Development of a Health and Safety Performance Measurement Tool

Prepared by
Amey VECTRA Limited
for the Health and Safety Executive

CONTRACT RESEARCH REPORT
309/2000

HSE
Health & Safety Executive

Development of a Health and Safety Performance Measurement Tool

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The Health and Safety Executive (HSE) identified the need for a Tool to measure health and safety performance/improvement over time within a sector. It was intended that the Tool would be used by inspectors within Small and Medium Sized Enterprises (SMEs).

Amey VECTRA believe that the Tool that has been developed is a useful addition to the existing HSE Inspection Rating System, which will provide an assessment of sector wide performance on a year-on-year basis. It is suggested that the Tool is used at two levels; using randomly selected premises (approximately 50) which are compared year-on-year as a reflection of the total sector and as a case study of 10-12 premises which go back to each year as a mini parallel study.

The assessment should be a 'snapshot' of the health and safety performance at that time and any plans made by the company should not be included. However, when feedback of the assessment findings are presented to the company, the inspector may feel that it is appropriate to consider any plans that the company may have made when they are scoring certain Key Performance Indicators (KPIs) in order to motivate the company.

The development process involved the creation of a health and safety Key Performance Indicator (KPI) Framework on which the Tool itself could be based. The decision was made to build the framework for the Performance Indicators around existing legal requirements, mainly to avoid the problem of what expectations it is realistic to have of SMEs. Therefore it was decided that the 'spine of the Framework' would be based on the Risk Assessment requirements, under the Management of Health and Safety at Work Regulations.

The Tool was trialed by inspectors and researchers working together in order to check consistency. Modifications were made to the Tool based on the feedback from the inspectors and observations by the researchers before a final trial was carried out. The final trial was completed to ensure that the final version of the Tool was practical. A final set of improvements was made following this trial.

This report and the work it describes were funded by the HSE. Its contents, including any opinions and/or conclusions expressed, are those of the author alone and do not necessarily reflect HSE policy.

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First published 2000

ISBN 0 7176 1906 0

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1. INTRODUCTION

1.1 THE OBJECTIVE OF THE PROJECT

The main objective of the project was to develop a Tool to be used by inspectors within SMEs (Small & Medium Sized Enterprises) to measure health and safety performance/improvement over time within a particular sector.

In order to be of most benefit to Inspectors, and to increase the likelihood of its usage by them, a methodology has been developed to harness the approach to current inspection practice. The Tool is designed to provide a structure in which to fully utilise the existing skills, knowledge and experience of the inspectors. An approach based on existing skills and experience ensures that the measures selected will be both meaningful and comprehensive.

It is intended that the assessments provide a 'snapshot' of the H&S performance at a particular time so that this can be monitored over time. Therefore any plans that have been made by the company should not be included in this assessment.

The development of the Tool has also considered the possibility that the Tool would also useful to the SMEs, allowing them to use it for internal monitoring.

2. OVERVIEW OF THE REPORT

The following will be presented in this section of the report:

- The Study

  The process undertaken in order to develop the Tool is described.

- The Tool and Training

  The main deliverable from the project is presented. As the Tool and the associated training are inextricably linked, they have been presented together.

- Requirements for Use of the Tool

  The researchers' suggestions on how the Tool should be used, based on the lessons learnt during the application of the Tool are presented at the end of this section.

The remainder of the document (Appendices A – J) expand on the methodology used, the development of the Tool and trials undertaken by inspectors during the piloting of the Tool in plastics factories, foundries and quarries.

2.1 THE STUDY

The following process was undertaken in order to develop the tool. An overview of the process is provided in Figure 1: Tool Development Process. Detailed consideration of the stages within Figure 1 is provided in the appendices.

2.1.1 Literature Review

A literature review was carried out and the analysis findings are presented in tables in Appendix B.

2.1.2 Develop Initial List of KPIs

An initial list of KPIs was developed based on the findings of the literature review. This listing can be found in Appendix C.

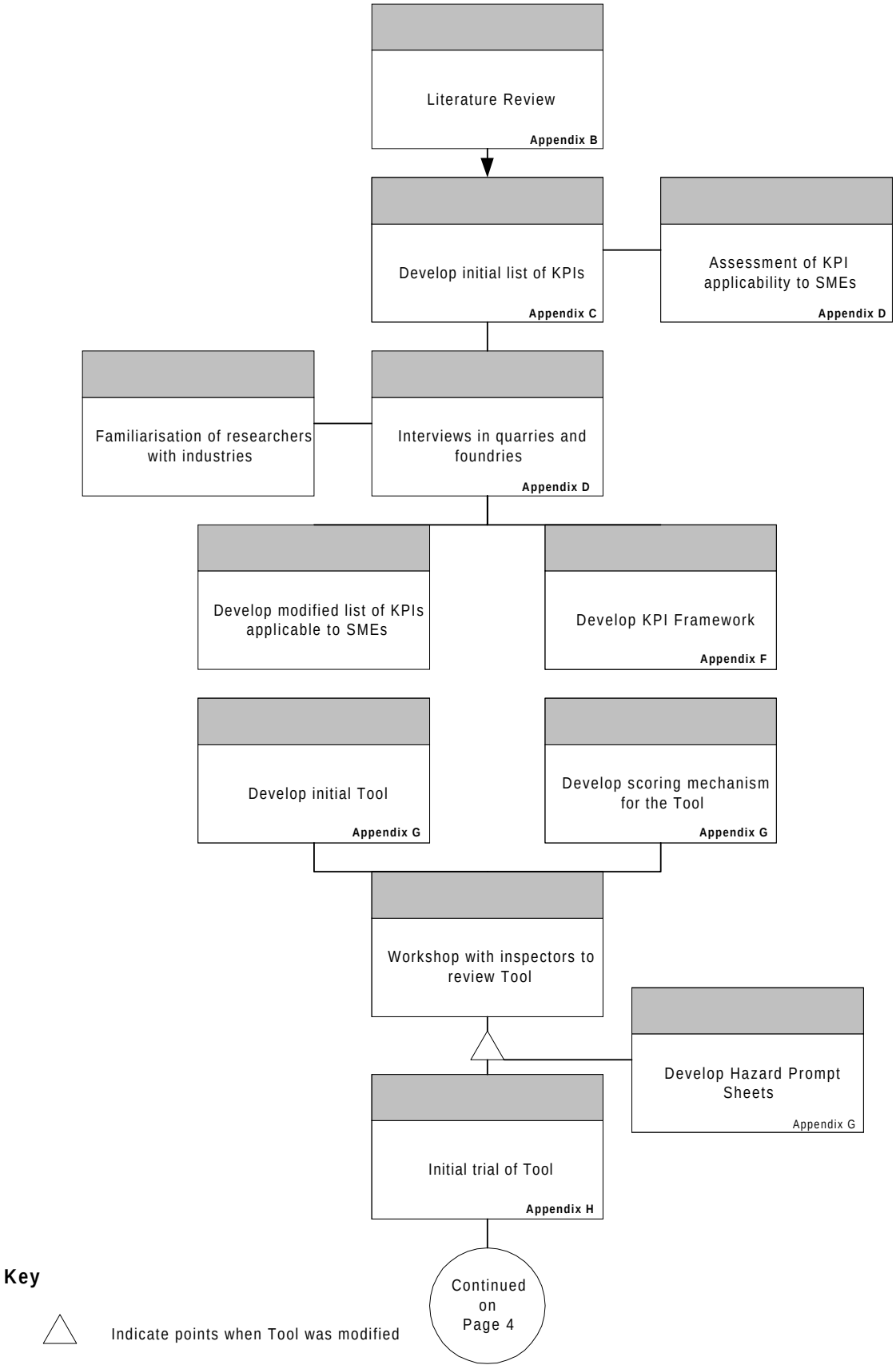


Figure 1: Method Overview

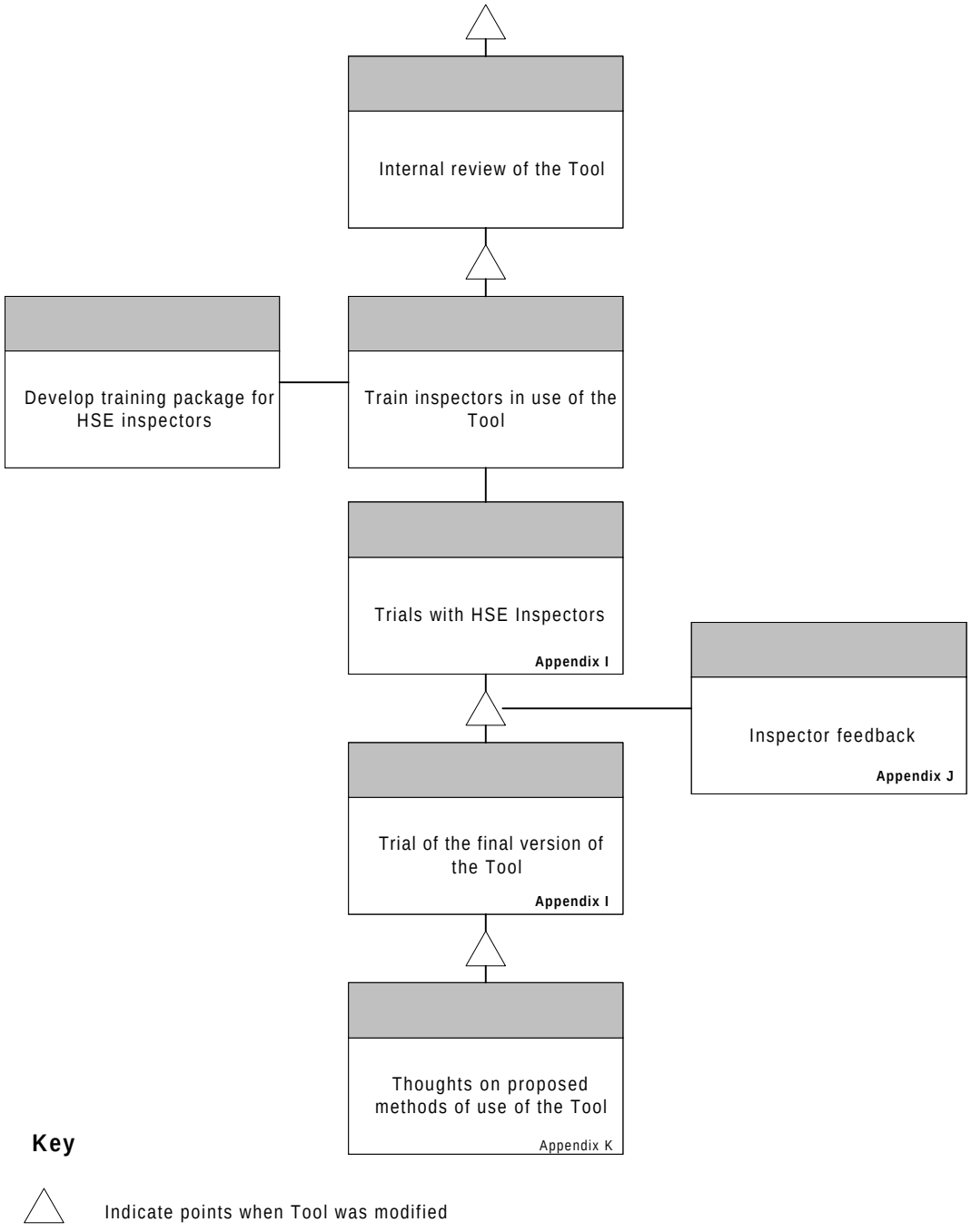


Figure 2: Method Overview (continued)

2.1.3 Assessment of KPI Applicability to SMEs

A number of individuals were identified as having knowledge and experience in the area of health and safety in SMEs and were interviewed in order to gain a deeper insight into the area of SMEs.

Sandy Carmichael is a HSE Inspector who has long been interested in the nature of SMEs and how the HSE can best provide them with effective guidance and support.

John Matthews, DfEE (Department for Employment and Education) and David Bryant (Health and Safety Manager for Tyneside Training and Enterprise Council) both have an interest in health and safety in SMEs.

The records of these meetings are not included in this report but can be made available on request.

In addition, one of Amey VECTRA's Principal Consultants, who has carried out work developing KPIs, undertook an exercise to consider the implications of using KPIs usually used in larger organisations within smaller companies. The results are presented in Appendix D.

2.1.4 Familiarisation of Researchers with Industries

It was decided that the quarries and foundries sectors would be the focus of the initial development process. In addition to discussions with individuals (including the project's Technical Monitor) with experience in the industries, the following information was read in order to gain an understanding of the key issues in the sectors:

HSE Metals and Minerals Sector Strategic Plan
HSE Quarries National Joint Advisory Committee (QNJAC) Programme of Work 1999-2002
HSE Foundries Industry Advisory Committee (FIAC) Progress Report (1996-1997) & Programme of Work (1998-2001)

Copies of HSE's 'Quarry Factfile' publication.
This knowledge was used in order to develop the question set for the interviews.

2.1.5 Interviews with Quarries and Foundries

In order to develop a Tool that would be useful to SMEs, it was necessary to visit a number of companies to allow the research team to get a feel for the kind of issues and problems within SMEs. These visits would also allow the identification of further health and safety KPIs that could potentially be included in the tool.

It was decided that the initial visits should focus on a number of companies within one or two industries in order to gain a good understanding of what would be required in those particular industries. Once the Tool was ready to be trialed, other industries would be involved to ensure that it had a wider applicability.

The decision was made by the Technical Monitor to use quarries and foundries from the Metals and Minerals Sector for the interviews. This was mainly because it would be more practical in terms of gaining a good overview of the industries before the interviews.

Six companies were visited during the initial site visits; three quarries and three foundries.

Each visit followed a similar format with the researcher(s) beginning by outlining the purpose of the project to the company. The discussions focused on a wide variety of H&S issues and by the close of the visit, the intention was to secure the company's involvement in the next stage of the work and to ensure a contact to arrange a further visit later in the project, if required.

The information from the interviews was analysed. In addition, the HSE Inspection Rating system information for the six companies was analysed and a comparison made to the views reached by the researchers regarding each of the companies on the visits. This was intended as a check to identify the similarities and differences between our findings and the HSE Inspection Rating System scoring.

Records of the meetings can be found in Appendix E.

2.1.6 Develop Modified List of KPIs Applicable to SMEs

The list of KPIs was modified to reflect the discussions and interview findings. The list of proposed KPIs at this stage of the project is outlined in the 'KPI Framework' document in Appendix F.

2.1.7 Develop KPI Framework

The KPI framework was developed to provide a structure for the KPIs and to demonstrate how the KPIs relate to each other. The Framework was designed to provide the basis for Tool development. Once the Tool had been developed, it was recognised that the Framework would effectively become redundant as it was the foundation for the tool to be built on. The Framework is presented in Appendix F.

It should be noted that internal Amey VECTRA workshops and meetings with the Technical Monitor shaped the Framework and the subsequently developed Tool. The records of these meetings have not been included in this report but can be made available on request.

2.1.8 Develop Initial Tool

Appendix G contains the initial Tool that was developed based on the KPI framework structure.

2.1.9 Develop Scoring Mechanism for the Tool

The initial scoring mechanism is outlined in Appendix G.

2.1.10 Workshop with Inspectors to Review Tool

Feedback on the initial Tool was sought from various grades of HSE inspectors. The following is summary of the key issues raised in the workshop:

- In relation to the scoring, inspectors stated that compliance with minimum legal requirements was the most that they could expect SMEs to achieve. The scoring, therefore, needed to be modified to have 'compliance on a routine basis' as the top score and the definition of the remaining levels of the scoring should fall below this.

- Some of the KPIs could be combined, some were not considered appropriate to SMEs and others need adding, for example:

    - Include 'welfare' issue in the Tool.

