

# **“BEHAVIOUR DELIVERS RESULTS” A Kemek Behavioural Safety Initiative**

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## **EXECUTIVE SUMMARY**

All companies today have legal responsibilities with regard to Health and Safety. In the present climate, we need to strive towards our maximum potential in regards to the Health and Safety to prevent injury and damage, reduce risk, and to prevent additional costs that arise from poor safety management. The introduction of a Behavioural Based Safety Initiative in the Kemek Group in Ireland has not only produced a marked improvement in safety statistics, but also contributed towards a favourable change in the culture of the company. An initiative run by employees in the company with management support is proving both successful and delivering very encouraging results.

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## **1.1 INTRODUCTION**

Behavioural Based Safety is based on relating the science of behaviour to real life situations. It focuses not only on what people do and the results from their actions, but on why they do what they do. A strategy or model is then developed to change behaviour and deliver favourable results. Behaviour Based Safety is becoming more popular in companies throughout the world as they continually strive to drive down their accident statistics and develop a safer working environment.

Having developed and implemented an independently assessed and certified Safety Management System, the Kemek Group’s safety performance reached a level beyond which it was difficult to improve. We continued to record what we perceived to be an unacceptable number of injuries and incidents. In late 2007, an analysis of all the

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previous 3 years' incidents and accidents took place. This analysis showed that approximately 90% of unplanned events resulted from unsafe behaviour or actions. A voluntary employee safety survey was then carried out and almost 80% of employees actively contributed to this survey.

As a result of this survey, the SHE manager was tasked with investigating the various Behavioural Safety models available to assess if any would be suitable to introduce to the company to reduce the number of behavioural related incidents. A world-wide search for Behavioural Safety processes resulted in us approaching ADSI Inc. and the President, Steve Williams. At the initial meeting, it was clearly stated that this program was employee led. To adopt it required management support for it to succeed, but it would not commence unless management were prepared for the leap of faith to hand over a program totally to the employee representatives. This took considerable debate before buy-in was gained from all levels of management. The next part of the process was to get agreement throughout the organisation to sign up for it. Steve Williams personally met with every group throughout the organisation to spell out what was involved and determine whether the organisation was ready for such a radical program. Having reflected on it, support for the initiative slowly grew. The employees felt that the ADSI model best suited our requirements, as it is an employee-led initiative and not one that is managed from the top down. It was decided that the “ADSI Master Model” could potentially help in reducing the incident statistics.

### **1.2 ADSI MASTER MODEL**

#### **1.2.1 *The Introduction***

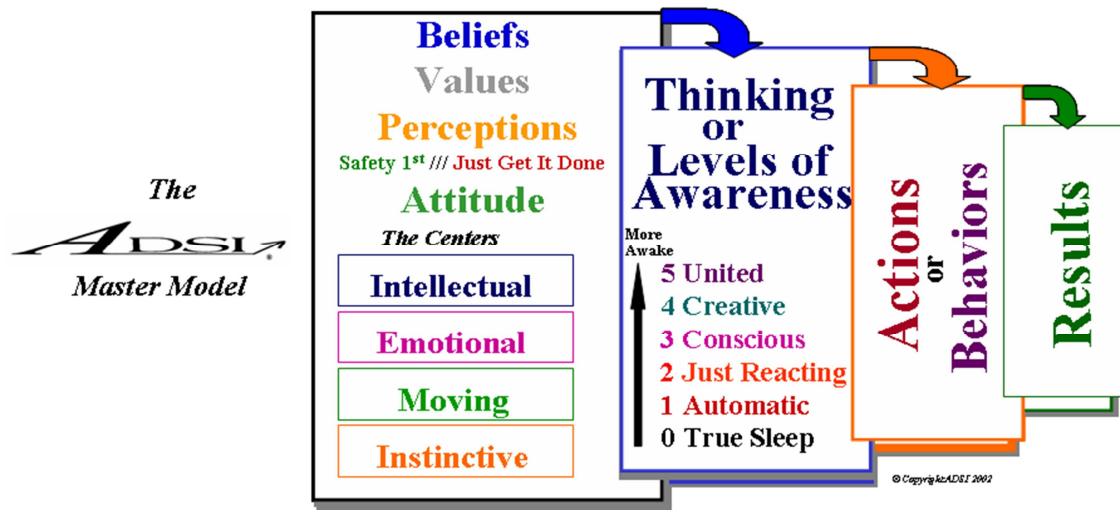
Once Kemek had decided to use the ADSI Master Model as the basis for the introduction of the Behavioural Safety Initiative, a group of employee volunteers from the company was sought to act as “Safety Champions” who would be responsible for the initiative. These six individuals would firstly train in the Master Model and then implement the Initiative. One of the unique aspects of the ADSI approach is that these Safety Champions were taken solely from the shop floor level of employees. Management were to take a step back and allow the employees to take control and responsibility for the initiative. The basis for this is that: “people tend to support the things they help create. To the extent that you can involve people in the design, the greater the ownership will be.” It is believed that this ownership would not only ensure the success, but the longevity of the initiative.

