INTERVIEW

Safety-II in a regulated corporate environment — pending or happening?

Tom McDaniel manages Zero Harm and Human Performance for a global Siemens EHS organisation headquartered in the USA. Tom has been responsible for developing numerous programs for the energy industry over the last 35 years. During his career, he has witnessed numerous changes to safety management, and in some cases, leading the effort for successful application. Tom presented a paper at the 2015 Marcus Evans Conference "Safety: The Next Frontier" focusing on corporate readiness for a new safety maturity acknowledging the inevitability of human error in the context of new possibilities of Safety-II. Safety-II as envisaged by Erik Hollnagel in his 2014 book *Safety-I and Safety-II: The Past and Future of Safety Management* is a new understanding of what it means to be safe, principally that Safety-II is a condition where as much as possible goes right, even under unexpected conditions.

Tom regularly is an invited global speaker on the subjects of Human Performance, Safety Maturity, Safety Culture and Safety-II.

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Measuring the impact of Safety-II

Question: Erik Hollnagel in his 2014 book *Safety-I and Safety-II: The Past and Future of Safety Management* presents via Safety-II a new understanding of what it means to be safe, principally that Safety-II is a condition where as much as possible goes right, even under unexpected conditions. How can this be measured in a real sense in a corporate environment?

Response: Safety-II gives us the ability to begin to look at why things go right. I have found that there are just as many low-level violations or work-arounds for successful tasks as there as for those that fail. Fortunately or unfortunately, depending on your perspective, there aren't the learning opportunities as there were in the past if those opportunities were strictly based on waiting for a failure to occur.

There has been a sense in every organisation that lack of failure means we performed satisfactorily; however, did we really perform with the greatest safety, quality, efficiency, customer satisfaction and profitability? I hold that they are all the same thing; the output from the same process. I don't distinguish between any of them. Did we really set the workers up for success or do we expect for them to take heroic actions?

I have built processes to begin to bridge the gap between "work as imagined versus work as performed". It's really quite easy when you begin to understand that the same processes you use for investigation can be used to investigate a success; albeit with

some enhanced understanding of incident causation. I myself do not believe nor work with any type of Root Cause methodology, rather focus on the causal and contributing factors associated with any task. There are always multiple factors. Also, I hold that an organisation cannot improve unless they begin to identify the causal and contributing factors on what I call the 80% side. Too much focus has been given to incident investigation on the sequence of events that occurred at the site of the incident and not nearly enough on the organisational weaknesses. I pretty much enforce that 80% of our focus, 80% of our time, and 80% of the identified causal and contributing factors need to be organisational, off-site, and previous to the incident. This same methodology applies to investigation of successes.

So, the big question I ask everyone, ''Why are we waiting for failure to learn?''

Are incident rates the critical measure?

Question: Is it useful via Safety-II to see accidents emerging from a system that can also produce safe outcomes and exceptional success? How can a system be refined under such a framework?

Response: First, we need to understand that the incidents of concern are not the accident. The accident is the outcome. I very seldom see the true incidents defined in an investigation.

No task is conducted as planned. There will always be some type of adjustments. So much of this adjustment is based on any one particular person's ability to observe, assess, design and implement with cognitive feedback loops; all which are subject to error. We are individuals and we can't presume that we all think and act alike. Adjustment shouldn't be confused with violation; it's just how we function. But what drives a person's ability to adjust? This is where skills and knowledge do come in, but there is something far more important. As individuals, we are all made up of numerous sub-social systems or mini-cultures. Each one has its own norms and limits for thinking and action. Which ones come in to play when performing a task?

When we refer to cultures, I like to state why we must have an organisational culture. If we don't, we are leaving it up to the individual to decide which culture or social system takes precedence leading to possible thinking and action beyond an organisational boundary. Culture does play a very significant role and the opportunity is to understand the culture and its impact.

The lines between failure and success are ever so slight and very much open to interpretation. I can only define success when we meet all of the loss control targets. Once you set the standard for success, you can only then begin to find out why you got there. How many times have we shaped and solidified organisational behavioural limits be rewarding target that didn't meet the goals for safety, quality, efficiency, reliability, profitability and customer satisfaction? Too much emphasis has been given to completion of a task without a safety incident as meeting the goal when there is so much else to measure. Remember, it's the same behaviours and same processes.

I assess that EHS professionals have an advantage in that we have lived the outcome of substandard performance. Many of us have personally seen the pain and suffering that goes with an injury incident or fatality. What this does for us is give us the reason for action to improve; we just need to take that reason to the other types of losses that occur.

There are some in EHS that will focus on what I refer to as technical EHS, which is critically important; however, there are new actions that bring forth a new direction. These EHS professionals need to begin thinking like business professionals as well. We can truly help our organisations, our customers, our employees, our contractors and the environment when we begin to build the business of safety. Our offers for help will carry more weight when we action for all types of success.