- Include ‘housekeeping’ in the Tool.
- Change ‘health monitoring’ to ‘health control’ and consider including a further specific health issue.
- ‘Emergency arrangements’ category was not considered to be particularly relevant to SMEs.
- Combine ‘training needs assessment’ with ‘training delivery’.

- Consideration needed to be given to the fact that there needs to be a balance between the number of measures and the time required to carry out the assessment.

- It is important not to combine too many indicators as this will result in the indicators being too general and as a result, they do not measure anything useful.

2.1.11 Develop Hazard Prompt Sheets

Prompt sheets were developed to aid the application of the Tool. The prompt sheets indicate the main processes, what the likely hazards are within these processes and what controls should be in place. The prompt sheets for the foundries industry proved useful whereas the sector guidance sheets within the plastics industry was seen as more useful than the guidance sheets.

Individuals from the specific HSE sector were interviewed in order to develop the prompt sheets.

The Foundry prompt sheets were used successfully in the initial trial. The prompt sheets for the foundry industry are presented in Appendix A.

2.1.12 Initial Trial of Tool

At this stage, it was intended that the Tool be trialed in two of the foundries visited at the development stage of the project.

The aim was to visit a company nearer to the top and another company nearer to the bottom of industry standards from the initial interview visits, to ensure that the Tool could differentiate between them. Unfortunately the poor performer was no longer in business and a substitute was found.

Two assessors were involved in the assessment to ensure reliability.

In general, the Tool performed well and the assessment output was as expected. Modifications were made to the Tool following the initial trial.

The assessment findings from these visits are presented in Appendix H.

2.1.13 Internal Review of the Tool

An Amey VECTRA internal review of the Tool was conducted before the main trials. This process involved two specialists from the Human Factors Group reviewing the Tool, followed by discussions with the researchers in an internal workshop.
The following is summary of the key issues raised and discussed:

- The Tool is aimed at identifying a system or an approach to managing health and safety rather than carrying out an audit of the paper-based system. This needed to be stated clearly at the front of the Tool.

- The management scoring mechanism was not linear (progress from one to the next and so on) and therefore could be confusing. It was proposed that this was changed to:

Score	Description
4	Good system and used
3	Reasonable system and used
2	System not effectively used
1	Poor system

- In order to ensure that all evidence on the system and the use of the system is recorded, it was proposed to prompt the inspector on the response sheets:

KPI
Evidence System: Use:
Score

2.1.14 Develop Training Package for HSE Inspectors

A package of information was developed for the inspectors involved in the trials to explain the purpose of the Tool and to train them in its application.

2.1.15 Train Inspectors in Use of the Package

The training package was distributed to the inspectors involved in the trial in advance of the training session. An informal training session (approximately one hour) was held with each inspector to discuss the package and to ensure that they were clear what the Tool and the trial were aiming to achieve and how the Tool should be applied.

2.1.16 Trial with HSE Inspectors

Two assessment visits were conducted in foundries and two in plastics companies. Inspectors and researcher(s) undertook a parallel assessment at each of these visits to check consistency. On the whole, it was found that the inspectors and the researchers reported similar findings and scores and put evidence into similar categories. A comparison of assessment findings was undertaken following each visit and areas of inconsistency and areas for improvement were identified.

The assessment of each company (a combined view of the researcher & the inspector) is presented in Appendix I.

2.1.17 Inspector Feedback

In addition to trialing the Tool, the inspectors also gave feedback on their views of the Tool, including where they encountered problems, where the training or the training package was misleading or did not cover things adequately, etc. The main points from this feedback process are outlined in Appendix J. Modifications were made to the Tool based on the feedback from the inspectors before the final trial was carried out.

2.1.18 Trial of the Final Version of the Tool

A final trial was completed to ensure that the modifications to the Tool were practical. The assessment was conducted within a plastics company by two researchers. The assessment is presented in Appendix I.

Minor modifications were made to the Tool following the trial.

2.2 THE TOOL & TRAINING

2.2.1 The Tool

Amey VECTRA has developed a health and safety performance measurement Tool during a 14 month project for the Health and Safety Executive. The Tool has been designed to be used by inspectors within Small and Medium Sized Enterprises (SMEs). It is primarily aimed at tracking improvement in health and safety performance at the sector level, although, where appropriate, it could also be used at the individual company level. It is recognised that a consistent approach is required in order to track improvement and it is intended that this Tool will provide the structure to ensure this consistency.

2.2.2 Elements of the Tool

The Tool requires information to be collected on a series of Key Performance Indicators (KPIs) that have been specifically chosen to, collectively, assess the effectiveness of health and safety management and delivery. The KPIs are used to provide a structure for the normal mixture of discussions, observations and document checking which form part of a standard inspection visit. The evidence against each of the KPIs is left to the inspector's discretion and should be based on the information and evidence that the inspector would normally collect.

The 10 KPIs divide into three categories:

- Regulatory Responsibility
- Risk Control
- Enabling Activities.

The KPIs in each category are outlined in Table 1.

Table 1: Key performance indicators

KEY PERFORMANCE INDICATORS	
Category	**KPI**
Regulatory Responsibility	Understanding of regulatory responsibilities
Risk Control	Identification of hazards
	Safety procedures
	Safeguards
	Assessment of training needs
	Health Control
Enabling Activities	Willingness to use external H&S information and support
	Workforce involvement/participation
	Communication of safety information to the workforce
	Incident/accident investigation

2.2.3 Application of the Tool

The Tool has been designed to fit in with inspector site visits. It is envisaged that the majority of the required information would be identified during the normal inspection process. The Tool has been designed to use this information and restructure it against the H&S Key Performance Indicators.

Figure 2 outlines the suggested application process.

It is intended that the inspector collects and records information/evidence in the usual way during the site visit. It may be necessary to slightly modify the subjects covered during the visit to ensure that evidence will be collected against all of KPIs. The inspector needs to be able to identify for each KPI, whether there is a systematic approach (referred to as 'system') in place and whether it is used. This information will come from discussions with the management and with the workforce. The 'system' information is more likely to come from the management and the use information from a combination of the management and the workforce.

The scoring for the KPIs (see below) is based, essentially, on two elements; whether there is a systematic, management-driven approach to the control of health and safety risks and whether the approach is effectively used on a day-to-day basis on the shop floor.

Although, as mentioned earlier, it is not considered necessary (especially in the context of SMEs) that this systematic approach takes the form of a detailed, written, formal safety management system, the word 'system' is used throughout the scoring for the sake of brevity.

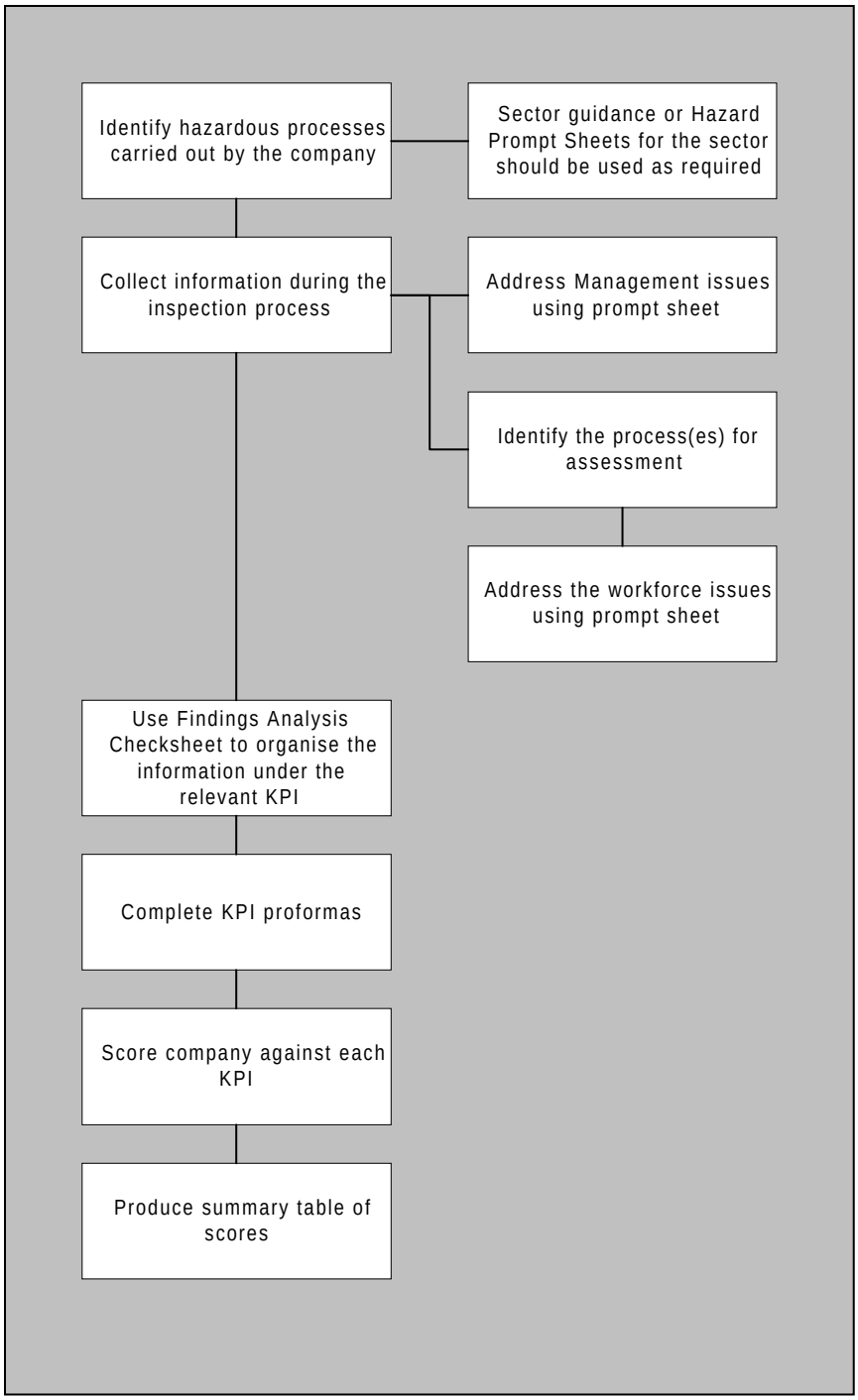


Figure 2: Application process

Prompt sheets for the Management issues and the Workforce issues are attached. These provide an overview of the issues for which information needs to be collected. The 'Issues for inspector to assess' column of the prompt sheet identifies the requirements against each KPI. The 'possible questions' column provides examples of the types of question that the inspector may ask in order to address the issues under each KPI. However, individual inspectors may choose to ask their own questions to address the issue.

Where sector guidance sheets are available, these should be used to identify the processes to be focused on and the likely hazards and related control measures that the inspector should expect to see. Where deemed appropriate/necessary specific hazard prompt sheets should be

developed on an industry/sector basis. An example hazard prompt sheet is attached and a complete set for the foundry industry is provided in Appendix A. However, inspectors who are experienced in a particular industry/sector may find sector guidance or detailed prompt sheets unnecessary.

The information should be transferred to the pro-formas following the visit.

It is important to explain to the company representative during the visit that the Tool is aimed at identifying whether there is a systematic approach to managing health and safety rather than carrying out an audit of their paper-based system (or equivalent).

2.2.4 Findings Analysis & Reporting

Once the visit has been completed, the findings should be evaluated and a pro-forma completed for each KPI.

In order to assist with the scoring of the KPIs, the management and workforce prompt sheet identify which issues relate to the 'system' and which to the use. At this point, it is necessary for the inspector to combine the information that they elicited from the management with that from the workforce. So, for example, if there is evidence of a 'system' but no evidence of it being used then this limits the score that can be assigned.

If the Tool is being used to assess a company and feed back information that the inspector feels it appropriate to offer on the visit, then the inspector may find it beneficial to give a summary of their views of the company's performance against each KPI rather than just stating the evidence. If the Tool is being used as a 'snapshot' at the sector level, the inspector's summary would not be appropriate. In addition, it would not be appropriate to include any plans for future activities or work made by the company. However, the inspector may choose when scoring a KPI to include plans that the company have made, but not yet put into action in order to motivate the company.

The information should be documented in the Findings Record Pro-formas and a score assigned for each KPI. Attached are all of the blank Findings Record Pro-formas presented on one sheet.

The scores for each KPI should then be collated in the Summary Table (see attached).

2.2.5 Scoring System

The scoring system is presented below:

Score	Meaning
5	Good system & used
4	Reasonable system & used
3	Partial system & used
2	System not effectively used
1	Poor system

It should be noted that as stated before 'system' means a systematic approach rather than implying that it is necessary for a formal system to be in place.

The scoring system has been designed to ensure that no matter how good the systems/procedures are 'on paper' unless there is evidence of them being successfully and routinely used on a day-to-day basis it is impossible to achieve the higher scores.

This weighting for 'practice' rather than 'theory' is also echoed down the scoring scale. For example, a reasonable 'system' that is used scores higher than a good 'system' that is not used.

The fact that a company's approach to health and safety management is reliant on a key person, or key people, should be reflected in scoring. Therefore such a 'system' should not attain a 'good' score.

The scoring interpretation is outlined below. It is necessary that each particular sector defines industry rules in relation to the scoring, so, for example, it will be necessary to establish for a particular industry what the difference is between a 'good system' and an 'acceptable system'.

Scoring interpretation:

> In order to score '5' (i.e. the top score), it is necessary that the 'system' in place is good and that it is used/followed in the workplace in a consistent manner and that there is some element of monitoring.
>
> A score of '4' is achieved for a 'system' that is acceptable (rather than good) but is used.
>
> A score of '3' is awarded where there is a 'system' is in relation to some issues but not for others but what there is in place is used.
>
> A score of '2' is ascribed if there is a 'system' in place but it is not used.
>
> A score of '1' indicates that there is no consistent, systematic approach to managing safety.

It follows therefore, that even if a company has a 'system' in place which is ideal 'on paper' but with little or no evidence that it is applied in the work place will, at best, score a '2'.

Examples of completed pro-formas can be found in Appendix H and Appendix I.

Management Issues Prompt Sheet

KPI	Issues for Inspector to Assess	Possible Questions for Management
REGULATORY RESPONSIBILITIES		
Understanding of Regulatory Responsibilities	Are management aware of their duties and responsibilities under the H&S regulations? (SYSTEM & USE)	How do you keep up to date with current regulations?
	Do they understand risk assessment (and related issues such as COSHH, Manual Handling Regulations, etc.)? (USE)	How do you know that you're up to date with current regulations?
	Do they undertand that these are ongoing rather than one-off activities? (SYSTEM)	
RISK CONTROL		
Identification of Hazards	How do the management identify the hazards to which their workforce is exposed? (SYSTEM)	What are the major hazards in the workplace?
		Which are the hazardous processes?
Safety Procedures	Are procedural control measures appropriate and adequate? (SYSTEM)	Check Permit To Work, safe systems of work, method statements, etc
Safeguards	Are the physical safeguards (including safety PPE) sufficient for the hazards? (SYSTEM)	What physical safeguards (barriers, interlocks, etc) are in place?
	Are physical safeguards (e.g. interlocks) well maintained, understood and effective? (SYSTEM & USE)	Are the standards of housekeeping adequate?
	Are there adequate controls for common risks such as slips, trips and falls? (SYSTEM)	
Assessment of training needs	Do they have a system (formal or informal) to assess training needs (e.g. if a new piece of equipment is introduced)? (SYSTEM)	How do you ensure that your workforce are competent to do the job?
	If they identify a need, is it actioned? (USE)	How do you identify the need for further training?
	Is adequate H&S induction training provided? (USE)	
Health Control	Have potential health hazards been identified? (SYSTEM)	Are health related hazards identified?
	Have effective control measures been implemented? (USE)	What control measures are taken?
	Is any action taken regarding pre-employment medicals and/or health surveillance ? (USE)	

Management Issues Prompt Sheet

KPI	Issues for Inspector to Assess	Possible Questions for Management
ENABLING ACTIVITIES		
Willingness to Use External H&S Information & Support	Where do they get their H&S information, guidance & advice from? (SYSTEM)	How do you obtain information on health and safety?
	Do they actively seek support in areas where they know their knowledge is limited? (USE)	Have you sought EXTERNAL advice or would you if you needed to?
	Do they understand that some support (eg asbestos, noise, etc) needs to be dealt with by licensed operators? (SYSTEM & USE)	
Workforce involvement/ participation	Are there systems (formal or informal) to allow workforce involvement in H&S, (e.g. safety reps)? (SYSTEM)	How do you involve the workforce in H&S?
	Do they encourage workforce input? (USE)	
Incident/accident investigation	Is there a system for reporting incidents/accidents? (SYSTEM)	How confident are you that incidents/accidents are reported?
	Is the reporting system used? (USE)	How does the company ensure that it learns from past incidents?
	Do they have a systematic approach to investigation? (SYSTEM)	
	Are actions taken as a result of investigations? (USE)	
Communication of Safety Information to the Workforce	Are systems in place to pass H&S information to the workforce? (SYSTEM)	What kind of safety information do you issue to the workforce?
	Do the communication systems work? (USE)	How do you identify when you need to communicate safety information on a particular topic?
	Are the workforce informed of the results of the risk assessment? (USE)	How is H&S Information passed down to the shopfloor?

