



Ryder Marsh

The Psychology of Industrial Safety

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BEHAVIOURAL SAFETY USER CONFERENCE 2006

Dr Mark Edniston

Good afternoon everyone. We had a bet within the team; we thought it would be Chain Reaction by Diana Ross but never mind, that's almost as appropriate.

I'd like to begin by thanking ROSPA, Ryder Marsh and Mitsui for giving us this opportunity to present something that we are very very proud of within Nexus Solutions and that's behavioural safety; we are really honoured to be a finalist and we see this recognition as being a big thank you to our employees, our contractors and really its them that have moved our safety culture forward; its not the management team, it's the employees who have really engaged; they've been very well into participating behavioural safety; we're very grateful to them and we think its really made a difference.

So who are we? You might not be too familiar with us, we are subsidiary company within the BNFL, that's the British Nuclear Fuels Group, we carry out a range of research and development work within our facilities and on plant in terms of the plant of our customers and that's right across the UK. We have about 700, just over 700 highly qualified technical and operations staff, as you can see from the map there we are spread across the country, partly due to history.

We operate some of the most advanced nuclear facilities in the world and our British Technology Centre at Sellafield is to be the hub of the newly announced National Nuclear Laboratory which we are very pleased about. Quite simply, we do not want to hurt anyone, we don't want people to go home hurt, we don't want ill health within our organisation and it says there, safety well it is and it will be at the heart o the national Nuclear Laboratory. And you can see there the exterior of our technology centre at Sellafield and I guess just an indication of the kind of work that we, that we undertake. As I said before, we have a number of customers right across the country, we do small scale engineering work, large scale engineering work, plant operations, we do laboratory operations, a lot of it involving radioactive material and some of it involving highly active radioactive material. We also have the full spectrum of what you would call conventional industrial hazards, work at height, confined spaces and the like so it is a very wide and varied company and the activities that we undertake. And of course it is heavily regulated in the spotlight industry and I'm sure you'll agree that that's absolutely right, it's right that the public is protected and its right that we take safety extremely seriously and the key factors that support our safety journey are displayed on this slide, they're all very important.

Obviously in addition to robust management systems which we take as a given the willingness to challenge unsafe behaviours and also to praise the positive, we see as extremely important and it is extremely strong within our company, staff are open to being challenged and they see that as being all about trying to improve things and not a threat. Workforce involvement is absolutely crucial and we really believe that safety is everyone's business, the first bullet point there.

Our employees take pride in undertaking their work in a safe manner and to ay our behavioural safety programme which we'll get on to in a minute, it's now in its 8th year and it's really made a difference in moving our safety culture forward and our performance. We set ste....high standards, we've developed a very simple booklet which you can see pictured there, its called a professional approach in our business; it outlines the standards and expectations for a safe and positive working environment to the benefit our employees, contractors and the public who reside near our sites. We believe the rules, stick to the rules but challenge is extremely important; this is particularly important as when you come to nuclear plant.

We spent a lot of time making sure that our procedures are right, we take compliance as a given but we don't just take the management systems and the procedures as being standard procedures that can go on in perpetuity, we spend a lot of time looking at the human factors, looking at the error likely situations and we spend a lot of time making sure those procedures are right and that they're right for the operator doing that particular job. Now we believe, we really do believe and as I'm sure you do, that if we work together as an organisation then we can achieve that ultimate target of zero accidents and injuries, extremely important to us; it's an ongoing journey I think as one of the speakers said before but in order to achieve the standards we have to have a good mechanism of allowing people to challenge behaviours and also to praise the positives and that's really where our behavioural safety process comes in; to describe it in a little bit more detail I'd like to hand over to my colleague Tony.

Anthony Rigby

Thanks Mark. This is our basis to behavioural safety and behavioural safety with nexus Solutions isn't a bolt on extra but it's a component part of our management system. All observers during the process are volunteers; they all received the enhanced training to help them with key aspects of the observations process i.e. the observation disquisition and the feedback.

Along with the, along with the observer training we also run a refresher, annual refresher training; this is, this is undertaken locally by line managers to buy, to get the ownership and the buying in the process rather than a specialist or something devolved from the team. The information from the observations is captured by the site behavioural safety co-ordinators, that's me along with another couple of people spattered around the different locations. We analyse the data looking for any adverse trends and patterns. We also look at the observations to look if there's any positive behaviours or processes that can be spread and this practise shared about the sites. Communication the behavioural safety issues is achieved through a number of routes; we allow the feedback from the workforce to be copied two ways so we're open to any, any negotiations or any best practice that the workforce can come up with, as I say we share the best practice.

