



**Mark Taylor Technical Director Ryder-Marsh (Safety) Ltd -
The present and future state of Behavioural Safety**
BEHAVIOURAL SAFETY USER CONFERENCE 2005

Introduction from Chair

Our next speaker is Mark Taylor – Mark is a chartered occupational psychologist and registered ergonomist, his specialism is in human error and organisational safety performance. Luckily for me, as he works with me, he is considered a leading practitioner in the field and has worked in many different industries all over the world in previous years. It says here Mark that you have an international reputation..... it doesn't say what sort of international reputation that is though!!!

Music intro "Riders on the Storm"

Mark Taylor

Morning everyone – you had a rough night last night eh??? (Hall laughter)

OK basically what I want to do is just talk over what are the future directions of behavioural safety and try and address some of the criticisms, which surround behavioural safety processes. I think Roger Singer has actually set the context out very well and I thank him for that, I thought it was a very well balanced paper.

There are a few questions there... and really what it comes to is these figures that come out. You know 95% of all accidents are due to human error and if we look at the remaining 5% then ultimately we could trace those back to human error as well.

Then we have what seems to be the conflicting one about 80% of incidents are caused by management failures, the response to that one would be at what point did managers stop becoming human!!!

So just to start off, what we need to remember is behavioural safety is not a cure all and I think Roger said it quite clearly that we have to be realistic about our expectations regarding the behavioural safety process. If we use that tool correctly it can be adapted and indeed it has evolved over the past few years and if we look back to what originally started as behavioural safety we would not recognise that as being a behavioural safety process today.

So let us have a look – traditional based type programme, based on the principle that unsafe behaviour is driven by choice to achieve some certain positive pay offs. This is true and again Roger Singer mentioned about motivations and the pay offs and we talked about the link between attitudes and behaviour. Let us be absolutely clear we are not saying that attitudes cannot change behaviour what we are actually saying, and the research backs this, is behaviour is the strongest means of changing an attitude. The link between behaviour to attitude is far stronger than the other way around.

We also typically would have feedback and praise so they can try to modify the individual's safety performance so we get the desired safe practices that we want and this is a good thing because it starts to readdress some of the balance.

There is another point as well that traditionally, when behavioural safety came into fruition, particularly in the US, behavioural safety was seen as something outside other safety management systems, it was kind of a bolt-on, and we tend to have to recognise that anything that is a bolt-on to a safety management system can actually have a very short life indeed.

So what are some of the problems that stem from these traditional approaches? Well a focus on the individual in terms of feedback, correcting that behaviour, giving the praise, giving the

constructive criticism, is all well and good as long as the person is enabled to act safely. What research tends to show is that if you are focussing your behavioural safety programme purely on feedback as soon as that feedback is withdrawn the behaviour will start to revert to type i.e. it will start to go back to the previous practices before your behavioural intervention. The reason for that, of course, is systematically there are things that may be implicit within your workplace which are reinforcing those unsafe practices and unless we deal with those then that behaviour cannot be maintained in a sustainable change.

The next thing that we typically see in a traditional type behavioural safety programme is the use of goal setting kind of generated through the work of Lock and Latham who looked at organisation modification, use of goals, tying into the ideas of KPIs and set specific targets and what they were dealing with was the issue of commitment and what we need to realise again for driving safety improvement are only powerful when people truly have a commitment to them or see them as significant. Essentially what goals and feedback do collectively is demonstrate to people that they can change their working environment and that is the main burden that we have to face. When we start talking to people about behavioural safety the main throw back is 'nothing will ever change here'. It is almost like a cycle of depression where if you have someone who is clinically depressed anything that goes right is due to chance and anything that goes wrong is down to them. Often in organisations we see a very similar mindset.

Another problem that we tend to see, again and I am not trying to attack the Americans, but mainly in America is that they get very fond of the check lists, these are an artefact, they are part of the tool but they are not the tool and what we can sometimes end up with is measurement devices are just playing a numbers game. People set targets for the number of managers or cards or things like that that they want to collect but what we then start to see are people sitting in boot rooms, cafeterias, smoke huts filling out their measures and then just submitting them to meet their quota for the week and this takes away the value of what these processes can add.