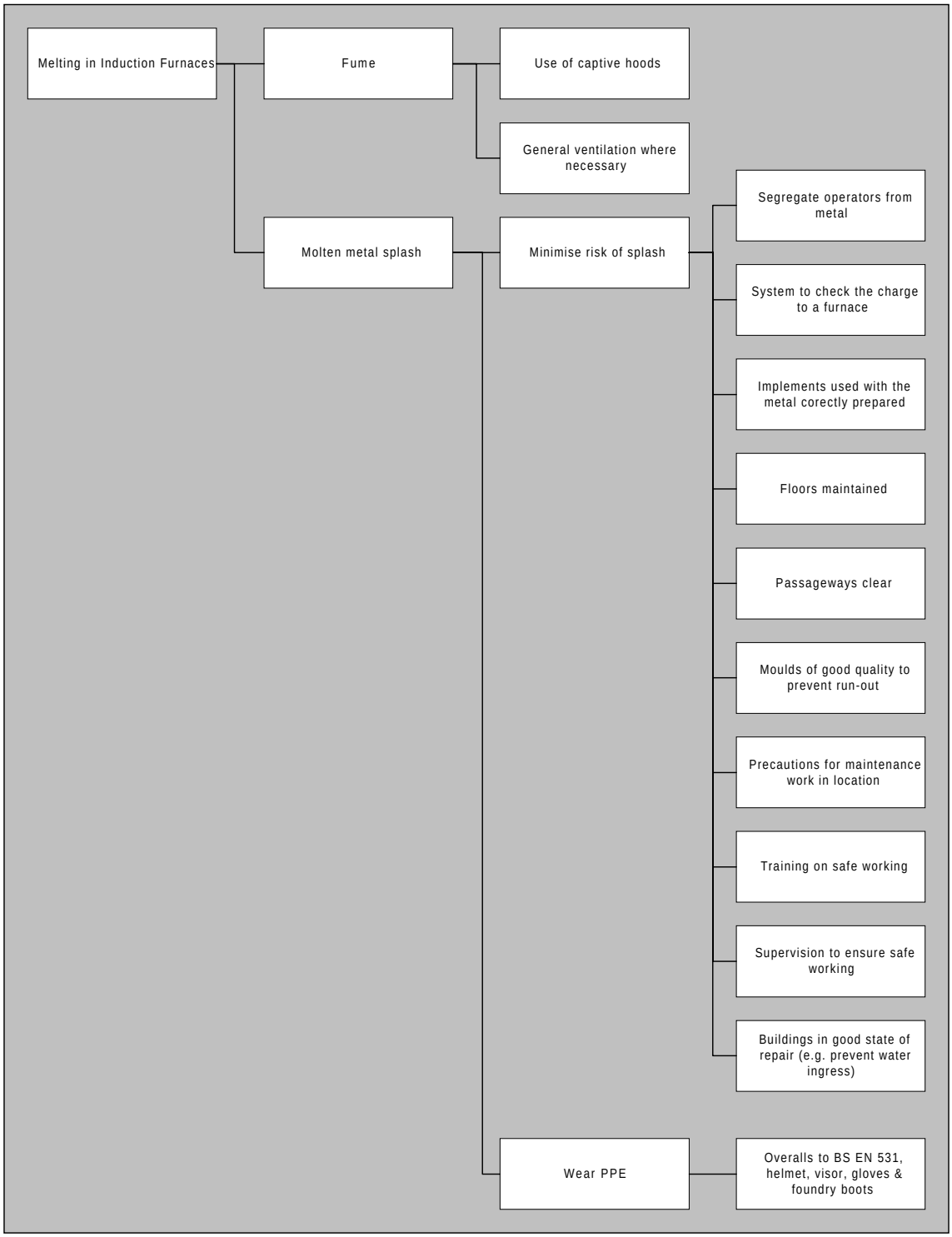
Workforce Issues Prompt Sheet

KPI	Issues for Inspector to Assess	Questions for Workforce
RISK CONTROL		
Identification of hazards	Are the workforce aware of the hazards of their work? (USE)	Ask questions on local hazards
Safety Procedures	Are procedural control measures appropriate and adequate? (SYSTEM)	Ask questions on local procedures
	Are the procedural control measures used and understood by the workforce? (USE)	
Safeguards	Are the physical safeguards sufficient for the hazards (including safety PPE)? (SYSTEM & USE)	What physical safeguards (barriers, interlocks, etc) are in place?
	Are they well maintained, understood and effective? (USE)	Are they well maintained, understood and effective?
Assessment of training needs	Is training (formal or informal) provided on H&S issues (e.g. on the effective use of PPE)? (USE)	Have you received H&S training?
	What H&S induction training is provided? (USE)	Did the induction training cover the local hazards?
Health Control	Do the workforce understand the health hazards? (USE)	Ask questions on local hazards
	Are control measures in place (including PPE)? (SYSTEM)	
	Do the workforce understand the control measures? (USE)	
	Are the welfare facilities adequate? (SYSTEM & USE)	

Workforce Issues Prompt Sheet

KPI	Issues for Inspector to Assess	Questions for Workforce
ENABLING ACTIVITIES		
Workforce involvement/ participation	Is there evidence that the workforce have the opportunity to get involved in H&S? (SYSTEM)	Are you encouraged to suggest improvements to the job?
	Are the workforce actively involved in H&S? (USE)	Do people make suggestions about improvements?
		How do you report incidents?
		Are there other ways that you are involved in H&S?
Communication of safety information	Do the communication systems work? (SYSTEM & USE)	Do you receive information on safety issues from the company?
	Are the workforce informed of the results of the risk assessment? (USE)	When did you last receive information?
	Is the workplace information available (e.g. noise zone signs)?	Was the information useful to you/relevant?

Example Foundry Hazard Prompt Sheet
Melting



Scoring Summary Table

KPI	Score
Understanding of regulatory responsibilities	
Identification of hazards	
Safety procedures	
Safeguards	
Assessment of training needs	
Health Control	
Willingness to use external H&S information and support	
Workforce involvement/participation	
Communication of safety information to the workforce	
Incident/accident investigation	

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Understanding of Regulatory Responsibilities

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Identification of Hazards

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Safety Procedures

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Safeguards

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Assessment of training needs

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Health Control

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Willingness to Use External H&S Information & Support

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Workforce Involvement/ Participation

Evidence

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure
Communication of Safety Information to the Workforce

Evidence:
System

Use

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure

Incident/Accident Investigation

Evidence

Score

2.3 REQUIREMENTS FOR USE OF THE TOOL

The following suggestions are made by the researchers for how the Tool should be used in practice:

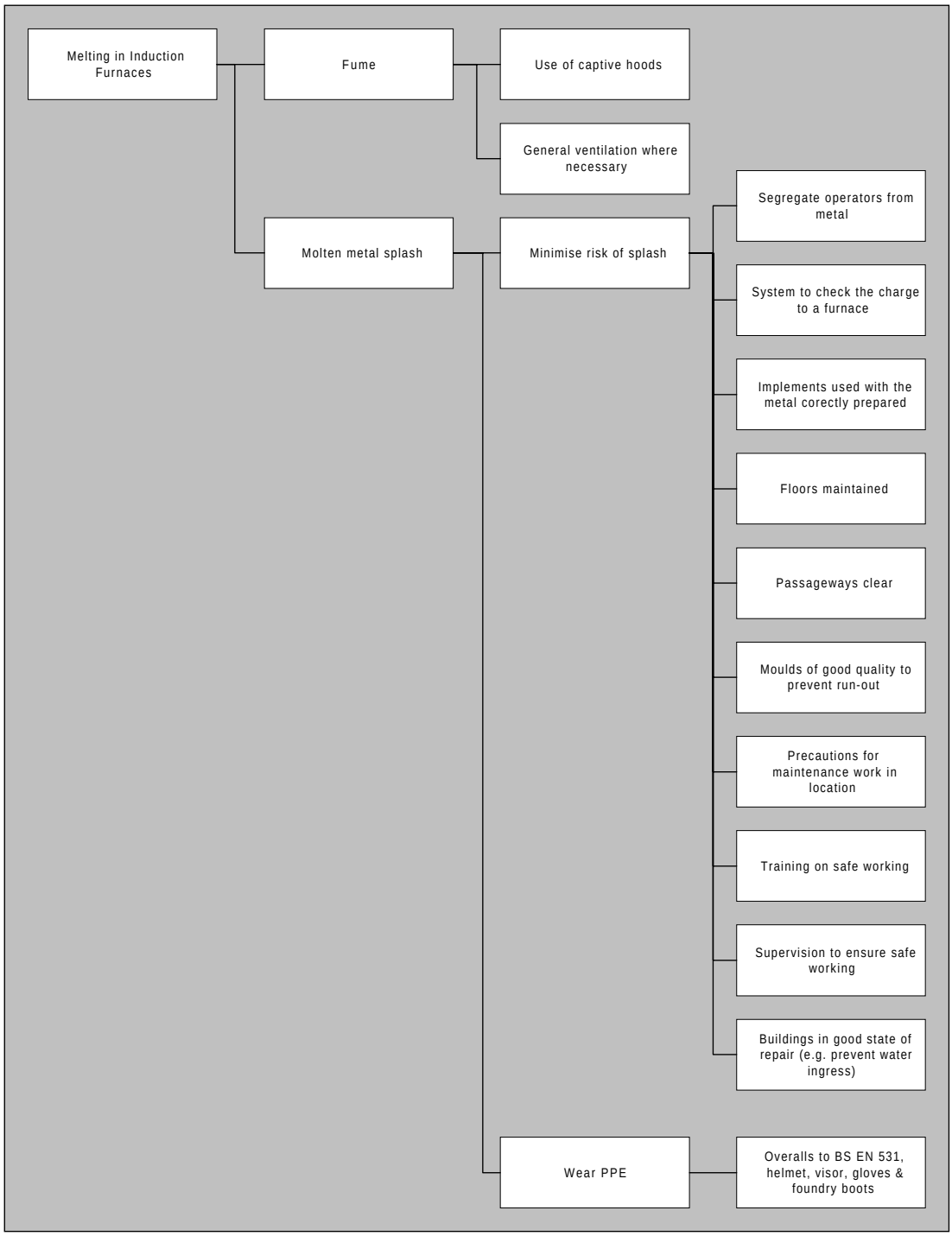
- It is suggested that the Tool should be used on an annual basis.
- The assessment should be a 'snapshot' of the H&S performance at that time and any plans made by the company should not be included.
- As the Tool will be used periodically, it would be worth training a group of individuals in each region in its use so that it is not necessary to train each year.
- The assessment can be carried out at two levels (and it is suggested that both are used):
  - Randomly selected premises (approximately 50) which are compared year on year as a reflection of the total sector.
  - A case study of 10-12 premises which go back to each year as a mini parallel study.
- In addition, the Tool could be used to measure before a one-off initiative, e.g. a sector specific initiative or KFP, to establish a baseline and then repeated following, or during, the initiative to measure changes in performance. This could be done as part of the yearly assessment, with the inclusion of additional, specific questions in relation to one or two KPIs, e.g. VWF in Health Control.
- There are numerous ways in which the scores from the Tool could be used to present an overview of performance within the sector. For example, the mean scores for the KPIs could be used to identify year-on-year trends, the percentage of companies receiving each of the scores could also be used to plot year-on-year trends. The total sample could be divided to assess topics of interest, for example by size of company, companies which are part of larger organisations (compared with those which are entirely 'standalone') or by process (e.g. compression versus injection moulding in the plastics sector).
- When feedback of the assessment findings are presented to the company, the inspector may feel that it is appropriate to provide their own summary of each KPI and also consider any plans that the company may have made when they are scoring certain KPIs in order to motivate the company.
- We recommend that hazard prompt sheets be developed where sector guidance is not easily available or is in various places.
- The scoring system should be refined by the sectors to reflect industry standards, e.g. the sectors should define what acceptable system is compared to a good system.

