHA [1904.7(b)(5)(iv)], the professional status of the person administering the treatment is irrelevant. If one of your employees has a piece of metal fly into their eye and a medical doctor flushes the foreign body out of their eye, even though a doctor performed the task, this is still considered a First Aid case and not an OSHA-recordable.

## Are there situations where an injury or illness occurs in the work environment and it is not considered work-related?

Yes, [from OSHA 1904.5(b)(2)] an injury or illness occurring in the work environment that falls under one of the following exceptions is not work-related, and therefore is not an OSHA-recordable incident.

- At the time of the injury or illness, the employee was present in the work environment as a member of the general public rather than as an employee.
- The injury or illness involves signs or symptoms that surface at work but result solely from a non-work related event or exposure that occurs outside the work environment.
- The injury or illness results solely from voluntary participation in a wellness program or in a medical, fitness, or recreational activity such as blood donation, physical examination, flu shot, exercise class, racquetball, or baseball.
- The injury or illness is solely the result of an employee eating, drinking, or preparing food or drink for personal consumption (whether bought on the employer's premises or brought in). For example, if the employee is injured by choking on a sandwich while in the employer's establishment, the case would not be considered work-related. Note: If the employee is made ill by ingesting food contaminated by workplace contaminants (such as lead), or gets food poisoning from food supplied by the employer, the case would be considered work-related.

- The injury or illness is solely the result of an employee doing personal tasks (unrelated to their employment) at the establishment outside of the employee's assigned working hours.
- The injury or illness is solely the result of personal grooming, self-medication for a non-work-related condition, or is intentionally self-inflicted.
- The injury or illness is caused by a motor vehicle accident and occurs on a company parking lot or company access road while the employee is commuting to or from work.
- The illness is the common cold or flu (Note: contagious diseases such as tuberculosis, brucellosis, hepatitis A, or plague are considered work-related if the employee is infected at work).
- The illness is a mental illness. Mental illness will not be considered work-related unless the employee voluntarily provides the employer with an opinion from a physician or other licensed health care professional with appropriate training and experience (psychiatrist, psychologist, psychiatric nurse practitioner, etc.) stating that the employee has a mental illness that is work-related.

If you are still unsure if the injury or illness is an OSHA-recordable or not, you should ask OSHA. They have a terrific website and I have found their "Ask OSHA" service to be fantastic. Here is the website: [https://www.osha.gov/ecor\\_form.html](https://www.osha.gov/ecor_form.html). Your company name and the names of the people involved are not necessary.

Simply describe:

- how the injury happened,
- when it happened,
- where it happened
- and what treatment was provided.

If OSHA has any follow up questions, they'll send you an email. We use this service all the time and I have always been impressed with the thoroughness of their replies.

## How do I modify my OSHA forms to remove First Aid cases that I accidentally reported as an OSHA-recordable incident?

If your company is required to maintain OSHA forms, you must keep these forms for five years and you must modify these forms if new information comes to light and either a First Aid case becomes an OSHA-recordable or an OSHA-recordable is actually a First Aid case and can therefore be removed.

Here is how OSHA states you should handle removing an OSHA-recordable from your OSHA forms.

*" The Recordkeeping regulation does not set any particular requirements for correcting an error on your OSHA log and 300A form. You may erase, delete, or simply cross off the erroneous information and fill in the correct data if necessary. There is no need to initial and date the change, but you may do so if you want. Therefore, if you had a recordable incident in in the past five (5) years that should not have been recorded, delete, or simply cross off the erroneous information."*

“OSHA states that you can simply remove any entries from your OSHA forms that are not OSHA-recordable incidents.”

## TACTIC 2: COUNT EVERY SINGLE HOUR WORKED BY ALL EMPLOYEES (AND OWNERS)

The total number of hours worked needs to be as large as possible. As your total hour's worked number goes up, your TRIR goes down.

The second biggest mistake that I see is that companies fail to include the hours worked by all employees. They often forget to include the hours worked by salaried and commissioned workers in their total hours worked number. And they also forget to include the hours worked by the owners of the company which can make a significant difference for a smaller business.

This happens often because hours worked by salary and commissioned employees don't show up in most accounting software.

But it's important to know that the more total hours entered into the TRIR formula, the lower your TRIR will be.

Suppose there are ten people working for your company. The owner takes a salary, two employees work strictly for commission and seven employees work hourly. Also suppose there was one OSHA-recordable incident.