In July 2008, the six volunteers who came from all parts of the business attended a week long training course run by ADSI. During this course, they learned about Behavioural Safety and the ADSI Master Model. They also designed a strategy and initiative that, on their return, could be rolled out to the whole company and involve all employees.

#### **1.2.2 *The Model***

The ADSI Master Model (Fig.1) attempts to map how a person's actions and behaviours are affected by their beliefs, values, perceptions and attitudes. The model also demonstrates how an individual's level of awareness and impulses will also impact on their behaviour.

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*Fig. 1 the ADSI Master Model*

The main basis of the Master Model is people’s values and getting individuals to live and work by them. Since we can assume that no one values getting injured, basing the safety process on this seems only natural. From its research, ADSI has found that generally people’s values are based around the same things; a secure job, reaching retirement in good health, a culture which includes mutual respect and a pleasant working environment. So why then do we act in a manner that doesn’t always match our list of values?

Understanding the Master Model, what it means and how it works is the key to the success of the initiative. This paper will attempt to loosely describe its key elements.

Firstly we must understand that the results that arise from any activity or situation are based on our actions and behaviour. This is borne out by the fact that most accidents are caused by human input. OSHA says that “human error is the cause of 90% of all accidents and injuries” and the Federal Aviation Administration says that it is “the cause of 84% of all aircraft crashes”. Our research within Kemek between 2005 and 2007 confirmed this to be the case within our own environment.

So what affects our actions and behaviour? Our levels of awareness have a significant input on how we behave. The more alert or aware we are, the higher the possibility we have of ensuring that our actions will match up to our values. This not only applies to being awake, but on how conscious we are of our surroundings, the hidden dangers in it and how we are thinking about the circumstances that we face. Studies both by ADSI and analysis of Kemek incidents have shown that most incidents occur during high frequency, low risk tasks, where an individual’s awareness is lower; where the task can be completed in “automatic”. They are the repetitive tasks conducted every day such as driving, walking or lifting.

Our “Centres” will also determine how we act and behave. These are identified on the Master Model as our Instinctive, Moving, Emotional and Intellectual centres. Our instinctive centre provides us with the impulse that we need to drink when we are thirsty

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etc. The moving centre is that part of us that determines what speed we think things should happen (our internal clock speed). This would give the impulse to hurry or take short cuts where there is no external pressure to do so. With the emotional centre we can be driven to do things that may not be in our best interests. For example fear and anger would be driven by the emotional centre. Our intellectual centre is what we want to control our actions. This would describe how we work when we are thinking about what we are doing. It would ensure that we are working with our values and beliefs in mind.

### **1.3 THE INITIATIVES**

Having completed the training in the Master Model, the Safety Champions had the responsibility of developing a range of initiatives. These initiatives were designed to run alongside the Master Model and would be used in the company to ensure employee buy-in, heighten safety awareness, develop and increase understanding of accidents and their contributing factors and recognize good contributions to the whole safety awareness model.

#### **1.3.1. Safety Suggestion / Near Miss Forms**

One of the major tools that the employees felt was necessary for all employees in the business was a good and efficient method whereby they could communicate any safety suggestions they might have or near misses that they saw or were involved with. The Suggestion / Near Miss (Fig. 2) form was developed.