3. LIST OF APPENDICES

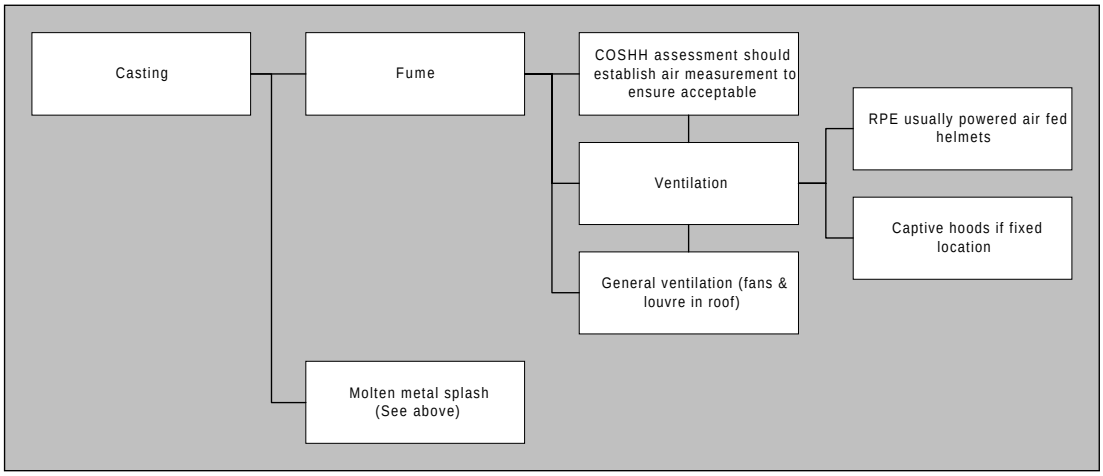
APPENDIX A

HAZARD PROMPT SHEETS

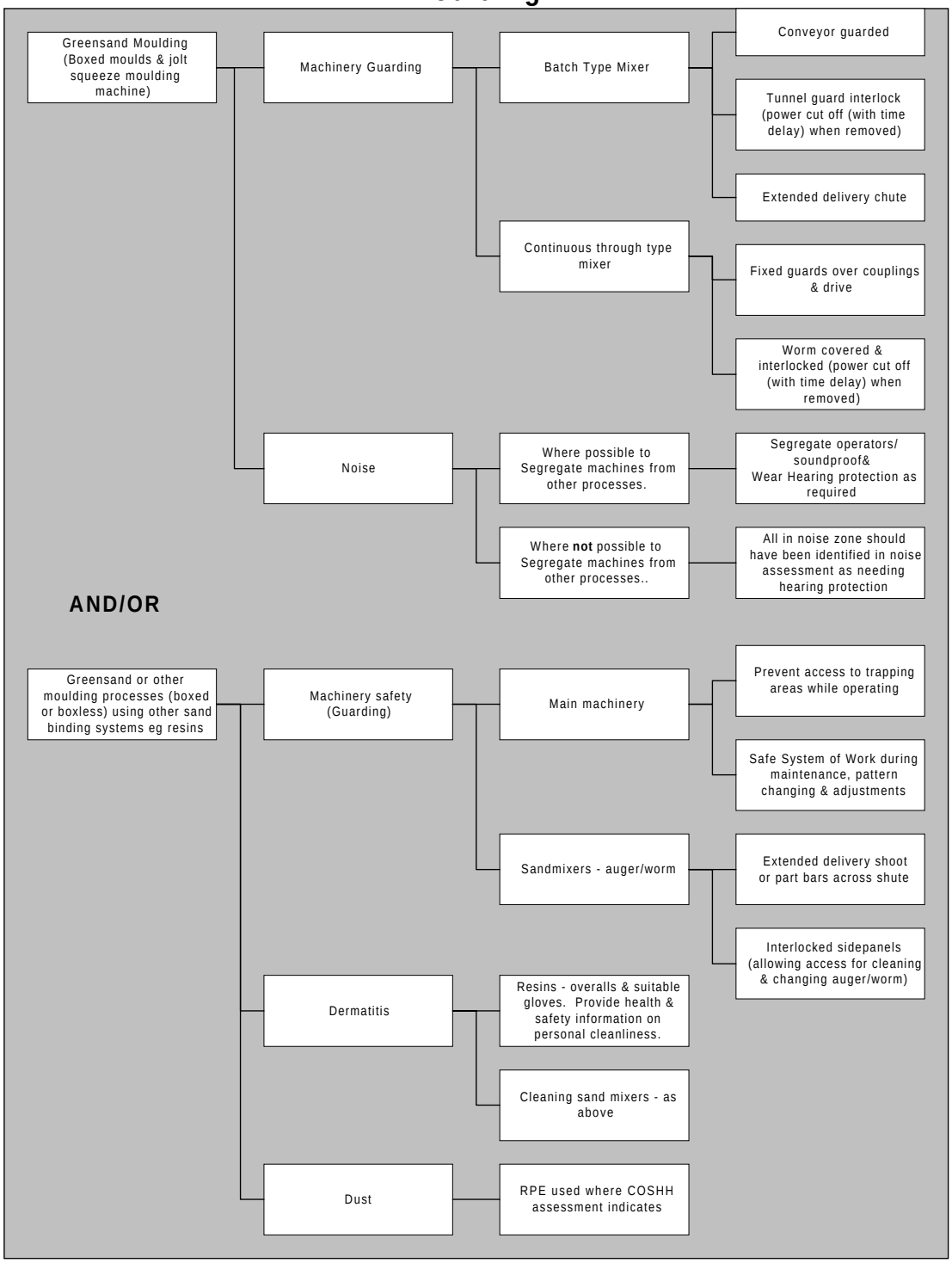
Hazard Prompt Sheet
Melting



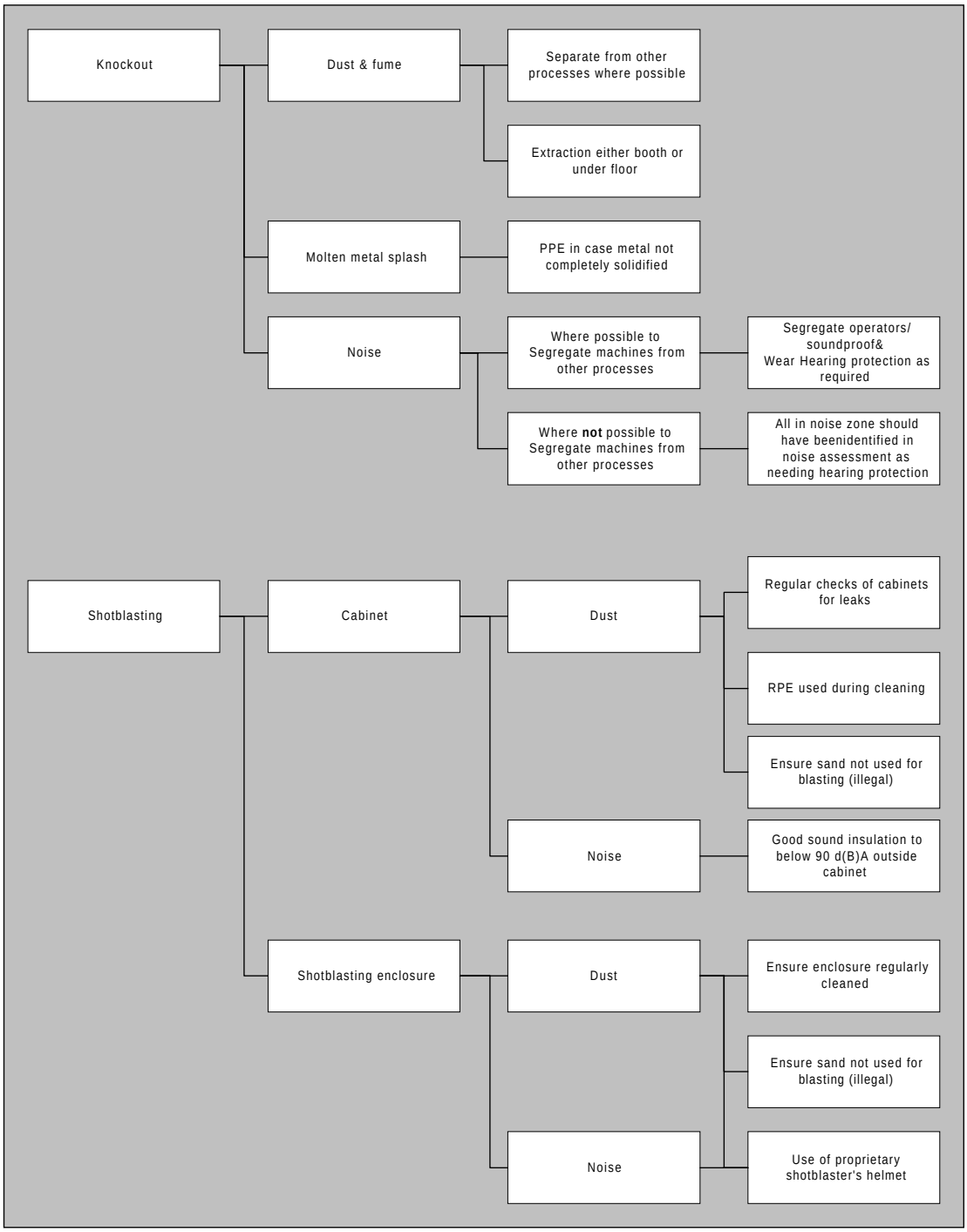
Hazard Prompt Sheet
Casting



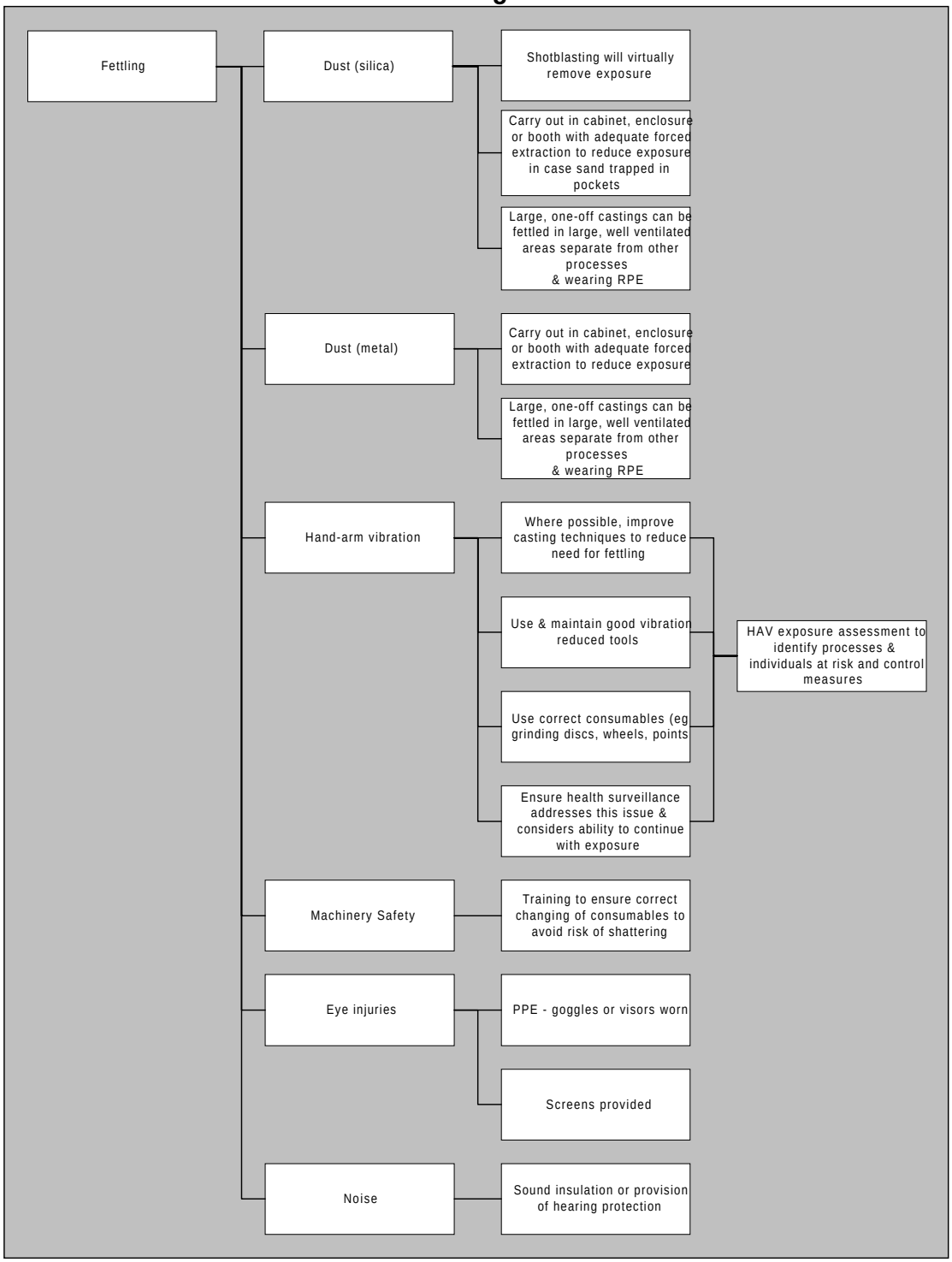
Hazard Prompt Sheet
Moulding



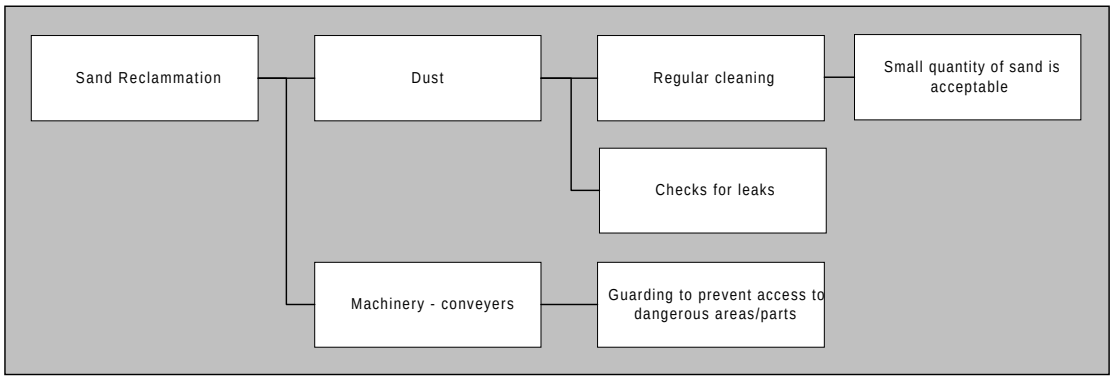
Hazard Prompt Sheet
Knock Out &
Shotblasting



Hazard Prompt Sheet
Fettling



Hazard Prompt Sheet
Sand Reclammation



APPENDIX B

LITERATURE REVIEW

INTRODUCTION

Much of the literature on H&S Performance Indicators has two serious limitations in the context of Small and Medium Enterprises (SMEs). Firstly most of the published research and discussion papers on the topic have assumed, implicitly at least, that the focus of concern is large organisations with complex management structures and considerable in-house health and safety support (considerable, at least, by comparison with SMEs). Secondly, suggested Performance Indicators often require the manipulation and documentation of additional information/data. It is recognised that the underlying principles of what is being measured remains the same regardless of the size of the company. However, the actual measures will vary depending on the company size, therefore the first of these limitations creates a pool of possible Performance Indicators which are likely to be inappropriate at best, irrelevant at worst. The second creates a pool of potential Performance Indicators that are likely to be impractical.

These problems retain their validity regardless of whether the Performance Indicators are intended primarily for use by either the organisations themselves or by Inspectors. As even if the latter are the primary focus, they will, of necessity, have to work on what they can see or glean from discussion or what can be provided by the organisations.

Identified KPIs		
KPI	**How Measure?**	**Source**
100% regulatory compliance in each regulatory environment		An International Safety and Health Measurement Strategy: Corporate Programme, Systems and Results. Kyle. B. Dotson. Phelps Dodge Corporation.
Maintain an injury rate of less than 66% of the industry average	Total Recordable Injury Rate (TRIR) calculated worldwide according to the U.S. Occupational Health and Safety Administration (OSHA) formula. TRIR 30 mth bar produced for each operation monthly and then distributed to all operations. Each bar is a 12 month rolling average. The Y axis is the injury rate per 100 Full Time employees and is calculated according to the OSHA formula. This rate is equivalent to the number of injuries per 100 employees.	
	Benchmark corporate safety performance with other U.S. based multi-national corporations with similar operations.	
	Also benchmark within each specific industry in which they compete.	
	Measure savings that safety generates focusing only on direct costs of injuries.	
	Lost time due to injuries (correction of injury producing conditions quantifiable to some degree)	
100% conformance with guidelines (H&S).	Performance accountability. Senior management use a 4 step criteria to identify sub-standard performers. Publication of 48 best practices enshrined as corporate Health and Safety Management Guidelines. Audit – checklists. Checklists completed dividing each guideline statement into several yes/no questions (self-assessment).	