Most companies would only total up the hours worked by the hourly employees because that number is easy to obtain from accounting. Seven full-time hourly employees will work about 14,000 hours in a year. If you input these numbers into the TRIR formula and you will get a TRIR of 14.29

$$14.29 = \frac{(1 \text{ OSHA Recordable Incident}) \times (200,000)}{(14,000 \text{ Hours Worked by the Hourly Employees})}$$

The TRIR would drop by 30% if the total hours worked by the owner and the commissioned employees were included. The total hours worked by everybody in the company would increase by 6,000 hours with the addition of the hours worked by the owner and the two commissioned employees. The new TRIR would be 10.0, a 4.29 point drop.

$$10.0 = \frac{(1 \text{ OSHA Recordable Incident}) \times (200,000)}{(20,000 \text{ Hours Worked by Hourly, Commissioned and Owners})}$$

You want the total number of hours worked to be as large as possible. It's important to count the total number of hours worked by the hourly employees, the salaried employees, commissioned employees, and the owners. You should count all overtime and any other time that OSHA would consider, as *"actions in the interest of the company."*

### Can we count the hours worked by sub-contractors or temporary employees?

It depends. If the sub-contractors or temporary employees were being directly supervised by an employee of your company, then yes. OSHA requires you to add all hours worked by sub-contractors or temporary employees to your total hours worked if they were being directly supervised by an employee of your company. The flip side to this is, if a sub-contractor or temporary employee is injured while being supervised by one of your company employees then the OSHA-recordable incident would count against your company and you would be required to record the incident on your OSHA forms.

### What OSHA Approved Methods Can We Use to Calculate Total Hours Worked?

Calculating total hours worked for hourly employees is simple. This number will come straight from your accounting department. The number of hours worked by salaried employees, commissioned employees, or the owners can be more difficult to obtain because records are often not kept on the amount of time these people spent at work.

How do we calculate these numbers?

According to OSHA you can use any "reasonable manner" that you want (from OSHA Recordkeeping Handbook p. 130.)

"[T]he rule does not require employers to use any particular method of calculating the totals, thus providing employers who do not maintain certain records--for example the total hours worked by salaried employees--or employers without sophisticated computer systems, the flexibility to obtain the information in any reasonable manner that meets the objectives of the rule. Employers who do not have the ability to generate precise numbers can use various estimation methods."

**“When it comes to calculating the hours worked by your salaried or commissioned employees, you can calculate them in any fashion that you want, as long as OSHA deems your method as reasonable.”**

### TACTIC 3: YOUR TRIR WILL BE JUDGED AGAINST SIMILAR COMPANIES IN YOUR INDUSTRY. MAKE SURE YOU CHOOSE THE CORRECT NAICS CODE.

#### “WHAT IS A GOOD TRIR? ...IT DEPENDS ON YOUR NAICS CODE”

NAICS stands for North American Industry Classification System. Basically, it is a long list that consists of a wide variety of services or products companies provide. And a different number is assigned to each item on the list. This number is the NAICS code. Companies search through this list and choose the number that best describes the work they perform.

A sample of the NAICS list is below. If your business was in the "Fruit and tree nut farming" industry (second from the bottom), your NAICS code would be 1113 and your industry average TRIR would be 6.4.

Industry <sup>(2)</sup>	NAICS code <sup>(3)</sup>	Total recordable cases
Agriculture, forestry, fishing and hunting <sup>(5)</sup>	11	5.0
Crop production <sup>(5)</sup>	111	5.2
Oilseed and grain farming <sup>(5)</sup>	1111	2.9
Vegetable and melon farming <sup>(5)</sup>	1112	4.6
Fruit and tree nut farming <sup>(5)</sup>	1113	6.4
Greenhouse, nursery, and floriculture productior	1114	5.1

(Example of BLS data, 2017)

#### How does the BLS obtain their industry average TRIR data?

The Bureau of Labor Statistics will notify companies, in advance of each year, if they have been selected to provide the required injury data. This data collection process also includes companies that are not typically required to maintain OSHA forms (for example, a company with less than 11 employees.) These selected companies then submit their OSHA forms to the BLS. The BLS takes this data and estimates the industry average TRIR for all industries.

You can download the latest TRIR from the BLS at this website: <https://www.bls.gov/iif/oshsum.htm>  
The correct link can be difficult to find on this website. Scroll down until you see "Summary Tables", then click on the "XLSX" or "HTML" link for Table 1.

Your company will be judged based on your TRIR. But what is a good TRIR? It depends on what types of services your company provides.

“Your company will be judged against other companies that have the same NAICS code.”

If the average TRIR for your industry is a 5.0, and if you have a TRIR below 5.0, your company will be considered "safety conscious." If your TRIR is above the industry average, your company will be considered unsafe.