<b>Near Miss / Suggestion Report</b>
Logged By: Date: Time:
Description of Near Miss / Suggestion:
Suggested Improvement:
Action taken:
Card Handed to:

*Fig. 2 Near Miss / Suggestion Form*

There are suggestion boxes in all the company locations where employees can post these forms. The Safety Champions are then responsible to take these completed forms and ensure they are acted on. The points raised on these forms are communicated to management and any actions required must be communicated back to the employee by the Safety Champions. This has been an issue in the past. The Safety Champions have given assurances to both management and employees that to the best of their ability, this communication is completed efficiently and completely to attempt to ensure

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continual buy-in to the process. These forms are not exclusively used for safety matters, but can also be used for other improvements that employees think would help efficiency throughout the company.

### ***1.3.2. STOP Audits***

Prior to commencing the Behavioural Safety Initiative, the company had commenced training managers to complete DuPont Stop Audits on a monthly basis. Each trained person is required to complete one per month. These audits are basically a behavioural audit to observe employees at work and assess and highlight any short comings with regards to safety. They also allow the employee to feed back any suggestions, concerns etc. they may have. This audit also heightens the awareness of employees as they carry out their daily tasks. Any points raised in the audit are immediately fed back to the employee being audited. The Safety Champions felt that they could contribute to this initiative and were subsequently trained in completing the audits also.

### ***1.3.3. Text Messages***

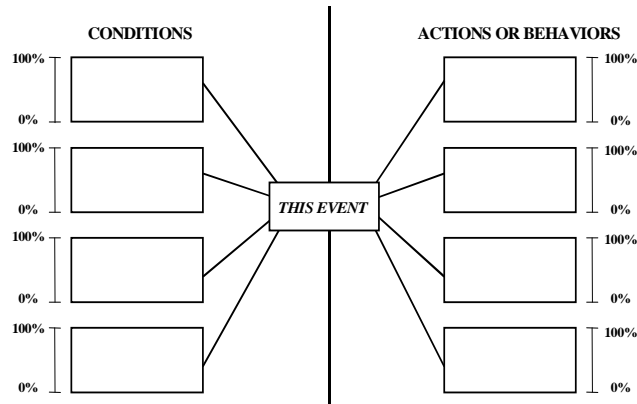
Throughout the company there are a large number of users of company mobile phones. Employees are spread over 4 sites, with many also working from homes situated throughout Ireland. It was thought that these mobile phones could be used to help keep safety at the forefront of the minds of the people who have them. A system has been set up where on a weekly basis a Safety Champion sends a safety message to each company mobile phone. The responsibility for this is rotated among the safety champions on a monthly basis. These messages could be a safety slogan, a question to make people think, or another suitable short message to ensure that people have safety in their mind.

### ***1.3.4. Peer Review***

The Peer Review is an informal exercise where co-workers can review an accident or near miss. It can formulate conclusions to help them focus their control over unplanned incidents or events and make people think more about accident causes. They can be used to evaluate any accident or near miss even if it did not happen in our work area. During a Peer Review a group of employees consider the incident in question and feed information to the Peer Review matrix (Fig. 3).

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*ALL THE FACTORS THAT MAY HAVE CONTRIBUTED TO:*



*Fig.3 Peer Review Template*


Conditions, actions and behaviours that contributed to the incident are filled into the boxes. The percentage that each contributed to the incident is then indicated. The incident and contributing factors are then discussed and any possible learning from the peer review recorded. The Peer Review can be used for Safety Contacts and as a possible alternative to first stage of discipline in event of an accident. They have proved to be of greater value for preventing further accidents than formal investigations

### **1.3.5. Risk Assessment Form**

During daily operations in the business, risks and dangers to operators and others change. Management depends on operators throughout the business to assess the risks on a daily basis and proceed with their work accordingly. In setting up the Risk Assessment Form, management and staff have agreed an acceptable level of risk related to a matrix. The form can be used by all employees in any location when an employee perceives that a risk is higher than the acceptable level agreed by management or, if an employee wishes to highlight a risky situation.

When an employee feels they face a risky situation, a risk assessment form can be filled in and then actions can be carried out accordingly according to the decision box on the rear of the form. If an employee carries out a risk assessment and discovers that the resultant risk is higher than an acceptable level, the task will not be carried out until measures have been put into place to lower the resultant risk to an acceptable level. Completed cards are forwarded to Safety Champion and the details passed to the Line Manager and copied to Senior Management. The Line Manager is responsible for implementing improvements to reduce future risk. Senior Management can see if the same risks are continually being flagged up indicating that unsatisfactory or no actions are being carried out. The incentive is that employees are guaranteed that their concerns are reaching senior management and will be dealt with.