Identified KPIs		
KPI	**How Measure?**	**Source**
Industrial hygiene Indicators Medical monitoring Exposure assessment Hazard spills Industrial hygiene related first aid Corporate audits of Industrial hygiene programs and perception surveys (includes safe behaviour observations conducted on workers while they perform tasks with hazardous materials or repetitive motion)	Medical monitoring results may serve as an indicator of overall performance success in the prevention of inhalation related disease. Audiograms directly indicate the degree that hearing loss is being prevented over and above what might be expected through ageing. Measurement of employee behaviour can be an important indicator of industrial hygiene program effectiveness because they indicate deviations from safe work habits that affect exposure. Safe behaviour observation Exposure assessment performance metric (*this needs to be indexed to correct use of PPE*)	An International Safety and Health Measurement Strategy: Corporate Programme, Systems and Results. Kyle. B. Dotson. Phelps Dodge Corporation.
Management safety tours Event Improvement Actions (learning from events) No of incomplete modifications (plant) Simulator training hours No of contamination events INSA turnaround time Audit action clearance time Detailed event investigations % of events with root causes in personnel and work practices.	These measures inputted into simple calculation which results in a safety culture index. This index is an average of several such indicators. Further indicators may be added as they become available without distorting existing trends. Equally others may be discarded. Progress is monitored on a % scale. Twice yearly assessment is undertaken.	Development of Safety Culture Indicators in Scottish Nuclear. (Carrick SNL Safety and Quality Division)

Identified KPIs		
KPI	**How Measure?**	**Source**
Safety Policy		
Signed and dated by function head	Actually verify signatories and currency of the policy	
Display of policy in readable format for all employees in all workplaces	Inspection	
Required resources provided for its implementation (regular review)	Annual employee survey to assess employee awareness and perception of financial and physical resources.	
Leadership and Management Commitment		
Active management participation in safety systems reviews and incident investigations	Log management participation	Development of Safety Culture Indicators in Scottish Nuclear. (Carrick SNL Safety and Quality Division)
Management accept responsibility for the distribution of Health and Safety information to the workforce and its understanding.	Maintain record of all information distributed (signatories etc)	
Personal involvement by management in safety issues	Employee surveys	
Resources made available to achieve predetermined targets	Identify actual expenditure on safety and training	
Attendance by Line Management on safety course and seminars	Log attendance and publicise results	

Identified KPIs		
KPI	**How Measure?**	**Source**
Inclusion of a safety policy in the business plan which expresses genuine commitment to health and safety		
Objectives understood and communicated to the workforce	Employee survey	
Near misses and dangerous situations reported by the workforce and action taken.		
Culture		
Good housekeeping in all areas		
Active participation by all workforce sectors in health and safety activities.	Conduct perception surveys	Development of Safety Culture Indicators in Scottish Nuclear. (Carrick SNL Safety and Quality Division)
Hazard reporting	Maintenance of log reports – actions checked and time delays	
Employee participation in the achievement of production targets and minimisation of equipment damage	Regular inspections Records of inspections Monitor and record participation Log of reports maintained Monitoring of corrective process	
Organisation for excellence in Safety and Health	Workforce survey	

Identified KPIs		
KPI	**How Measure?**	**Source**
Strategic plan which identifies current Health and Safety performance, targeted objectives and the process for achieving them.	Check strategic plan details	
Management commitment to achieving continuous improvement.		
Commitment of physical and financial resources to achieve targets.	Monitor frequency of line management comms with the workforce on safety issues. Check experience against budget allocation Conduct employee survey	Development of Safety Culture Indicators in Scottish Nuclear. (Carrick SNL Safety and Quality Division)
Line Responsibility		
Line management responsibilities documented and understood by the workforce	Conduct surveys of the workforce	
Safety and Health competencies required for Line Management appointments	Check job descriptions to required competencies	
Promotional opportunities linked to safety and health achievements.	Employee surveys	
Regular interaction between line management and workforce regarding safety and health issues	Maintain continuous record of all group interactive meetings	

Identified KPIs		
KPI	**How Measure?**	**Source**
Incident Management & Follow Up		
Time taken to commence and complete investigation as well as complete action plan		
Ratio of near misses/incidents to actual incidents	Record log of all actual incidents and near misses reported	Development of Safety Culture Indicators in Scottish Nuclear. (Carrick SNL Safety and Quality Division)
Records maintained of personnel trained in incident investigation	Check training records	
Compliance with industry standards of incident follow-up		
Workforce clearly understands remedial actions	Verify documentation of procedures	
Process encourages workforce to report incidents	Employee perception surveys	
Supportive H&S Staff		
Job description defines duties, qualifications and experience required for the position	Verify job description against actual duties with employee	
Appropriate rigour applied to the selection process	Identify personnel involved in selection process	
Health and Safety staff are in organisational flow chart	Check organisational flow chart	

Identified KPIs		
KPI	**How Measure?**	**Source**
Adequate resources made available to enable the position to be effective.	Check budget allocation	
Opportunities for ongoing training and professional development	Interview appointee	
Line mgt acknowledges responsibilities of the position	Check annual training program Conduct employee survey	Development of Safety Culture Indicators in Scottish Nuclear. (Carrick SNL Safety and Quality Division)
Position utilised as a resource by the workforce	Conduct surveys of line management Conduct survey of the workforce	
Safety Activity Effectiveness		
Workforce participates in safety promotions	Maintain records of participation	
Interest by workforce in the election of safety reps and/or membership of safety committees	Maintain records of participation	
Procedure for acknowledging positive performance	Verify procedure and record acknowledgements	
Need for disciplinary procedures accepted by the workforce	Conduct employee surveys	
Ongoing of records of reported hazards and actions taken to rectify them	Verify records and monitor progress	
Continuing training programme in hazard identification and their mgt	Check 5 of workforce trained against targets.	

Identified KPIs		
KPI	**How Measure?**	**Source**
Safety Audits		
Competent qualified auditors	Record qualifications and experience	
Audit includes both internal and external audits	Check audit programme and verify	Development of Safety Culture Indicators in Scottish Nuclear. (Carrick SNL Safety and Quality Division)
Audits carried out at regular intervals	Maintain record of audit frequency	
Involvement of management and workforce at all times in the audit process	Check composition of audit team	
Results and proposed action plans posted on the notice boards	Check notice boards for prompt notification of outcomes and action plans	
Close out dates shown and signed off on completion	Record actions completed against actions planned	
Explanations provided for incomplete actions and amended timetables	Check notice boards for advice of changes	
Safety Training		
Existence of safety training needs analysis and review procedure	Measure identified training needs against perceived needs reflected in surveys of employees.	
Records maintained of skills, competencies and training	Check training records for currency	
Documented refresher training schedule	Check training records for currency	

Identified KPIs		
KPI	**How Measure?**	**Source**
Responsibility for training allocated to professionally qualified trainer	Verify	Development of Safety Culture Indicators in Scottish Nuclear. (Carrick SNL Safety and Quality Division)
Procedure for checking the effectiveness of training conducted	Employee survey	
Available resources	Record actual expenditure on training against budget.	
Information management and communications		
Effective process in place to record, control and review written and electronic communications	Maintain record of all communications	
Information provided is user friendly, comprehensive and relevant	Conduct personal interviews	
All sectors of workforce participate in safety discussions	Conduct surveys of employees	
There is a process for recording minutes of meetings etc	Maintain records of participation	
Conclusions and decisions are posted on notice boards.	Verify Maintain log and monitor	
Contractor Management		
Documented process that identifies required standards of Occ Health and Safety.	Verify	Development of Safety Culture Indicators in Scottish Nuclear. (Carrick SNL Safety and Quality Division)

Identified KPIs		
KPI	**How Measure?**	**Source**
Appropriate selection process	Verify	
Procedure to ensure that principal management systems are in keeping with the contractor mgt system	Verify	
Induction requirements	Check induction records	
Evaluation of contractor performance	Verify	
Feedback provided to the contractor	Interview contractor	
Emergency Prevention, Preparedness, Response and Recovery		
Documented management plan exists	Maintain records and monitor	
Plan is tested regularly		
Action plan implemented to correct deficiencies		
Results documented and advised to the workforce		
Training – initial and ongoing	Review training records Maintain register Record number of training sessions	
Essential equipment etc easily accessible	Maintain register of equipment	

Identified KPIs		
KPI	**How Measure?**	**Source**
Output Indicators		
Accident data (RIDDOR, Lost Time Accidents)	Collect reportable incidents through incident reporting system	Safety Performance Indicators Guide (The Development and Use of Safety Performance Indicators and the use of other Safety Performance Measures) VECTRA: Final Report
OSHA (Total Reportable Incident Rate and Lost Workday Case rate)	Organisations tend to report loss time accident rates while construction sites report accident free periods.	
Accident Free data periods		
Accident Costs* * Not recommended as a safety performance indicator because they are difficult and time consuming to collect.		
LTI	Routine collection of objective data	Performance Indicators: Their Strengths and Weaknesses. Draft Report. Terence Lee and Kathryn O'Connell
Accidents	Routine collection of objective data	Performance Indicators: Their Strengths and Weaknesses. Draft Report. Terence Lee and Kathryn O'Connell
Near Misses	Routine collection of objective data	
Incident/unsafe attitude reporting	Routine collection of objective data	
Compliance measures (with certification and other statutory requirements)	Routine collection of objective data	

Identified KPIs		
KPI	**How Measure?**	**Source**
Turnover rate	Routine collection of objective data	
% vacancies	Routine collection of objective data	
Number of repeat violations	Routine collection of objective data	
Number of repeat human errors and equipment failures	Routine collection of objective data	
Equipment out of service or degraded	Routine collection of objective data	
Safety system rework	Routine collection of objective data	
Maintenance work request	Routine collection of objective data	
Maintenance related events	Routine collection of objective data	
Preventive maintenance requests completed on safety-related equipment	Routine collection of objective data	
Number of maintenance requests issued on safety-related equipment	Routine collection of objective data	
Training	Inspection Report Data	Safety Culture Indicators in Human Performance Information Richard j. Eckenrode. Asst Chief, Human Factors Assessment Branch. Office of Nuclear Reactor Regulation. United States Nuclear Regulatory Commission.

Identified KPIs		
KPI	**How Measure?**	**Source**
Procedures emergency operating procedures abnormal operating procedures		
Management issues related to planning direct supervision administrative oversight management of change configuration control overtime shift staffing		
Communication vertical and lateral communication communications equipment		
Accident Data Near Miss Data Safety Audit Behaviour measurement	Use the reporting system. Sometimes can use first aid box stock levels as a cross check Collect with reporting system Observation of ‘At Risk’ Behaviour	Indicators of Performance in Safety Management Budworth, N.

Identified KPIs		
KPI	**How Measure?**	**Source**
Accident Free Period Safety Inspections Accident Costs Management time spent on safety matters Goal setting and monitoring	Length of time (hours, days, years) without a loss time accident Problematic and costly to collect	
Number of management visits Audit action clearance time Monitoring of corrective action effectiveness Near miss data analysis (potentially difficult to do) SUSA/Behavioural observations feedback Evidence of safety consultations with workforce Attendance of safety committee meetings Percentage of persons put through safety training courses Assessment of learning at the end of training course PTW infringements per month (or other time period)	Action close out rate	Various

Identified KPIs		
KPI	**How Measure?**	**Source**
Managerial safety tours Recommendations outstanding from incidents (%) Provision of feedback to personnel on performance Housekeeping and cleanliness		
Lost time accident rate Total incident rate High potential incident rate Near miss reporting rate STOP or similar Behaviour Modification systems Availability of safety systems Maintenance backlog in safety systems		Leading Performance Indicators G.A. Blackmore
Commitment	Policy Top management visibility Safety as a value Clearly defined responsibility for safety	Measuring and Assessing the Effectiveness of H&S Programmes R. Williams
Organisation & Administration	Safety & health committee Adequately trained and supported safety staff	Safety Climate & Attitude as Evaluation Measures of Organisational Safety Levitt & Parker, 1976 in Diaz & Cabrera

Identified KPIs		
KPI	**How Measure?**	**Source**
Communication	Atmosphere for employee involvement Use of bulletin boards Use of newsletter to communicate safety information Safety suggestion scheme	Monitoring Health & Safety Management R. Amis & R. Booth
Accident/Near miss Investigation and Reporting	Report RIDDOR Report near miss/first aid Quality of investigation Followed up corrective action	
Top management role/attitude to safety **Useful checklist of factors to judge the suitability and comprehensiveness of H&S indicators		
Number of induction sessions carried out Number of risk assessments Safety Meetings		Practical Solutions For Measuring and Monitoring Contractor Safety Performance D. Cooper
Carry out audits and reviews	Number and frequency of safety audits and reviews Type, level and scope of safety audits Quality of safety audit reports	Monitoring and Measuring Safety Performance A. Waring

Identified KPIs		
KPI	**How Measure?**	**Source**
Implement effective/efficient controls	Fulfilment and recommendations from safety audit reports Clear up/remedial rates of hazards identified in safety inspections	
Accident incidence (rates)	Number of accidents incurring more than 3 days absence from work per 100 or 1000 employees at risk	
Safety training effort	Numbers/percentages of persons put through safety training courses over a specified period of time.	
PTW effectiveness	PTW infringements per shift or per week	
Safety training results	Percentage pass rates on safety training courses	
Safety inspection rates		
Safety audit scores		

APPENDIX C

LIST OF KEY PERFORMANCE INDICATORS

INTRODUCTION

A review was conducted of KPIs identified during the literature review (Appendix B), in order to develop a list of potential KPIs to be included in the study. There are KPIS without suggested measurements as only the suggestions made within the literature have been included.

KPI	Suggested Measurement
Compliance	
Regulatory compliance in each regulatory environment	
Compliance with H&S guidelines	
PTW infringements	PTW infringements per shift or per week/month
Number of risk assessments	
Implement effective/efficient controls from risk assessment	
Incident/Event	
Maintain an injury rate of less than x% of industry average	Reporting systems (routine collection of data)
Event improvement actions (learning from events)	Reporting systems (routine collection of data)
% of events with root causes in personnel and work practices	Thorough investigation
Active management participation in accident investigation	Routine collection of routine data
Near misses and dangerous situations reported by workforce & action taken	Routine collection of routine data
Hazard reporting	Regular inspections
Loss Time Accidents	Routine collection of routine data
Accident free periods	Routine collection of routine data
Accident costs	
Number of repeat errors/violations	Routine collection of routine data
Monitoring of corrective action effectiveness	
Culture	
Safe behaviour observation	

KPI	Suggested Measurement
Improvements in safety culture	Attitude survey
Active participation by all workforce sectors in H&S activities	
Workforce participation in safety promotions	Maintain records of participation
Procedure for acknowledging positive performance	Verify procedure and verify acknowledgements
Good housekeeping in all areas	
Workforce participates in safety promotions	
Management	
Active management participation in safety systems review	Log management participation
Management safety tours	
Personal involvement by management in safety issues	
Number of management visits	
Communication	
2 way communication between management and workforce on safety issues	
All sectors of the workforce participate in safety discussions	Maintain records of participation
Audit	
Audit action clearance time	Action close out rate
Audits conducted on a frequent basis	Maintain record of audit frequency
Resources	
Availability of safety systems	
Supply of PPE	

KPI	Suggested Measurement
Emergency planning and drills	
Maintenance backlog in safety systems	
Availability of emergency equipment	
Adequate manning levels	
Training and refresher training provided	Check training records for currency
Training is evaluated and modified as required	Employee survey
H&S staff are utilised as a resource by the workforce	Conduct survey of the workforce
Environment	
Medical monitoring	Medical monitoring results can be used as an indicator of overall performance success in the prevention of inhalation related disease
Exposure assessment	
Hazard spills	Frequency Severity
Noise levels	
Vibration	
Dust	
Contractors	
Evaluation of contractor feedback	Verify

APPENDIX D

ASSESSMENT OF KPI APPLICABILITY TO SMES

INTRODUCTION

The following assessment was conducted by one of Amey VECTRA's Principal Consultants, who has carried out work developing KPIs. This assessment focused on the consideration of the implications of using KPIs that are usually used within large organisations, within small and medium sized companies. The assessment considered the implications of using the most commonly used KPIs within smaller companies.

ACCIDENT RATES, ETC

Potential KPIs	Potential Problems for Small Enterprises	General Comments
LTA rates	For a small (20 man) organisation, assuming 200 hours at work per person per year for 'low' accident rates (<1) only 1 LTA every 2½ years, and for enterprises with 'very low' accident rates (~0.1) only 1 LTA every 20 years! (This also indicates that for 'safe', medium size enterprises of about 200 employees, there will only be one LTA every couple of years!)	• The main limitations of accident rates are that they: • Are subject to random fluctuations • Reflect the success, or otherwise, of measures taken some time ago. • Are limited with respect to assessing likely future performance. • Provide no information on industrial diseases. • These limitation mean other indicators are needed.
Accident-free periods		More suitable than LTAs for smaller groups, but can encourage accident suppression.
Non-reportable accident rates or accident free periods	Do small organisations keep accident books? They should and this should provide useful information. But care must be taken not to make such KPIs seem to be based in bureaucracy.	Are national data available for comparisons and setting targets?
Accident Costs		Evidence indicates that such costs should not be used as KPIs. None the less their estimation can be useful to show how much being 'unsafe' costs.
'Near-miss' studies. Indicator	For small organisations such investigations may not be	May suffer from under reporting. Act of

Potential KPIs	Potential Problems for Small Enterprises	General Comments
should be based on ‘thoroughness’ or ‘completeness’ or comparative judgement(s) related to ‘lesson learnt’.	recorded.	raising awareness of can improve safety performance. A target for ‘near-miss’ reports (as a number to be met) must not be set.
Issue of Prohibition/Improvement Notices and/or response to		Rate of issue will be dependent on number of inspector visits. Only really suitable as a short term measure where performance is poor. May be better as a risk control measure (i.e. as a measure of risk control failures).