Choosing an incorrect NAICS code can incorrectly place your TRIR higher than the industry average and cost your company business.

Suppose your company performs residential construction services, and you selected the appropriate NAICS code of "236100 – Residential Construction" which has an industry average TRIR of 3.3 (2016 BLS data.)

Now let's suppose your company has a TRIR of 4.0. Your company's TRIR is above the industry average and potential clients may determine that your company is unsafe and decide to hire a different construction company.

But what if you had chosen the wrong NAICS code?

Suppose your company does perform residential construction but you specialize in residential roofing. Roofing Contractors have their own NAICS code (238160) and their industry average TRIR is 5.6.

In our example, your business has a TRIR of 4.0, which is below the industry average for roofing contractors of 5.6. Your business would now be considered "safety conscious" all because you selected a more appropriate NAICS code for your business.

“Your TRIR will be graded against your industry average TRIR. And you get to select which industry you are in.”

How do hiring clients know which industry I am in?

Even if you aren't required by law to keep OSHA forms, potential clients may require you to complete them for the last three years and submit them with your pre-qualification paperwork. Your OSHA forms will ask you to input your NAICS code. Your potential clients will judge your TRIR against the industry average based on which NAICS code you write on your OSHA forms.

It is very important to select the proper NAICS code. For a complete list of NAICS codes with 2017 BLS data, goto [www.SafetyManualToday.com/blsdata](http://www.SafetyManualToday.com/blsdata).

## TACTIC 4: MITIGATION PLAN - YOUR LAST RESORT

Your business may have a high TRIR. It happens. With a small business, even a single OSHA-recordable incident can elevate your TRIR above the industry average.

If nothing in the previous sections has helped your TRIR, it is time to write a Mitigation Plan. A well-written Mitigation Plan may give your company a TRIR variance which will allow your company to work for your client.

A Mitigation Plan is basically a letter that explains why your TRIR is above the industry average and what actions you have taken to correct it.

If a couple of your OSHA-recordables involve hand or foot injuries, maybe the proper PPE (personal protective equipment) wasn't worn. You can outline a plan that will improve the wearing of PPE.

I had a client who had four employees that were traveling in a company truck and were in a car accident that was 100% the other driver's fault. All four workers missed time from work and therefore all four injuries were OSHA-recordable incidents. This made their TRIR go through the roof. Their mitigation plan focused on driving safety, wearing seatbelts, driving route selection, etc.

**“Your Mitigation Plan gives your client the proper justification to allow your company to continue to work for them.”**

Suppose your company is a contractor for ACME Inc. Your contact person at ACME Inc. loves your business and you have had a good working relationship for years. But lately you had a couple of OSHA-recordable incidents and your TRIR is now above the industry average. The Director of Safety at ACME Inc. has made a companywide proclamation that no contractors can be used with a TRIR above the industry average without approval from a Vice President or higher.

This is where a Mitigation Plan can get your company back in their good graces so you can work for them again. Your contact person for your client will pass your Mitigation Plan to the Director of Safety

who approves of your plan and asks one of the Vice Presidents to approve the TRIR variance for your company.

“The Mitigation Plan that you create gives everybody at ACME a good reason to let your company continue to work for them, even though you have a high TRIR.”

Creating a good Mitigation Plan is not difficult and it comprises of four parts.

1. Your company information.
  - a. Company name
  - b. Contact person
  - c. Phone number
  - d. Email address of contact person
  - e. Your scope of work. Be specific with this.
2. Describe the reason you are writing the Mitigation Plan. Is your TRIR too high or above the industry average? Provide your company’s TRIR for the last three years and the industry average TRIR.
3. Explain why your TRIR is above the industry average. Were your employees involved in a car accident that wasn't their fault? Are you a small company and only had one OSHA-recordable incident in 20 years?
4. List any new policies, procedure changes, or training programs that have been implemented. Describe any actions you will take, or you have taken to prevent any further OSHA-recordable incidents.

Once you submit your Mitigation Plan to your client, it will go through a "Justification" phase. Somebody employed by your client will need to answer the following three questions about your company and pass it up to the executive team for approval.

1. What is the justification for approving this contractor?
2. Are there other contractors that can perform the same services?
3. What added value does this contractor provide?

Make sure your Mitigation Plan answers these three questions in a subtle way. This will make it easy for your client to accept your Mitigation Plan.

Depending on how important this client is to the success of your business, you may want to consider hiring a professional safety consultant to assist you with this. Here is the website of a good one ([www.shecompliance.com](http://www.shecompliance.com)).