There is brilliance in Safety-II that Erik has brought forth. Safety needs a new maturity; it's still being invented. We have gone through the years of compliance, behaviour-based safety, management systems and culture; all of which are extremely important. However, we haven't met our goals whether they are zero harm, incident-free workplace, target zero, etc. Maybe we need to stop focusing on what we have been doing for the last 30 years, even by doing it better. Our goals themselves may be limiting our growth in safety. I myself do not place any weight on incident rates. They really tell me nothing about how an organisation functions. The actions in Safety-II open up what we should be assessing.

Educating safety practitioners in a Safety-II environment

Question: What are the implications for educating safety practitioners and improving their performance where Safety-II focuses on understanding and improving normal work, not analysing deviations?

Response: I don't believe the actions for analysing deviations go away, but it does give us new understanding why these deviations occurred to begin with. As stated, the line between success and failure is ever so slight and open to interpretation. Bringing forth new distinctions allows us to see what we didn't before. Only then can we begin to analyse normal everyday work. Safety-II doesn't replace Safety-I but it does open so many new possibilities.

Impact of Safety-II on cost outcomes?

Question: Do you see positive cost outcomes through utilisation of a Safety-II approach?

Response: Every organisation experiences loss, most of which is unseen and not measured. There is a huge advantage to uncover this loss and find the organisational weaknesses that led to this loss. But you can't measure what you don't see. Loss control is a critical step in getting an organisation to action. Safety-II is just one of the methods where we can begin to understand what makes us successful and why.

Loss impacts everyone and someone is paying, either in safety or quality incidents with the associated harm, efficiency incidents (one of the greatest unseen financial losses), and lost profitability for your company or your customer, and in the event of a

publically traded company, your shareholders. In many cases, the loss becomes part of your rate structure and you can put yourself out of business; hence the importance that safety brings or can bring to an organisation when Safety-II is incorporated.

Safety-II in a regulated framework

Question: What is the impact of Safety-II on the approach of regulators?

Response: There is an opportunity for regulators to build their understanding of Safety-II as well, but as this stage, I mostly see enforcement methods; however, there are some very progressive regulators as well. Working in a global role, I see the differences. What needs to change is a better understanding of why organisations fail and help them succeed. I very much like the approach when regulators become partners to businesses. With the exception of a very minor percentage, no one wants to cause harm to their people or to others. People don't come to work to cause a safety or quality incident; they want to do a good job. Businesses need the help of professionals like us and with the regulators. Compliance with regulations will only get you so far in your journey. While this is mandatory, it's certainly not enough.

Safety-II is still too new and it's an opportunity for us in the safety profession to build the distinctions and narratives that go with this. Erik got us started but it's up to us to take this further. Erik is a brilliant man and he is one of the top leaders in new thinking and approaches to safety. Along with Erik are John Wreathall, Dr David Woods, Dr Sidney Dekker and some others. The work they are doing now with both safety and Resilience Engineering is building our future. The safety distinction and domain is not an absolute. Opportunities are everywhere and regulators can play a key role in building this future as well.

Safety-II effect on corporate behaviour

Question: How would you assess the impact of Safety-II on corporate behaviour to date?

Response: I find growing desire among progressive EHS and quality professionals to look for something that gets them to the next level of maturity. Unfortunately, this is still a small percentage. I am not saying that Safety-I is good or bad, but it certainly does limit an organisations ability to identify their weaknesses. Organisations, just like people, don't change unless they see a breakdown.

What is hurting our profession is certainty; certainty that safety is about incident prevention, certainty that thing are good or better with falling incident rates and the converse, and certainty that actions of the past will solve our issues.

Safety is no longer just about incident prevention.

I am finding many corporations are beginning to understand that all types of loss are part of the same thing. They want and demand better performance, but in many cases they don't know how. They have to get over the concept that if an incident didn't occur (or was unseen), then everything was done with the minimal loss. Maybe we as the safety profession have done a disservice to our management by telling them the incident reduction or elimination was what was important in safety. We have found our problems and it is sitting in our chairs.

I have seen many organisations and industries beginning this journey. Many are taking the new view of human error and understanding that you can't eliminate human error. The term itself is outdated and we really should cease its use. I use error of cognition. When we view success, we have to understand that we are working with human who will have errors of cognition. That's OK; stop trying to fix it. If you can't live with the outcome of the error, build a management system to intervene between the error and the incident. Organisations that have taken this approach as they analyse success to me are some of the best functioning organisations in industry. Earlier versions of human error management are really just relabelled behaviour-based safety programs, which are still trying to fix people. That is a high cost high energy approach that doesn't build any long-lasting results. I am sure we all remember the early times of BBS when three or four people were observing every worker. It really was a sad time for our industry.

As safety professionals, I hold that our role is to bring the closest interpretation of the truth to our management. So I ask, are we really doing this? Do we have the capability to really analyse how work is performed? Safety-II gives us the start and the reason, we just need improved methods. I have built my own methods but I am sure others will do the same.

Views expressed in this interview are those of the interviewee on 5 February 2016 in response to questions posed by the Journal.