RISK CONTROLS

Potential KPIs	Potential Problems for Small Enterprises	General Comments
Proportion of activities which have risk assessments and/or associated documentation.	For smaller organisations, assessment of risks may be done effectively but may not be well recorded.	Such indicators should: Where possible, be positive rather than negative. Involve the workforce in their definition to secure their commitment. Provide coverage across a range of activities. Be dependent of each other with minimal overlap. Be relevant to improving safety Have SMART characteristics. [Note the same characteristics/attributes apply to safety management etc indicators].
Compliance with specified working controls (conditions for safe working and any associated limits) and/or use of safe systems of work	Will small organisations write down such conditions (and limits)? Do small organisation's formally use safe systems of work?	
Indicators for specific control measures (e.g. % of lifts without faults/failures, % of transfers without faults/failures, or some measure for availability of key (safety) 'kit', such as evidence of scheduled maintenance or (more likely) testing or inspection, or even % of availability of such 'kit'.)	Small enterprises will be less likely to keep the necessary records	
Demonstration of safety awareness by employees, i.e. they should be suitably qualified and experienced.	[Such a measure would be more suitable than training records … and such documentation may be unavailable anyway.]	This is likely to be difficult to measure, but something is needed.
Proportion of workforce wearing required PPE (e.g. hard hats, ear		For all such 'at-risk' behaviour indicators, development work is necessary to measure

Potential KPIs	Potential Problems for Small Enterprises	General Comments
defenders)		'appropriate at-risk' behaviour.
Measure of unsafe use of tools/equipment (e.g. proportionate use of machines without guards).		
Measure(s) of equipment which is inherently unsafe (e.g. 'poor' electrical wiring, trailing leads)		
Measure for good housekeeping standards/tidiness.		

'CHRONIC HEALTH EFFECTS'

Potential KPIs	Potential Problems for Small Enterprises	General Comments
Targets for noise levels		Use of some PPE (e.g. ear defenders) can have a greater impact on 'chronic' problems.
Targets for vibration levels		
Targets for levels of carcinogenics and other chemicals (e.g. asbestos and lead).		Could be tied into COSHH.
Targets based on practices to minimise 'strains' (e.g. use of proper lifting practices and/or the provision of appropriate lifting equipment).		Could also be included under risk control.
		Note: It may be more appropriate to include 'chronic' health effects in risk controls.

SAFETY MANAGEMENT ETC.

Potential KPIs	Potential Problems for Small Enterprises	General Comments
Evidence of management commitment to safety and their demonstrated interest in safety practices.	All these KPIs present particular difficulties if the reporting and recording systems are not formalised, which may be the case in many smaller organisations.	KPIs based on senior management safety tours are inappropriate here, but some measure would be beneficial (e.g. by encouraging informal self auditing and remedial actions).
Evidence of workforce understanding of safety (e.g. hazards and their control) i.e. individual responsibility.		Could be based on inspector surveys (or interviews).
Evidence of supervisor control of activities.		Again could be based on inspector observations.
Evidence of effective corrective action (so that the organisation learns from experience).		Could be based on number of repeat faults/failures (i.e. on number of 'abnormal' events with repeat causes.
Evidence of effective communication, especially of regular and routine safety discussions.	For smaller organisations such discussions may be adhoc and not formally rewarded.	Again could be based on inspector observations but its really about safety dialogue. In large organisations it's based on safety committees and team talks.
Employee job satisfaction measures is usually a good indicator for a healthy safety culture. Based, for example, on low absenteeism, low job turn over and lack of 'them and us' between boss and workers.		Perhaps an index is needed which takes account of 'local' pressures (e.g. high unemployment and comparatively low wages in the locality).

APPENDIX E

INITIAL INTERVIEWS WITH QUARRIES AND FOUNDRIES

INTRODUCTION

This section contains the findings from the initial six interviews/visits conducted in quarries and foundries. The findings from these interviews were the focus of the initial development process.

The following notes have been modified for reasons of confidentiality. All information relating to company size, history, etc has therefore been removed. In addition, any assessment/views made by the researchers have been removed.

MEETING: QUARRY 1

HAZARDS

Sand kept in stockpiles can be a problem in the summer as the sun dries the outside of the mound and a slight wind will whip the sand up; water is used to counteract this nuisance dust.

Where possible, process dust is engineered out. The workforce have seen HSE videos and leaflets and where necessary they are provided with masks. There are particular problem areas, such as at tanker loading, and at these points personal and static monitoring is undertaken.

The company also has their own health surveillance programme.

TRAFFIC MANAGEMENT

Generally there is not a problem at the quarry as it is away from the main site so there do not tend to be pedestrians or other vehicles. However if someone is over at the quarry it is more of a problem as the dumper truck drivers tend not to expect to see anyone so tend not to check too carefully.

On the main site the traffic management issue is currently being considered – they are looking at introducing a one-way system. There is a crossing point for pedestrians to use which is located where there is the best visibility. Particular activities can cause problems, e.g. muck shifting, as there is more equipment on site and at this time they ensure that pedestrians are kept separately.

RISK ASSESSMENT

The H&S officer developed a skeleton technique, based on the 5 step system, that the workforce can easily use. Using these skeleton forms, a number of risk assessments have been carried out which are updated on a predefined basis or when changes to the equipment or process occur. The risk assessments are mainly for repetitive work but if a one-off risk assessment was required this would be carried out as it was needed. Also any issues that emerge from, for example, training in manual handling or through personal development sessions are put into risk assessments.

Manual handling assessments have also been carried out on certain activities.

ACCIDENTS

Slips and trips are the main accidents. The workforce are good at recording them. An accident investigation form is completed when deemed necessary (depending on implications of the accident); the form forces the individual to look at root causes and to devise an action plan to address the factors that contributed to the accident.

SELECTION AND TRAINING

In 8 years only one position has been filled as the workforce turnover is so low.

The workforce is mainly around 40 years old, with 20 years being the average length of service.

H&S training is part of their regular training. The workforce are taken away from work in small groups for training in the new training room. Where possible a number of small courses are run at the same time to reduce the number of times the workforce have to stop doing their jobs. Training courses are provided by in-house personnel and external trainers depending on the subject.

They run safety awareness programmes. One is planned in September and the company is buying in a trainer to run 2 sessions. Toolbox talks are conducted in-house. Where necessary they send their men on external training courses e.g. to BOC.

Each individual has a Personal Development Plan which is reviewed regularly to identify any training requirements, any desires to be involved in other types of work, etc.

Personnel have been trained to be multi-skilled so that they can cover for holidays, illness, etc but in general individuals tend to stay with one job for the majority of time which they tend to prefer. By staying on one job, it is possible to assign responsibility to an individual for, e.g. a piece of equipment, which many individuals respond well to.

Most individuals are doing the NVQ Quarrying which is good as they can see a benefit in what they are doing for themselves.

It was pointed out that they had been involved in the development of a NVQ module for mobile plant in quarries that the HSE wanted to widen it to be applicable to mobile plant in any industry. They were involved in doing this and found that there was so much different jargon and requirements that the process took a long time and was very difficult. It was thought this was something to consider for our work.

There are a number of trained first aiders who go on the full course rather than the refresher course when their certification requires renewal as they use their skills so little.

There have been a lot of changes over the last 5 years. They have conducted a lot of projects and new plant has been installed. One of the largest changes has been the installation of a new dryer (which has been computerised, although this does still need to be manned). Not all of the workforce are trained to use the new dryer at the moment and some of the workforce are having problems dealing with the computerised interface rather than physical knobs and dials which they have always had before. One particular individual has shown an interest in it and his enthusiasm has encouraged others. They have now given this individual responsibility for the dryer, which also fits in with the company's aim to try to promote a sense of responsibility in their staff.

Training is not a problem for management and the men doing specific jobs, the problem is where to send men 'in the middle'. They have a small workforce and it is difficult to know where to send a man who perhaps performs a combination of roles and jobs for training.

CONTRACTORS

Contractors are used on site for maintenance activities. There is an estate person who looks after the grounds.

If required, depending on workload, the company may bring in a specialist skill such as a welder rather than moving their own welders from the jobs that they were doing.

Regular contractors are treated as fulltime employees. Non-regular jobs have a method statement agreed beforehand.

H&S INFORMATION

The H&S officer uses a number of means of keeping up to date on developments and legislation changes. They use the HSE Factfile document, they are involved in a number of committees (such as SAMSA – Silica And Moulding Sands Association, Institute of Quarrying, etc), they attend the Welsh HSE group (run by Colin Muir) twice a year, etc.

COMMUNICATION

Rather than sending legislation and information to members of the company in their long form, the H&S officer simplifies it into manageable, meaningful chunks.

HSE INSPECTOR

In the last 18 months/2 years, the company has been classified as a low risk company. In reality this means that they are no longer inspected by a quarry inspector but get a general/factory inspector instead. It tends to be a different inspector every visit (inspectors now tend to be system inspectors). This means, apart from the fact that the company no longer gets the opportunity to build up a relationship with the one inspector, they also do not tend to learn about developments in the area, what other quarries are doing, etc as the inspector is not specialised in the area. The company stated that they miss this.

TANKER DRIVERS

The tanker drivers attend health and safety meetings and they also have their own health and safety representative. The drivers are included in the relevant training programmes and the H&S officer is responsible for both site conditions and drivers. Drivers are issued with PPE and first aid boxes.

MEETING: FOUNDRY 1

H&S COMMITTEES AND UNIONS

There are nominated safety reps from each area who attend a H&S committee; the committee is chaired by a member of the management team.

Staff are largely unionised 90% of blue collar workers and 40% of white collar workers.

AUDITS

They are audited regularly by the parent company. This is a 3 week process; 2 weeks of this is collecting the required information together which is reviewed then there is a week on site.

There is a full audit every year, which is a self audit, and then there is an external audit every two years.

IDENTIFIED HAZARDS

There are a number of potential hazards that are controlled in a variety of ways; molten metal, dust/fumes, manual handling (many 25kg castings are lifted by staff on piecework), VWF and noise.

For dust and fumes, exhaust ventilation has been installed to ensure levels are acceptable. The company also has personal sampling and monitoring in place and provides masks and eye protection as required.

For molten metal, appropriate clothing is provided which must be signed for.

For VWF, monitoring of equipment and employees is undertaken.

For noise, surveys are undertaken and hearing protection is mandatory.

RISK ASSESSMENT

There is a two level process that has been put in place by the safety officer. Particular areas and particular jobs have basic risk assessments. For certain areas there are more detailed risk assessments carried out by the H&S manager. Supervisors are trained in carrying out risk assessments.

There are some repeatable one-off assessments mainly for maintenance tasks and in addition once only tasks have risk assessments carried out on them. The risk assessments for one-offs are not necessarily documented.

CONTROLLED ACCESS

A PTW system is not operated but two types of controls are in place. Certain activities are controlled on key access/key exchange system, e.g. HV switchgear, whereas other activities are controlled by an authorisation system, e.g. access to the roof.

ACCIDENT REPORTING AND INVESTIGATION

All accidents are investigated and a report with a post accident risk assessment and action plan is produced.

If the accident is deemed serious then the safety officer must contact the parent company to inform them in the first instance.

Accident information is posted by email so that everyone gets warnings as soon as possible.

Accidents from all sites are collated and sent by email to all sites. If two sites have had a similar accident, they tend to contact each other to discuss it further and identify what could be done to stop it happening again.

A prize is awarded by the parent company for the best safety record across all plants.

The workforce is paid a safety bonus (up to 8% of salary) which was a concern in relation to non-reporting of accidents. However, although they think that minor injuries may not be reported, the more serious incidents are still being reported.

Near misses are not formally reported but they are reported to the safety officer. If there is a wider implication of a near miss it will be investigated. There was a recent example of a burst grinding disk which had the potential for causing more serious damage than it did.

SELECTION AND TRAINING

Staff turnover is low at less than 2% PA; there is a high proportion (>50%) of the workforce over 40 years old.

Safety training is carried out every year.

When selecting new staff, they try to get foundry-trained personnel.

On selection, employees must have a medical that includes the completion of health forms. The medical will identify any problems that would prevent them working in a specific part of the foundry or doing a particular job, for example, back problems or asthmatic tendencies.

If they pass their medical they watch an introductory video on general issues such as fire, lifting, etc and then be given other specific training dependent on which jobs they are going to carry out. They are given the PPE required for the specific job.

After 10 weeks, the individuals' supervisor makes an assessment of their suitability for the job.

CONTRACTORS

The company uses contractors for certain engineering and maintenance jobs. In addition certain activities such as fettling, machining and finishing may be contracted out. All contractors are supplied by specialist contractor companies.

There is a code of practice which the contractors are expected to follow.

INCREASE RULE COMPLIANCE

The safety officer is tested on his knowledge of the systems every week by Head office; they are interested in whether he is complying with the systems and that the required evidence is in place.

The Dupont STOP system has been introduced and the safety officer considers that it has been successful. The supervisors have been trained to randomly check performance and to encourage safe behaviour and correct unsafe behaviour. Supervisors are given quotas for STOP cards and these are checked to ensure they are being completed.

H&S COMMUNICATION

The safety officer has to submit a written statement of health, safety and environment every month.

A number of noticeboards are used to inform employees of H&S issues and there is a company magazine where safety issues are raised in addition to other issues. In addition information is given at committee meetings and shop steward meetings.

PPE

The parent company has introduced a rule that eye protection is mandatory in all areas of the foundry. The rate of reported eye problems has reduced from 67 to 26 in the years 1998 and 1999 respectively. They have had no problems with particles in eyes in the last six months. Getting the workforce to wear PPE did not happen over night, it took the safety officer a considerable amount of time to convince certain members of the workforce to wear PPE.

PPE is freely available with certain, more expensive items, being controlled. Training is provided on how to look after PPE and it is up to the individual to ensure that this happens.

HEALTH SURVEILLANCE

There has been a surveillance process for a long time which checks for dust levels, VWF, etc. The process has improved under the parent company.

All employees have a six monthly respiratory function test and there is an option of an annual eye test leading to prescription safety glasses if required. There is a chest x-ray facility available off-site if required or requested.

H & S INFORMATION

The safety officer keeps on top of the legislation using information on the HSE web site, the HMSO book list, sitting on industry liaison committees, etc.

HSE INSPECTOR

The inspector is on site twice a year, although they are constantly in contact through various groups and committees. They believe that they have a good relationship with the inspector.

MEETING: QUARRY 2

HEALTH SCREENING AND HEALTH SURVEILLANCE

Dust is the biggest problem on site, which is reflected in the level of monitoring that takes place. However, noise is also recognised as a problem. Health screening in relation to dust is undertaken every 6/7 months where all employees are monitored and a number of static dust measurements are also taken. This is carried out as part of an external contract and copies of each report are sent to management of the site, the medical advisor, etc. In addition to personal dust monitoring, the employee also completes a task list pro-forma for the day (which the company helped to develop) so that the recorded levels can be compared against the task that was being carried out at the time. This could prove useful to identify that someone is not using PPE correctly.