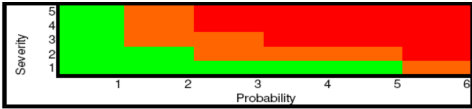
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Risk Calculation Matrix																											
Location: _____		Logged by: _____		Date: _____																							
Hazard	Severity	Probability	Resultant Risk	Suggested Improvement	Action Taken																						
Matrix confirmed by: _____		Date: _____																									
Passed to: _____		Date: _____																									
<p style="text-align: center;"><u>Severity</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>No loss</td><td style="text-align: right;">1</td></tr> <tr><td>First aid / Repair</td><td style="text-align: right;">2</td></tr> <tr><td>Lost time / Major repair</td><td style="text-align: right;">3</td></tr> <tr><td>Permanent Disablment / Damage</td><td style="text-align: right;">4</td></tr> <tr><td>Fatality</td><td style="text-align: right;">5</td></tr> </table>		No loss	1	First aid / Repair	2	Lost time / Major repair	3	Permanent Disablment / Damage	4	Fatality	5			<p style="text-align: center;"><u>Probability</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>Very Unlikely</td><td style="text-align: right;">1</td></tr> <tr><td>Unlikely</td><td style="text-align: right;">2</td></tr> <tr><td>Even Chance</td><td style="text-align: right;">3</td></tr> <tr><td>Probable</td><td style="text-align: right;">4</td></tr> <tr><td>Very Likely</td><td style="text-align: right;">5</td></tr> <tr><td>Certain</td><td style="text-align: right;">6</td></tr> </table>		Very Unlikely	1	Unlikely	2	Even Chance	3	Probable	4	Very Likely	5	Certain	6
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Certain	6																										

**Instructions for Use:-**

- The Matrix is to be used in any location or situation where a Kemek Employee deems that a task or situation presents a significant risk to themselves or plant in their control.
- The Employee completing the Matrix fills in the form indicating their Name, Location, Date and the hazard in question.
- The Employee then refers to the figures at the bottom of the form to evaluate the Severity and Probability of the Risk. These two figures are multiplied together to give the Resultant Risk.
- Suggested improvements to make the operation in question safer should be recorded.
- The Resultant Risk figure should now be compared to the "Traffic Light" table on the reverse of the card to check if the operation should proceed. If the Resultant Risk falls in the Green part of the table, the operation is deemed safe to proceed. If the figure falls in amber, adjustments should be made if possible to make the operation safer before proceeding. If the figure falls in the red part of the table the operation must not proceed before amendments have been made.
- Once the form has been completed to this point, another employee should be asked to countersign the form to confirm the circumstances and agree the Severity and Propability scores.
- If the operation is delayed or stopped, the employee must contact their line manager to make them aware of the situation and confirm the course of action being taken. This is particularly important on customer sites.
- Any actions taken as a result of completing the Matrix should be recorded in the "Action Taken" box.
- The completed form should be passed on to the Safety Champion who will log the event and ensure that any actions required are scheduled and feed back to the employee who completed the form.

**Traffic Light Decision Box**



*Fig. 4 Risk Calculation Matrix*

### 1.3.6. Recognition System

The final piece of the initiatives that the Safety Champions developed was a recognition system. The aim of this was to create a scheme whereby individuals are recognised for actively displaying the company values and increasing their levels of awareness in relation to safety. It aimed to generate new and continual level of buy-in from everyone in the company and help to be a new catalyst in bringing about two-way effective communication on the safety and process issues that matter. It is a rolling, traceable and tangible scheme for both management and colleagues alike and enables colleagues to compete to try to think of new suggestions to improve safety report near misses and gain points to be at the top of the "Safety Champions League"!

### 1.4 IMPLEMENTING THE INITIATIVE

Once the six Safety Champions had returned from their ADSI training, they developed a management presentation and then a presentation of their initiatives to roll out to all the employees within the company. The Safety Champions met with the management team to explain what they had learned and how they proposed to proceed. Once the

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management team had heard what the Safety Champions had learned and were happy with their plans, a number of employee briefings to introduce the Master Model and their initiatives were conducted.