However, what we can evolve to and again we tend to strengthen our position around the 6 pillars is that these issues can be addressed by looking at something like this. Here we have 6 pillars and it basically tries to set the context in which behavioural safety can thrive. We need Management support, management support is not the equivalent of having a person.... Well let me give you the story first, a manager once said to me 'Mark management are right behind this, 100% committed', Fantastic I thought, and walking on their site later on - on a gangway 30ft above the shop floor, there was an object that needed to be retrieved and one man had basically locked his leg between the centre and bottom handrail, his friend was stood on the top handrail with his friend leaning out and his colleague holding his belt to retrieve this item. This still happens today that very same manager walked past them his response 'be careful lads'. That is not management commitment. That is about like air traffic controllers going to an aircraft about to have a mid-air collision 'be careful out there' a bit ineffective really.

OK so looking at these things, feedback and goal setting, these are needed for learning, but in terms of that we will only get any strength behind those type of things if we have got involvement and ownership, people only want to get involved in behavioural safety process if they have management support and in all of that we need to create awareness to reduce resistance to these type of processes and then we need good quality management. If we start looking at these and putting the quality checks in place and looking at the process indicators of a behavioural safety programme then we can have a stronger programme.

Essentially what we should end up with is something that looks like this. An integrated process where observation and measurement occurs, people collect the data, people do intervene on a one to one basis and feel comfortable to do so, collecting the data, listening to what people have to say about the reasons they are acting unsafely and it might be just a case of 'I just forgot'.

We then take that information and trend it so that we can look at our trends to look at root cause analysis and the team itself should then be trained to conduct that root cause analysis and this is where root cause kicks in, because we are not saying that this group can generate a wish list but a set of reasonable recommendations that will have an impact on performance.

How do we find out if it works? Well we carry on with our cycle of observation and measurement. But even that is limited, why? Just look at this list how many of you can identify with some of these mistakes? How many of you gents have gone to bed on a night, laid next to your lovely wife, who wants to cuddle you but that is something we have to put up with!!! Then we are snuggled in and then the wife says to you 'have you remembered to lock the door?' and you say 'yes yes, oh I am not sure now' and then you get up in the middle of the

night leaving your warm bed. How about going into a room and asking 'what have I come in here for?' How many of us have done that? Let us see some hands, come on oh yes, how many of us are married? Hands up - Well that was our first mistake!!!

Anyway my point is these are all well and good, we are all human, we make mistakes, we can classify them, great, but essentially we are human and in the right context or should I say the wrong context these can lead to more serious consequences.

Again Roger Singer was quite right, behaviour is the last link in the chain of causation; but what we need to look at is not the error as a causal factor in itself but looking at the things that led to that error occurring. OK so really, if we talk about behavioural safety then in a traditional context we tend to look at things which are driving us towards positive pay offs and trying to eliminate those we have sustainable change. But things could be a lot different, we could actually move a lot further than that because if we start to look at things and the type of errors we make, just have a look at this, close your eyes and just to yourself try and recount all those letters in order, can we do it? Yes/no? ... louder please!. Well of course if we reassemble that because we understand that short term memory has its limitations we can chunk that into simply four chunks and you know we can know remember every single letter in that sentence. We end up with those type of problems in operational areas, control panels, so it is something that could provoke an error if we don't take account of those type of factors.

Another one and unfortunately you have got the answers in your packs so there are no prizes for this one, you can ask people the question 'which causes more deaths in the United States each year, motor vehicle accidents or stomach cancer?' Typically people will say motor vehicle accidents, they don't know, they have to assume but the thing is because of our long term memory it plays a trick on us when in actual fact stomach cancer kills more people each year but our own biases make errors in judgement occur.

So where does that leave us? Where am I heading with this? Well if we look at it and we look at the unsafe act spectrum, if you wish, and again Roger (Bibbings) was correct James Reason was not the founder of this model it actually was a guy called Jens Rasmussen was developing this model and somebody once challenged James Reason about this, Professor Bob Hockey said 'James you have not said anything that anybody has not said before' and James Reason's response 'yes but they like the way I say it'. Good on him.

So we look at violations, again optimising things that are driving these unsafe behaviours, this is a necessity because procedures do not match the way we need to work or sometimes just physically impossible. In exceptional circumstances where it is just something really, really odd we have not encountered before and it has shifted us out of our comfort zone.