Health surveillance of employees takes place every 3 years unless there is a particular problem in which case it is every 1 year; it includes the following checks:

- Lung Function Check: dust is the biggest health problem on site. They do not really use any toxic substances
- Eyesight test: with prescription safety glasses provided if required
- Hearing Test: ear defenders are required for many the tasks. A lot of noise surveys have been carried out around the site
- X-Ray (if necessary)

STAFF AND CONTRACTORS

Staff turnover is low. The company employs contractors at the site as required, to do activities such as drilling. There is a contractor employment procedure to check PPE, check certification, test mobile plant, etc. Contractors are expected to conform to the same rules as permanent staff. Certain contractors are used on a regular basis and in some cases, they are given an annual renewal of the rules (rather than for each visit).

SMS

There is a new system in place that runs alongside the 'Management Notes' file that was already in existence (and working well). The new system is a controlled document.

A compliance auditor has recently been employed to check that systems are being used and that paper work is in place in relation to QA procedures, H&S Management procedures and environmental procedures.

TRAINING

Training is seen as key to the continued improvement and development of Health and Safety on site and as a company they are moving towards computerised assessment training. All new employees are taken through a full induction training package. For existing employees, regular Health and Safety Awareness Training is offered; this usually includes a combination of videos and talks. Training is not carried out outside quarry hours – although they do try to get through all staff in one day i.e. 2 sessions am/pm. It is planned to offer formalised, regular refresher training when the new computer based training is up and running.

ACCIDENT REPORTING & INVESTIGATION

There is an accident investigation procedure with a varying level of investigation depending on the severity. Accident recommendations are followed up within various committees. The company is currently encouraging learning between sites. Safety staff have been given cameras to take photographs of incidents to pass around sites and a summary of the investigations will soon be produced and circulated.

There is a readily accessible accident book which employees are encouraged to complete. Employees are encouraged to report near misses and are doing so. They have been informed that if they do not report incidents then they have no comeback if they have a subsequent injury or illness.

A database is kept of all incidents that have occurred over the past 4 years. This database is analysed looking for commonality between incidents. The results are then sent to the Operations Director.

Slips, trips and falls are the most common type of incident/accident however although they are high they are minor in nature.

Although contractor incidents and accidents on site are reported via the normal channels, nevertheless it is the contractors responsibility to report their accidents to the HSE. However if there is a particularly serious incident then the company will also report it.

PPE

Individuals wear their PPE. Employees are aware of the problems and the need for protection and a death of an employee a number of years ago is a constant reminder of the dangers (silicosis).

Records are kept of the issue of main items. PPE is readily available and lockers are provided for employees to store PPE. A laundering facility has recently been introduced to ensure garments are taken care of. The parent company has preferred suppliers of PPE and as a result of ordering large quantities, they can afford better PPE (e.g. flame-retardant overalls).

TRAFFIC MANAGEMENT

Major improvements to provide separate pedestrian walkways.

All trucks have rear-view CCTV. The company are currently undertaking an internal study looking at visibility of pedestrians on screen.

SAFETY STAFF

There is a Group H&S officer who monitors changes to legislation, etc and then a number of Safety Officers who act as ‘implementers’. The Safety Officers visit the quarries twice a year on official visits for inspections/audits (once a year on pre-mixed plants) but they will also make visits when contractors are on site or when their presence is requested for meetings, etc. Monthly meetings are held for all safety officers.

HSE VISITS

They have a good relationship with the HSE and tend to speak by telephone if have a problem. They are not in constant contact. Site has had 2/3 visits from the local inspector in 4 years.

They have regular meetings with the HSE at corporate level for cross fertilisation of ideas.

A comment was made about the independent quarries. They felt that these quarries were not expected to conform to the same H&S standards as they were and that it was unfair for their company to have to compete on price with a company making no safety investments.

DAILY INSPECTIONS

Under the 'Mines and Quarries Act'; daily inspections are required. The suggested list was outdated so therefore the site developed their own list.

MEETING: QUARRY 3

PERCEIVED H&S PROBLEMS

Availability of Information.

Responsibility to identify what you need to know as an employer – even when you do know requirements couched very generally. This contrasts with, for example, VAT where you know what you have to do and you know when you've got it right – with H&S you have to find out what to do and even when you've done it you're not sure whether it is right.

They were not aware of the existence of the Quarry NIG (National Interest Group) and, not surprisingly no awareness of the NIG H&S strategy document. They had had no involvement in the consultation process re the development of the new Regs. for Quarries.

Obtain much of their information re H&S either from other local quarries or from professional groups and local meetings (e.g. Institute of Quarrying) or from trade publications or, occasionally, from local HSE Inspector. There are not enough hours in the day to devote to all of the health and safety material which they get.

Chamber of Commerce etc. of no real value re information only interested in manufacturing or if you are creating new jobs.

The HSE inspector visits once, sometimes twice, a year and provides good practical advice.

HAZARDS

There are very few accidents on site and consist mostly of trips, slips and falls. The major hazards on site appear to be dust inhalation and traffic control. However, as this is a small quarry, such problems would be minimal. They have installed pedestrian walkways and barriers. They have also installed water pumps to drain the quarry.

BUREAUCRACY

Paperwork associated with H&S (including reading and understanding as well as writing) is enormous – used to be 1 hour paperwork for every 8 hours in field and now it is almost the reverse.

'Risk assessment taught us nothing new except how to document in the easiest possible way.'

PRACTICALITY/RELEVANCE OF REGULATIONS

Example 1 – relevance of cameras for reverse vision on dump trucks; no one believes what's on the cameras, wind down window and hang out rather than look at camera, camera lens get very dirty, difficult to appreciate three dimensions, blocked out totally by sun etc. In their size of quarry there's not very much to see, traffic control is very simple and very few pedestrians around. Nonetheless they are mandated to use them and they cost a lot of money.

Example 2 – design of cabs on major mobile plant includes air conditioning etc. which has "very little to do with safety" but increases the cost considerably. Emphasis should be on "reducing % risk not expecting people to deliver zero risk". This raises the question of whether the test of "reasonably practicable" is applied during the framing of new regulations (in particular whether the limitations of SMEs should be considered in the framing of regulations).

COST

"At the end of the day it all comes down to money". Last year there was a time when they were carrying £300k of bad/overdue debts.

The main worry is lack of money to keep up with health and safety initiatives. Theirs is a competitive business and at the moment the climate is similar to 1991/93 when recession hit businesses. The larger construction companies are using sub-contractors that this company provides gritstone to. If the large companies have any financial difficulties, the sub-contractors do not get paid and therefore they do not get paid.

The main problem highlighted with regard to health and safety, 'it was down to money'. The company are in a highly competitive business and trying to maintain a steady flow of work.

SAFETY MANAGEMENT SYSTEM

Don't really have one – rather a collection of procedures (e.g. risk assessment, COSHH assessment) many of which they have "borrowed" from Quarry "next door".

Safety training is part of job training and done largely "on the job". The Quarry Manager evaluates the health and safety information which is passed on to the men and the supervisor is on site do the 'hands on' training. Training requirements also "reduced" by the fact that they tend to employ experienced quarrymen.

PPE is viewed important and "no problem" not really very expensive and easy to maintain and enforce.

Most of the "management of safety" is achieved by the fact that the managers spend a lot of time "on the ground".

MEETING: FOUNDRY 2

HEALTH AND SAFETY ISSUES

The company was ahead of the game in relation to VWF problems. Having heard an article on the radio in relation to VWF in mining, they sought further advice, which they acted upon. They select their equipment (which is replaced every 18 months) based on VWF claims. Bosch are now starting to consider VWF in their design which will be useful as they are good quality tools which the company would prefer to use. They were involved with the HSE in early VWF work and were used as a case study by them in their research.

Due to dust, etc all fettlers have been provided with airstream helmets costing £200-£250 each. There is a monthly maintenance contract on these at £400 per month, which they found was necessary, as the workforce was not looking after the equipment properly. They provide respirators for piece of mind for the employees and the employer (insurance claims avoidance).

They have had an insurance claim against them. The man was employed as a welder but as there was no welding for him to do, they got him to a job which involved lifting castings. This task was in line with the credentials that he produced when they took him on. The man left after 2/3 weeks and then claimed to have injured his back because of the work he was asked to do. The company is quite aware of the costs of not ensuring a safe environment for the workforce (this claim cost them £30-40k).

ENVIRONMENTAL ISSUES

The company has recently employed a purchasing manager who will also deal with the environmental issues. However they can not afford to do this for H&S too.

The company recycles all scrap sand but this can be quite costly.

ACCIDENTS

The workforce completes the accident book.

There are certain areas of the foundry where accidents are more likely. For example, when grinding workers cut fingers (even though they are trained). However fettling and melting are the main problem areas, where they tend to get burns. They have thought through the operation and for certain tasks they do not wear gloves (which has been a source for discussions with the HSE). They decided it was safer not to wear gloves as certain equipment is more difficult to handle with gloves and as they are a ferrous foundry the metal forms into balls so that if metal does splash onto arms it will roll off but it can not do this if they are wearing gloves.

Also have incidents where castings drop off of benches onto feet. They have not had any serious injuries.

TRAINING

The Sheffield Chamber of Commerce has been used to identify trainers on certain topics, e.g. on the use of abrasive wheels. Each member of the workforce has been given a certificate and there is a four hour refresher course every year.

The company also insisted that the main supplier of their equipment give a presentation to the workforce on the correct and safe usage of their equipment. This ensures that the men are safe and ensures that they are using the equipment properly so that they do not damage the equipment or wear it out too quickly.

SELECTION

Especially in relation to fettlers, they try to employ individuals who are already trained. However training is provided by the foreman and individuals are supervised for a reasonable period.

CONTRACTORS

The company does not tend to use contractors. However on occasions they have used individuals to work alongside their own staff if they require an extra body. For example, they have recently employed a specialist welder to work alongside one of their own welders.

PPE

All employees are issued with PPE, which they sign for. They have had some problems with wearing PPE. PPE wearing is regarded as an individual's responsibility and the management have spoken to people about it and sent letters to them. Also supervisors are tasked with checking that it is worn. There are five supervisors; one in the foundry, one melting, one fettling and two floating. They are workers who have supervisory responsibilities rather than full time supervisors.

SAFETY IMPROVEMENTS

As the business is highly competitive, money is not always available to address all the safety aspects. The building is old, for example, but new premises would be too expensive. The main priority with such a small business is keeping afloat and keeping everyone in employment, yet addressing the main health and safety issues as they arise. If more money were available, the manager would like to improve the extraction facility in the foundry.

H&S INFORMATION

The company does not tend to get much useful information directly from the HSE in terms of guidelines, etc. They are not informed of updates to legislation but instead are provided with a HMSO book list. They can not afford to employ a health and safety professional.

HSE INSPECTORS

The company has found that the factory inspectors change too frequently (every 12/18 months) to be able to build up a rapport with them. In addition, as all inspectors have their 'pet' subject, the company finds that they have just satisfied one inspector's requirements when there is a new inspector with different requirements.

They are members of the 'Castings Development Centre' in Sheffield who are involved in steel castings research.

MEETING: FOUNDRY 3

HEALTH & SAFETY ISSUES/PROBLEMS

Wolverhampton Chamber of Commerce have helped out with COSHH assessments.

Cash problems mean that they are forced to work with old plant and as a result there are more H&S problems.

They are aware that they have a dust problem and where the dust problem areas are (mainly where holes have appeared in old extraction systems). The inspector has recommended a survey to identify the problem areas that will cost £2k. This is a little frustrating as they could be spending the money on the problem areas.

In relation to VWF, they are trying to buy the right equipment as they need to replace equipment. The main problem is in the fettling bay. They are also monitoring the problem via the company doctor.

They have a noise problem (with several areas 100dBA). They know where the problem areas are but do regular surveys for insurance purposes.

They try to guard machines.

The manual handling risk is high, with workers lifting and moving heavy patterns and castings on their own.

COST OF PROFESSIONAL H&S ADVICE

No in-house H&S expertise, cost of buying in considerable (for them) so only do so when cannot afford not to (i.e. as "insurance" protection against litigation e.g. noise surveys/audiometric testing, VWF assessment).

PPE

Staff are aware of the hazards. They receive a package on induction which outlines the problem areas at the foundry, e.g. noise and dust. The main types of injuries are minor burns and grit in eyes. Majority of staff will wear eye protection whilst doing a job but then rub their eyes afterwards. This sometimes leads to grit getting into their eyes.

They do have some problems with eye protection and they have tried most types. The problem is the balance between sufficient ventilation to stop the mask misting and too much ventilation that allows grit/dust into the mask. This problem has been known for years and the Health and Safety Laboratory at Sheffield has a research programme on exactly this topic but they are left, effectively, trawling through catalogues buying a few at a time in the hope that they, eventually, find the right one.

Air stream helmets have been tried for certain activities such as cleaning the furnaces (which happens every day) but the pumps do not last long in the hostile environment and therefore they are not used.

PPE is continually supplied and the workers will wear what is comfortable. However if they do not wear it, they are not disciplined. They feel that they can not afford to loose their staff and therefore do not threaten disciplinary procedures that they would not carry through.

WORKER HEALTH

Employees sign an initial health declaration when they start to work for the company.

If individuals have an on-going problem, they will be sent to the company doctor

TRAINING

Individuals tend to do a number of jobs; there is job rotation. Individuals are trained in a variety of skills including fork lift truck operation, first aid, ISO 9002 auditors, risk assessment. On a previous visit an inspector found that one of the fork lift truck operators was not trained so therefore the company decided to train anyone who was likely to need to use the truck.

HSE INSPECTORS

Generally the inspectors are good, practical and fair. If the company requires information they can get it. HSE are fair as long as the company try to do what is asked of them – they try to do this as much as they can.

SAFETY MANAGEMENT SYSTEM

Basically, they don't have one. They did go through the process of ISO 9002 accreditation but even there the view is that it wasn't worth the effort (told that it would be essential to capture clients but all they are really interested is cost).

There are no method statements – safety is "assured" by training and experience and supervisors/managers being "on-the-floor". This clearly did not work too well as when we were there a supervisor in the fettling bay took off his respirator to have a cigarette while continuing to work!

They have implemented RA and COSHH (sourced through the local Chamber of Commerce) but they "learnt nothing new" and it would seem that the assessments have never seen the light of day since they were filed.

The company does what is necessary to comply with regulations and the rest (i.e. actual delivery of safety) is left to experience (given that they almost always employ experienced foundrymen) and the fact that it is "very difficult not to be aware of the hazards". They issue letters warning of hazards, for example, of the need to wear hearing defenders but this is more for insurance than for H&S assurance.

APPENDIX F

FRAMEWORK FOR KEY PERFORMANCE INDICATORS

INTRODUCTION

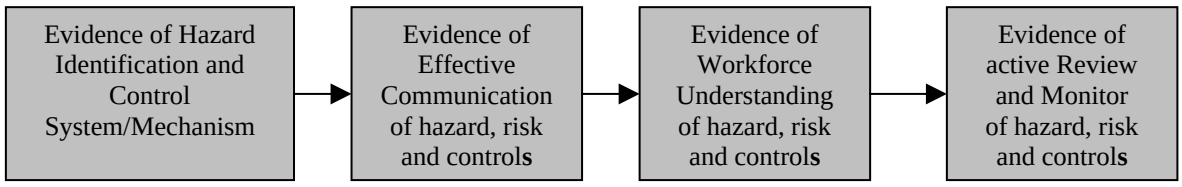
The following Framework was developed as a result of discussions at a number of quarries and foundries and on the output of a series of workshops with experts. In addition, an initial list of KPIs had been identified from the literature review that helped to form the basis of the Framework.

BACKGROUND TO THE FRAMEWORK

Although it was recognised that the wording within the Framework is rather academic, it was not considered a major concern as the Framework would be hidden once the Tool had been developed.