The site co-ordinators hold the monthly communica.....monthly meetings and communicate the findings to the respective areas of the workforce; in addition each site holds monthly EH&S meetings where behavioural safety is an agenda in the item and every quarter we hold a joint EH&S meeting with a cross group membership where we champion the process and support it along its way. Generic findings from the observations are fed into our H&S learning events process and actions are escalated as necessary. These are the key elements that help support the process not least is leadership, our executive team are all observers and carry out a number of observations each month and they actively champion....champion the process.

Managers are also heavily involved, as I mentioned before they lead regular behavioural safety refresher training and hold regular observation discussions with their team. We set the challenge and targets and monitor success; local site co-ordinators monitor the process by recording the number of active observers in a given period, they also provide coaching to observers within the area where extra training support is needed. An example of this is newly trained observers are often accompanied on plant by the site co-ordinators to help them get up the learning curve and complete observations. We aim to continually improve the process, this year we have developed a more positive indicator that helps us focus on the behaviours safety strategy; this has been our drive on quality, i.e. it's a measure of the productive proactive quality discussions having taken place; the whole idea of it was you could have 100, you could have hundreds of observations in a month; unless the person actually takes that extra step to stop and have the discussion with the person that they've just observed the learning opportunities vastly reduce. And through all this we are promoting behavioural change and continual improvements. Thanks and now back to Mark.

Dr Mark Edniston

Thanks Tony. We believe we've achieved full workforce involvement; as Tony said, we train everyone in the company, we train our contractors and we train everyone on a yearly basis; our refresher training picks up key themes so everyone is involved to one degree or another; we also have a core group of observers, observers are, everyone, everyone knows what observers are and these people are really the hub of the process and they are out and about, they are the eyes and the ears and they do the challenging and they do the praising of the positive.

Executive involvement we see as absolutely crucial and it is 100% as Tony said' each member of the executive team from the managing director and his direct reports has to carry out 3 observations a month and they do this willingly and they broadcast it, they're proud of it; they actively champion it when they're out and about on the sites and that's very very frequently and they also have I have to say an executive league table which they discuss every month and their

executive team meeting and there's plenty of friendly rivalry there I am sure and a lot of competition which is very very useful for our process I have to say.

Our performance is very very good and we're very proud of it; its nearly a year since we had our last OCEA, that's the American system, OCEA recordable incident and its neatly 18 months since we had our last red or reportable greater than 3 days lost time accident. But we don't stand still. We're extremely proud of the ROSPA Sector awards that we've had for the last 3 years and I have to say these have really motivated the workforce to build on the good achievements that we've done so far and where possible we include home safety within our behavioural safety material and our communications and it is very difficult to quantify but our people keep telling us that the approaches that we have developed in behavioural safety are making a difference at home, DIY, gardening etc.

Now having said all of that we recognise continual improvements absolutely crucial and I'd like to talk to you about something a bit more specific. The process that Tony outlined rec....a few minutes ago is wide, it applies to a full range of environment, health, safety risks and within safety nuclear, radiological safety, the full monty really; however we recognise the importance of concentrating on key risks and key risks for the business and recently looking at how we operate I wonder if you can work out what might be a key risk for us in terms of our business. Any ideas?

Just looking at that map. What a clever conference this is, yes absolutely, driving yes, an absolutely key risk. And in support of that we've established a management of occupation road risk strategy; we following the hierarchy of controls as we all do, we strongly encourage the elimination in the first place, we have alternatives, we have teleconferencing, video conferencing etc and that does have its place and that does happen. We also encourage people to use safer alternatives such as rail. Unfortunately being involved in nuclear sites they tend to be a little bit out of the way for probably obvious reasons and that makes the rail links etc and the air rinks, links, rather difficult to manage.

Other things that we've done, we've implemented a car share database so that we make sure that if somebody wants to travel they have the opportunity to look on a database and check if someone else is travelling so we reduce the overall amount of travelling within the company and of course if you share journeys then you're less tired, there are lots and lots of advantages to that but where journeys do have to happen we have risk assessments, each individual journey has a risk assessment that people have to undertake and there is an endorsement step, there's an endorsement step where is somebody wants to do a journey, take a journey they have to have that endorsed by a senior level of manager and there's a lot of challenge at that point. Do you really need to make that journey is a question that is very often asked.