As with any new or different initiative, the Safety Champions met some opposition and rejection from a number of employees. This was something that was expected. The Safety Champions were happy to achieve some buy-in from employees and asked those who were sceptical to suspend judgement for some time to see how the Master Model works in practice. In time, most of the employees have bought in well to the initiative. In general, there was a good acceptance from all levels within the company and a willingness to learn the Master Model and contribute to the initiatives. Once the Master Model and the initiatives had been communicated to all employees within the company, the Safety Champions had the responsibility of encouraging all the employees to contribute to initiatives and understand the model and use it to improve safety both at work and at home.

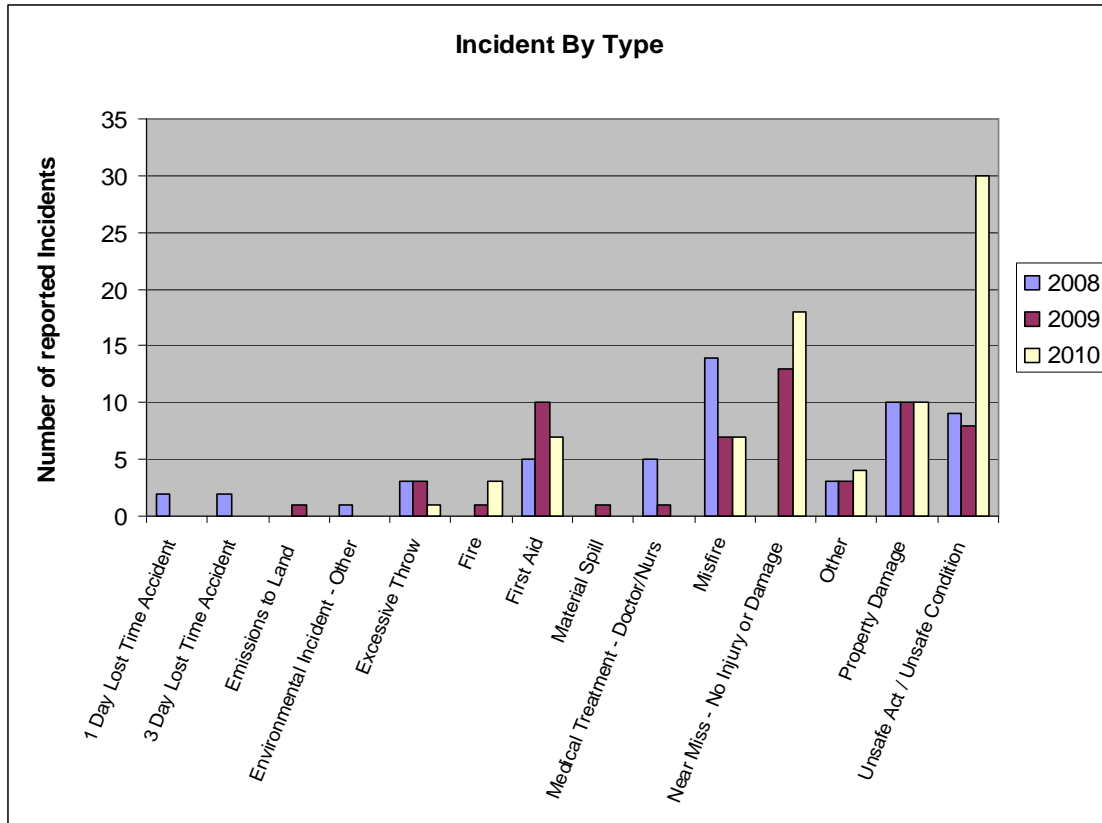
One of the challenges that the Safety Champions faced was that there was a view within the company that communication is poor. There was a commitment given by the champions to the employees that they would aim to improve this. This has gradually improved during the lifetime of the initiative to help keep buy-in from their peers and ensure its success.

