

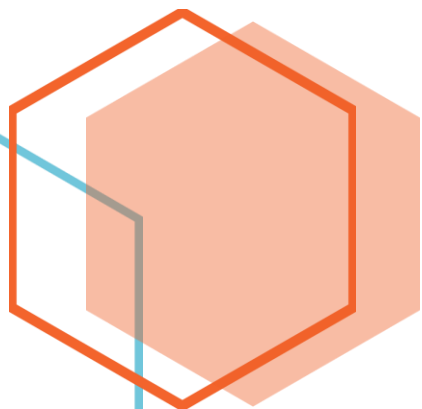


# Evolving Risk Assessment

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**Inspect what needs inspecting**  
**David B. Jolley**

Faced with growing inspection costs and increased Quality demands, this document presents a possible solution to cover your risks with minimal resources.





# Evolving Risk Assessment

## Inspect what needs inspecting David B. Jolley

Quality should evolve to meet the failure risks. This is not always easy to keep up with. Risks may look different from different levels. Its a lot easier looking back on a situation and making a decision as it is unfolding before you. My objective today is not to feed you, but to teach you to fish.

As a quality team we should all have the same goal. We should all be working towards that goal. Some time that gets mistaken for one person making all the decisions. This is really not possible, at least not for long. One man did not get us to the moon. A team did. Things happen and the better your team is prepared, the more likely they will survive to proceed on. Your team need to be prepared for what might happen because eventually it may.

1. Know your mission
2. Know your risks
3. Prepared plan to eliminate or minimize the risks

Of course we all know that to truly tackle a problem we must handle the root cause. This is not always possible. As a medic would say, the best prevention for war injures is no war. I told my boss one time that I could get him to zero defects overnight. The root cause is the electricity. No power to the machine and you will not have any defects. He laughed and said that is true, but we must run the machine, so we need to see what we can do.

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## Sun Tzus The Art of War



"Every battle is fought and won or lost before it even begins." Sun Tzus Art of War

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2. Know your risks
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One particular problem I had was causing high turnover of operators. This was causing lots of quality failures. In this particular case I could not eliminate the root cause, but that is another story. So I needed to find a way to dynamically adjust the Quality based on evolving risks. The team needed to be able to handle this situation.

OK, so on to "Evolving Risk Assessment". What is it? Well I will explain. Part of my team are roaming floor auditors. These are quality resources that I put on the production lines to help assure the quality and standards are being met at the production floor level. Of course this is a costly expense. If the plant had a problem we assign them to spend more time there and watch for further problems. And of course everything is priority one. :) Who hasn't heard that? Multiple risks are present everyday and every shift. The risks evolve on a daily or hourly basis sometimes. If I'm available, I can help the team navigate priorities on risks. But that is not always the case. I needed to come up with a way to give direction to the team on how to navigate an "Evolving Risk Assessment". The team needs to be able to do this on their own. So I sat down and started analyzing what I do on a risk assessment.

Here are the basics of what I needed.

1. Targets(production lines and employees)
2. Potential failures(Quality failures)
3. Current failures.

Targets are the locations or areas you are trying to protect. In my example the targets are production parts. A 415 pump housing is a target for me. A new employee is a target for me.

So I sat down and started analyzing what I do on a risk assessment.

## Sun Tzus The Art of War



“So in war, the way is to avoid what is strong, and strike at what is weak.” Sun Tzus Art of War

Biggest Risks 1st



Potential risks are the failures that could happen. Examples are an external customer complaint, failed dock audit, a failed floor audit, a warranty claim, etc.

Current target failures are the recognized failures that have already happened on this particular target.

So here is how we start sorting things out. Assign a risk from 1 to 10 for the severity of each potential failure. 10 being the worst. A warranty claim is very expensive so it may be a severity of 10. An operator finding a defect and the parts are sorted may be a 4. Your severities will be based upon your mission. Now overlay the current failures with their severities to the targets. You start to see a map of your current risks. Once completed, you have successfully done a "Risk Assessment" of your targets. How long should this failure be a risk? Assign each potential failure a set amount of time that it will be monitored after a failure has occurred. Again this is based upon your mission. I will give examples later.

What about evolving risks? Risks do not stay the same. So here is where "Evolving Risk Assessment" comes in. One time a shift a risk assessment is done and the targets are covered based on the current risks. Not as hard as it sounds if you update the failures as they happen. For example, an operator had a machining mistake. They will be listed as a quality failure for 1 week with a severity of 4. If you was to put this operator on a line that is currently in new part launch mode, a severity of 7, then the target would have a risk of 11. This is also what we would call a "Red on Red" target. Ideally you would want to put the operator on a line with no Quality risks. This would bring the target risk down to just 4.

Now based on this map of targets you can assign resources. Highest

## Sun Tzus The Art of War



"Plan for what it is difficult while it is easy, do what is great while it is small." Sun Tzus Art of War

Tackle the hardest problem first, while you have resources.



Now based on this map of targets you can assign resources. Highest risks get the most resources. So in the case of the roaming floor auditor, the auditor would visit the production line with a risk of 11 more often than they would a line with a risk of 4. This would change as situations change. Of course your situational awareness is only as good as the timeliness of the data you get. If you log your Quality failures as they happen, this should not be a problem. This becomes a dynamic auditing plan that changes as your risks change. This is something your team can execute and maintain without your immediate input.

Now from here you could automatically assign resources to the targets based on a spreadsheet. You could also set triggers to notify you when the target risks outweigh your current resource staffing that you are capable of handling. The basics of this article was just to introduce you to a way of handling an Evolving Risk Assessment. There are many ways to expand of this technique. Have an idea, let me know.

David B. Jolley

## Sun Tzus The Art of War



""In the midst of chaos, there is opportunity."" Sun Tzus Art of War

Just because you have issues doesn't mean you cannot succeed. Look for opportunities always.