For people who do drive and are high mileage drivers we give them defensive driver training and that does make a significant difference but of course with all of this there is still a residual risk, we know that you know, 80 to 90% of RTA's are caused by some form of error or some form of human factor and as Professor Booth said earlier, its probably 100% quite frankly possibly upstream, so we recognise we really do need to concentrate on behaviours and how on earth can we do that? And that's where what we call our safe behaviour safe journey process comes in and this was something that we piloted at the BNFL, British Nuclear Fuels corporate centre about 2 years ago, we had external consultant helping us in those early stages but we have developed it considerably within Nexus solutions and self observation and personal improvement action is central to this process. We initially carried out a driver rating survey to identify the highest risks specific behaviours and we had that checked by driving experts in terms of what are the kind of behaviours that are most likely to lead to RTA's and significant lost.

We trained out volunteer observers and amongst the first groups to undergo was our executive team and they did that willingly. The observers than observed their personal behaviours and the feedback on findings We examine the outputs regularly and we communicate the key themes on a monthly basis. Now here's a little bit more detail and what you have on the screen is our electronic form which people complete once they have done a journey.

We decided to keep it simple and focus on a small number of high risk behaviours. The trained observers are promoted automatically following a journey to view that journey, the ride the 5 key behaviour and then they give, we're inviting them to give reasons why they exhibited the positive and negative behaviours and any potential route causes or barriers that got in the way and this is quite challenging, it's a real personal challenge for the people. One of the behaviours up there for example, keeping to speed limits; can any of us in the room say that we keep to speed limits 100% of the time? Can any of us in the room say that we carry out a visual check of the car before the journey every time? I suspect not.

So it really is a significant challenge and what this prompts is personal action planning at an individual level. And this is the first tranche of our driving observations, we've actually done 2 phases now and recently we've, we've rotated the behaviours to try and keep things really fresh and we've actually introduced a personal free text if you like behaviour, where if someone's personal improvement is not actually on that list of 5 they can then insert it and that's something they concentrate on a regular basis. Participation is very good. We get around 100 observations a month and copious text comments. It helps the participants with their improvement action planning, it also helps us as a company to identify any underlying issues. Recently we identified a particular issue with a particular type of hire car that was being supplied to us and we are now taking action with the supplier and given the environment that promotes challenge and reinforcement of behaviours and the car sharing we are now starting to get observations and discussions at the end of journeys between individuals so if you go on a journey in our company and there is someone with you you know you might well have an interesting discussion at the end of that journey and its all very positive, in fact we had one when we arrived at the hotel and enjoyed it very very much indeed.

Does it work is the question I am sure you're all asking and this is a graph of the five behaviours and in the early stages of our implementation; obviously the key is fairly simple, green is positive, red is negative and yellow is somewhere in-between. That was in the early stages and then if we look, if we look four months later you will see that the positives were increased and the negatives were decreased; all I would say is that that pattern has continued as we have implemented this process. And as I said before, we've replaced two of the initial behaviours now with some other behaviours from our initial survey to try and keep things fresh, to try and keep the observers focused and they were invited to give comments on that and we took note of their comments. I've got some examples here of the type of text comments that we get from people. Following my training I have changed my behaviours; I allow for more time for trips, I avoid more hazardous routes and where possible and above all else exercise patience and awareness and this is from, he doesn't mind me using this quote, this is from a self confessed senior manager boy racer and he has continued to drive safely since then. The text comments are copious and you really do not need to ask people to ask these comments, they freely give them.

Example of a positive; pre checks on car carried out, I carried an emergency pack, left in plenty of time. There's also the negative of course as well; this is an example here. I failed to confirm weather for the trip, I left the site too late, this led to an unpleasant journey and I'll be more conscious on next outing., it is a negative, its a negative behaviour but with a strong commitment to improvement going forward. Now we are very pleased with this; it is relatively speaking in the early stages but we're determined to keep developing it and moving it forward; I was going to say driving it forward there but that would have been too obvious. And here's moving forward again.

Obviously we are going to develop this driving process; we're also going to develop in the future our behavioural safety process. As many of the presenters today have said, you simply cannot stand still; you've got to keep giving it a momentum, you've got to injecting bigger into it. Want to improve the quality and the feedback as Tony as outlined; we're also going to introduce some more human performance tools that have been developed elsewhere in the nuclear industry, looking at techniques such as stop, think, act, review. We've recently introduced personal EH&S, environment, health and safety improvement objectives for every single individual in the business and this is related to reward and recognition payments; this is already starting to have a real benefit; people are volunteering to become behavioural safety observers and driving observers and do all sorts of other EH&S improvement objectives and that's over and above day job accountability and tasks. And we'll continue to dive our cultural change, it's very important to us.....