### **1.5 THE “STORY SO FAR”**

Once the Master Model and the initiatives had been completely rolled out to all work groups within the business, with the help of encouragement from the Safety Champions, employees began to contribute to the scheme and understand the model. It became apparent that there was a change in the culture within the company in relation to health and safety. Due to the fact that the safety champions had the responsibility of the success of the operation and increased amounts of STOP audits being completed, safety and potential hazards within the workplace became a discussion point. Many employees regularly began to discuss safety matters at all levels within the company. Subjects under discussion turned from incidents and accidents to potential causes of accidents, near misses and unsafe acts. This is an area where the company wants attention in a bid to reduce accidents and incidents; it enables the company to be proactive with regards to these matters. Patterns that emerge can be dealt with and any can be used as a basis for a peer review or safety contact to heighten awareness. As figure 5 shows over the years from the initiative has commenced, not only have lost time accidents have reduced to zero, but near miss and unsafe act reporting has greatly increased. This would suggest that these acts or conditions are being reported more, with employees being willing and understanding the benefits of reporting.

Not shown in the figure 5, but equally as encouraging, there are a significant number of Safety improvements and suggestions being introduced within the company through the Safety Suggestion forms introduced by the Safety Champions. These are largely managed by the Safety Champions in conjunction with the management team. Communication between the employees and the management team with regard to their respective suggestions is managed by the Safety Champions. This has proved successful and ensures that employees are alert to the possibility of improvements and dangers within their work area and are being encouraged to communicate these to management via the safety champions.

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*Fig. 5 Incidents by type 2008 - 2010*

The impact that the initiative had within the Kemek Group has drawn attention from many areas. The Safety Champions had the privilege of presenting the Master Model and the Safety Champion System to the group's Board of Directors. The presentation was well received by the Directors and drew their praise for the results being achieved. In a further meeting the champions were asked by the EPC Group Safety Manager to present a similar presentation to him to enable him to gain an understanding of the Master Model and the initiative and what was being achieved.

Approximately a year after the roll out of the whole initiative, the Safety Champions carried out a review of the whole Behavioural Safety Initiative. An employee survey was developed and every employee was asked to complete and return the survey. The survey sought to determine the understanding that all employees in the company had of the Master Model and the initiative, if they felt it was useful and helpful in day to day safety and if they thought that it was having a major impact in safety in the workplace. A space at the back was left for comments or suggestions from each employee about their thoughts or any other feedback. Considering that the company was going through a major upheaval with regards to staffing numbers, and large cut in employee numbers, there was a fairly good response to the survey. On analysing the information resulting from the survey, the safety champions were able to identify a number of areas in the business which needed attention with regards to inclusion in the process and areas of improvement required on the part of the Safety Champions. A number of good suggestions and ideas resulted from the open questions for employees to give their

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thoughts and the Safety Champions were able to act on these and strengthen and develop the process.

As with all such processes, everything does not run smoothly without problems and difficulties. Since the introduction of the initiative, due to economic conditions, three of the original Safety Champions have left the company due to cut backs in employee numbers. This meant that there were a few areas in the company that had little representation from the Safety Champions. During the period of the cut backs the remaining Safety Champions continued to promote the Master Model and the Behavioural Safety Initiative with the aim of keeping employee buy-in at a high level and helping to ensure the safe working culture that has been developing. Recently, in a demonstration of commitment to the initiative and its success, the management agreed to introduce three new safety champions. A further period of training by ADSI in regards to the master model was completed by all the Safety Champions and two management representatives in order to develop a greater understanding of the master model. Although there were two management representatives at this training, the initiative is still totally employee driven. The introduction of management at this stage of the process is to aid with facilitation of the needs of the safety champions to develop and feed the initiative to ensure its longevity and continued success.

The process depends entirely on the commitment of the employees within the company buying in to its ideology, contributing to its initiatives and changing the culture of the company with the realisation that not only how I behave but how I think, what drives me and my perceptions will affect my safety both at home and at work on a daily basis. It requires an extremely high dedication, belief and commitment from the Safety Champions who have the responsibility of ensuring its ongoing success and development.

### **1.6 TAKE HOME MESSAGES**

- Developing, implementing, accessing and certifying Safety Procedures is not in itself a guarantee of producing good safety performance.
- A focus on people's behaviour and why they do what they do will help gain an insight into why incidents are occurring.
- Involvement of all members of staff at all levels is the key to ensuring that safety is at the forefront of everyone's mind.
- Involvement of hourly paid employees in the development and implementation of a behavioural based safety initiative has markedly changed the culture of this organisation.
- It is imperative to keep reinforcing the safety message which is most effective when done at peer level.
- Prompt action and closure of employee suggestions and ideas helps to ensure strong continual buy-in from all employees.