Well behavioural safety I would say typically focuses on these violations and tries to deal with that issue but that is only part of the story isn't it? Because there is another set of things over here, the knowledge, the rules, the slip type errors, where people fail to plan or plan incorrectly, a good example of this, one of my questions I was going to ask Roger Singer and I forgot to – error – was that we talk about incident investigations and error can creep into those in terms of counter-factual thinking and people assuming that the unsafe act is the stop rule. Then that really does cause a problem for risk based type management of safety, the same errors can occur there as well. That is our challenge really, how do we address errors at that level?

While behavioural safety typically does not address these things, it doesn't mean it can't because if we start looking to the recent research on human error, what you will find is that they use a behavioural observation method for actually collecting error data, which basically means the same tools were used for basic behavioural safety process can be adapted at root cause level to create a system that can capture these other types of errors as well.

So what would we need to do to make that come into fruition? Well we would need to change some of the nature of observations and as many variants of how observations can be conducted from a basic walk around to seeing and observing unsafe acts, to something that is more task orientated and that is more important if you are going to do an error type observation because you want to look at the errors associated with a particular task or work pack, a sequence of tasks to accomplish a common goal.

What we could then do is look over the behavioural check list, pre-classify the errors into their error types so that we know what type of errors are occurring. More importantly if we look at our behavioural root cause analysis if we use our knowledge of things that can actually influence error, we can adapt it so when we come across an unsafe behaviour we can say, right OK, what task was being conducted when we observed this behaviour because this is an error? What features or characteristics does this task have in relation to these performance factors and

if present how do we eliminate those. Those are the things that are provoking the errors. So we start to look at things like the familiarity of the task, does the task need memory aids, does it follow a logical or illogical sequence... and so forth.

What might it look like? Well a lot of companies these days talk about job safety analysis, and I have seen job safety analysis and I have yet to find the one defining criteria of what job safety analysis is; every organisation seems to have its own view of what this is and put simply if we go back to its roots, a job safety analysis tool means a procedural development that looks at the risks involved in conducting that task procedure. So if we take a task or activity then what we should be doing is looking at the steps in that activity risk assessing, seeing what things will fit in with our human nature and then dealing with the risks associated with parts of the procedure to develop this new procedural tool and then that is what people work to and we end up with this kind of cycle. OK, next step then is how do we know people are complying with it? Well, if we take some of the behaviours from our job safety analysis as critical behaviours and develop our checklist from that we can then start to do behavioural measurement and observe and monitor compliance levels. But then what happens if we don't find compliance? What do we do then? OK, step 3 what we then do is look at classifying the human failure type, we can then break it down into a violation, is it an error? Look at the type of error the things that are provoking that error or if it is a violation, these violations are typically procedurally driven how do we then have to modify a procedure to get the compliance? What we end up doing then is creating a cycle where we can fit everything together and that covers the entire human error spectrum not just violations.

So in summary what will behavioural safety look like in the next few years – at least the way we are driving it? Behavioural safety will need to be integrated into other safety management systems, we could do an instant investigation that has already been done, we could link it to GSA, that can be done, risk assessment, that could be done. But more importantly when we talked about management behaviours, where behavioural safety programmes fail is because of not being properly integrated into the strategy and what we end up with in a lot of companies is – what is our next safety initiative? – that's not working let us grab another one – and we have this kind of knee jerk reaction if things don't work. Half the problem there stems from the fact that we don't wait long enough to see the fruition of our labour and partly this is because of the "friendly fire" phenomena. In our attempt to improve things we take on so much we cannot resource it, we cannot see it through so that requires a strategic development that requires things like a five year plan where we are actually looking towards making sure you have the resources to cope with the milestones that you are trying to reach year on year to drive improvement. So behavioural safety is one tool within that, in fact, just to clarify another point, people talk about human factors and behavioural safety as though they are two entirely different things – they are not – human factors in my personal opinion is the umbrella term for everything which behavioural safety is but one tool of a number of tools.

So let me move to my second point – behavioural safety what we try to collect we will start to examine information on all unsafe acts violations, knowledge based mistakes, rule based mistakes and so on and indeed that will have an impact on behavioural and root cause analysis. So what we are heading towards and what we are really trying to drive behavioural safety as is a means of collecting proactive information before somebody gets hurt so we can identify and eliminate the causes of those unsafe acts to sustain change and improvement in health and safety.

Thank you very much.