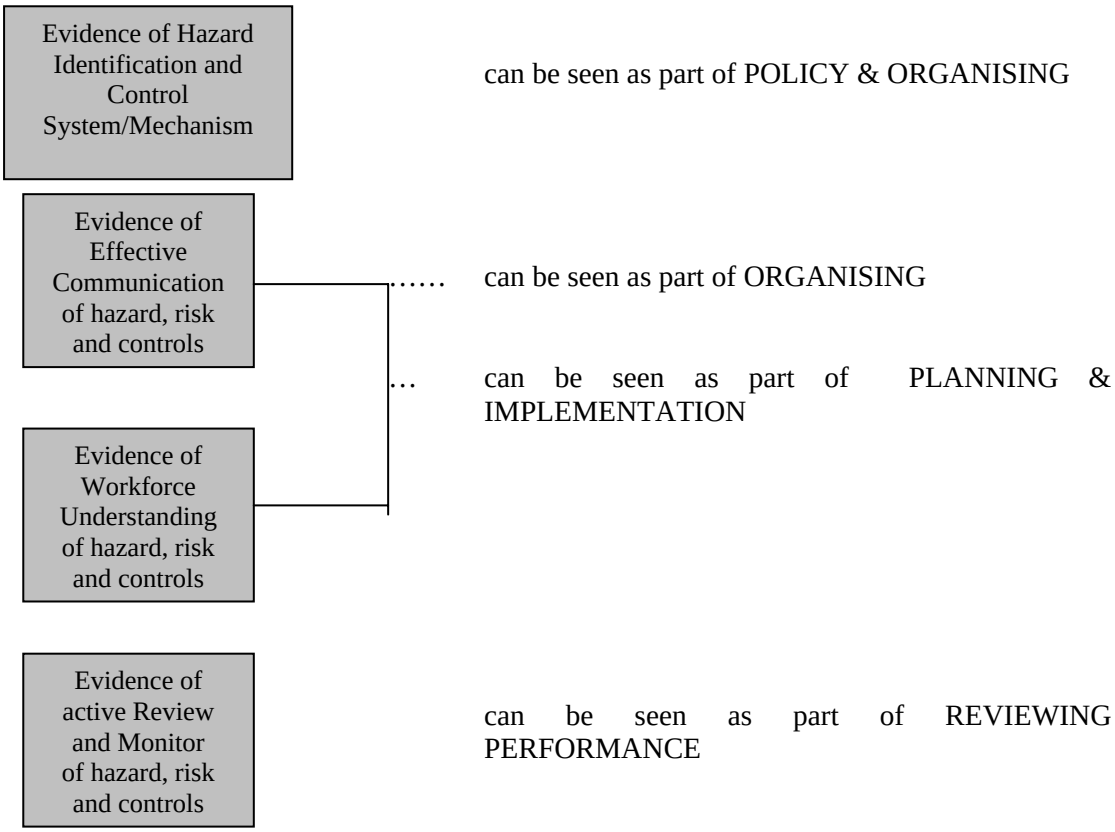
The decision was made to build the framework for the Performance Indicators around an existing legal requirement, mainly to avoid the problem of what expectations it is realistic to have of SMEs. Perhaps the best existing requirement is Risk Assessment – for even in SMEs with less than five staff, although they are not required to document their risk assessments, they *are* required to undertake them and, as a result, to put in place appropriate risk control measures.

Using the Risk Assessment requirements, under the Management of Health and safety at Work Regulations, as the "spine" of a Framework for the development of Performance Indicators created a series of top-level "shells" for the collection of possible Performance Indicators as follows:



If evidence can be found that an organisation is meeting the requirements implicit in each of these boxes then it follows that that organisation is meeting its requirements under the Risk Assessment requirements of MHSW Regs. (1992). Moreover such a "system" can also be seen, in microcosm, as meeting the requirements for the development and implementation of an effective Safety Management System.

For example, in terms of HS(G)65:



The KPIs which are identified under each of the four boxes as the means of providing the "evidence" provide the equivalent to the HS(G)65 Measuring Performance requirement.

The ability to assess, albeit in this indirect way, Safety Management is essential for, although it is not always realistic to expect SMEs to have documented Safety Management Systems it is, nonetheless, reasonable to expect some form of safety management.

If measurable KPIs can be identified under the general areas defined in the four boxes above, then it can be assumed that good performance on these KPIs can be seen as reflecting not only positive and active compliance with Risk Assessment Regulations (and therefore the spine of proactive safety assurance) but also, within the context of SMEs, that they are actively pursuing their responsibilities for positive Safety Management (albeit perhaps in a less formal way than would be reasonably expected of a larger organisation).

One element is missing from the above framework – it is well recognised that both effective health and safety assurance and a healthy safety culture are heavily dependent on positive and active senior management commitment. Although this is most often raised in the context of large organisations, it is at least equally (perhaps even more) true in the SME environment.
It could be argued that the combination of the KPI scores in each of the four boxes can be seen as reflecting management commitment (note this includes operational management), for without such commitment, it is almost impossible to imagine good performance. However, there is little doubt that if a measure (in the form of a small suite of KPIs) could be identified for Management Commitment then the combination of the results of performance on the Management KPIs and the Delivery KPIs (as represented by the four boxes above) would provide a very powerful interpretative tool.

Consider the following combination of results:

Management Commitment KPIs score low and Delivery KPIs score low:

Interpretation – no point in spending time and money on individual initiatives until management commitment sorted out, any actions taken likely to flounder.

Management Commitment KPIs score high and Delivery KPIs score low:

Interpretation – advice needed on improving "systems" with extra input on specifics (i.e. as identified by priorities from within the other measures) could get significant improvements.

Management Commitment KPIs score high and Delivery KPIs score high:

Interpretation – performing well, however, low scores within the Results Matrix could identify areas where fine tuning could help.

Management Commitment KPIs score low and Delivery KPIs score high:

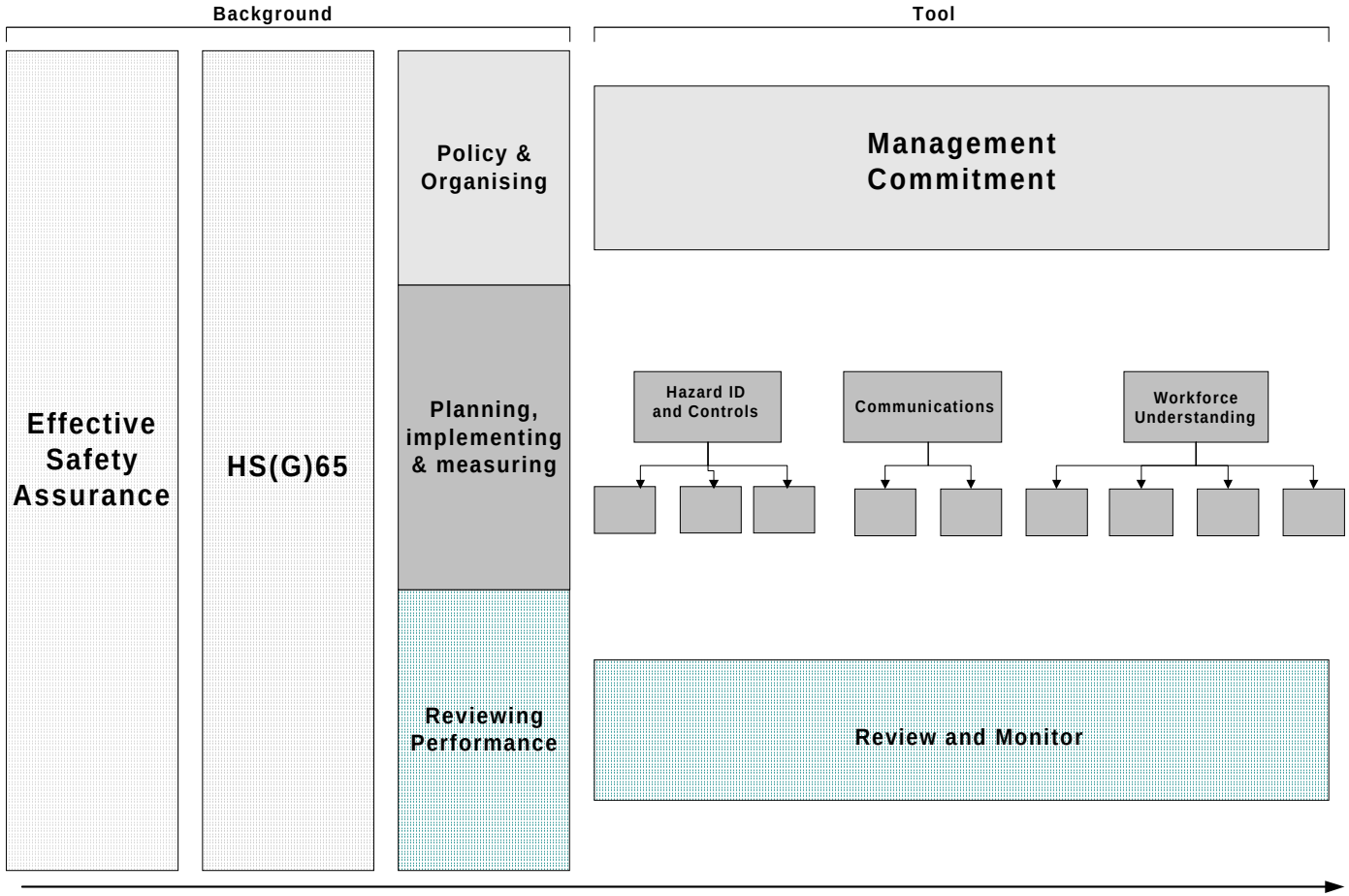
Interpretation – it would suggest that there are some interesting cultural factors, for example, there may be someone who is more influential on shaping attitudes than the senior manager, e.g. operational management. This would obviously depend on the size of the firm.

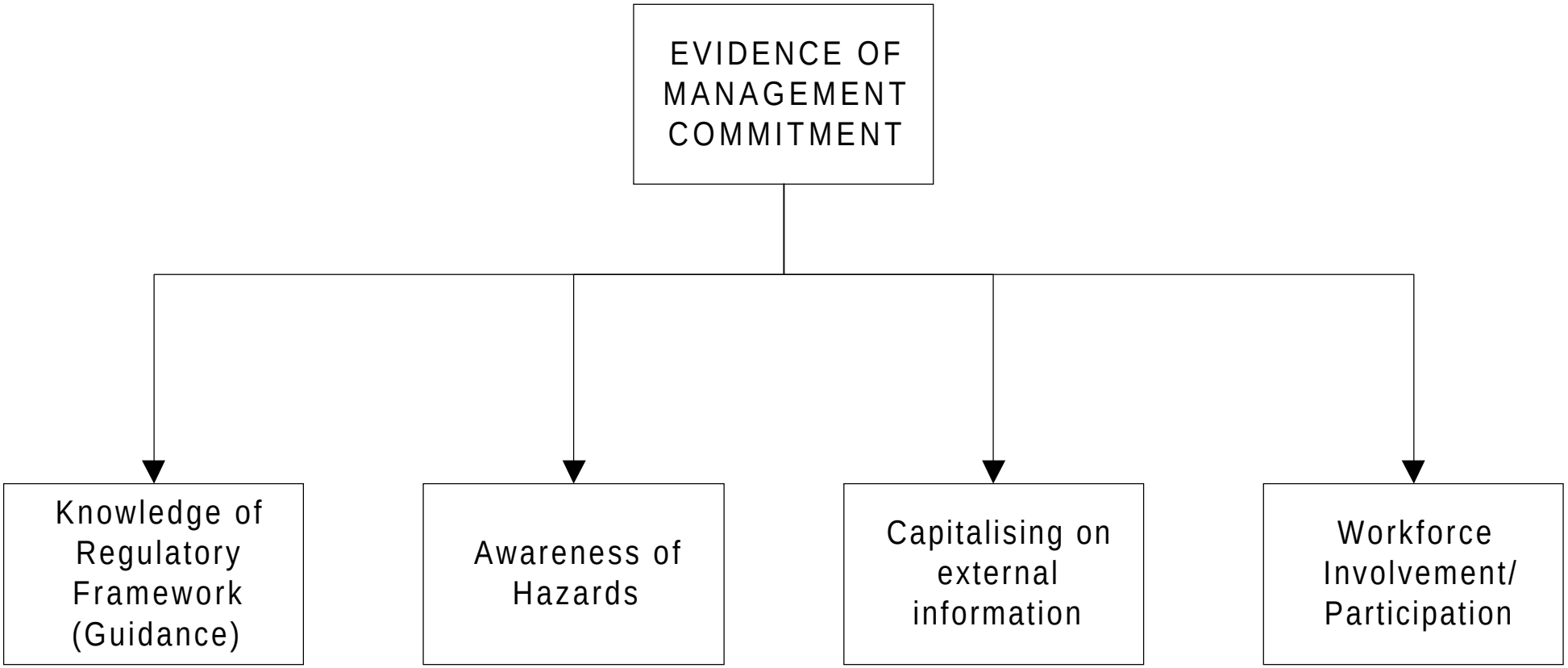
THE FRAMEWORK

It should be noted that the inspector should actually be looking for an integrated, seamless process for managing health and safety within the company. However, in order to measure all of the relevant components it is necessary to divide the Framework into a number of assessments.

The first diagram presents an overview of the Framework. The second diagram outlines the elements to address 'Management Commitment' and the third diagram outlines the core Performance Indicator shells and the relevant lower-level elements. The relationship between the elements in the KPI structure and the measures is presented also in tabular format (Table 1), it can be seen that many of the measures are applicable across a number of elements within the KPI structure. The 'Review and Monitoring' element of the Framework is presented in the fourth diagram.

OVERVIEW OF FRAMEWORK




EVIDENCE OF MANAGEMENT COMMITMENT
Knowledge of Regulatory Framework (Guidance)
Awareness of Hazards
Capitalising on external information
Workforce Involvement/ Participation

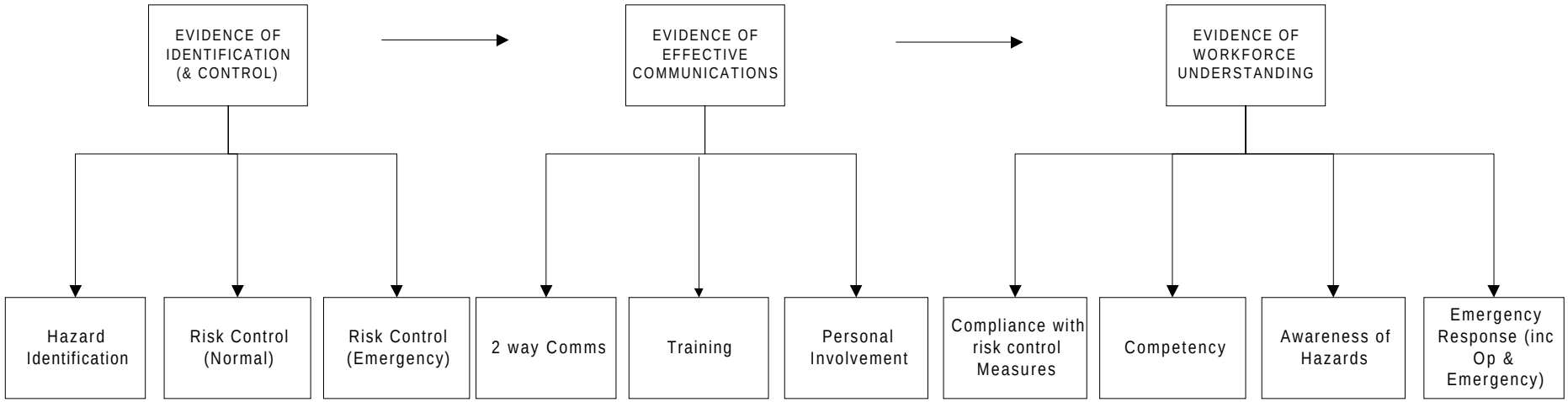
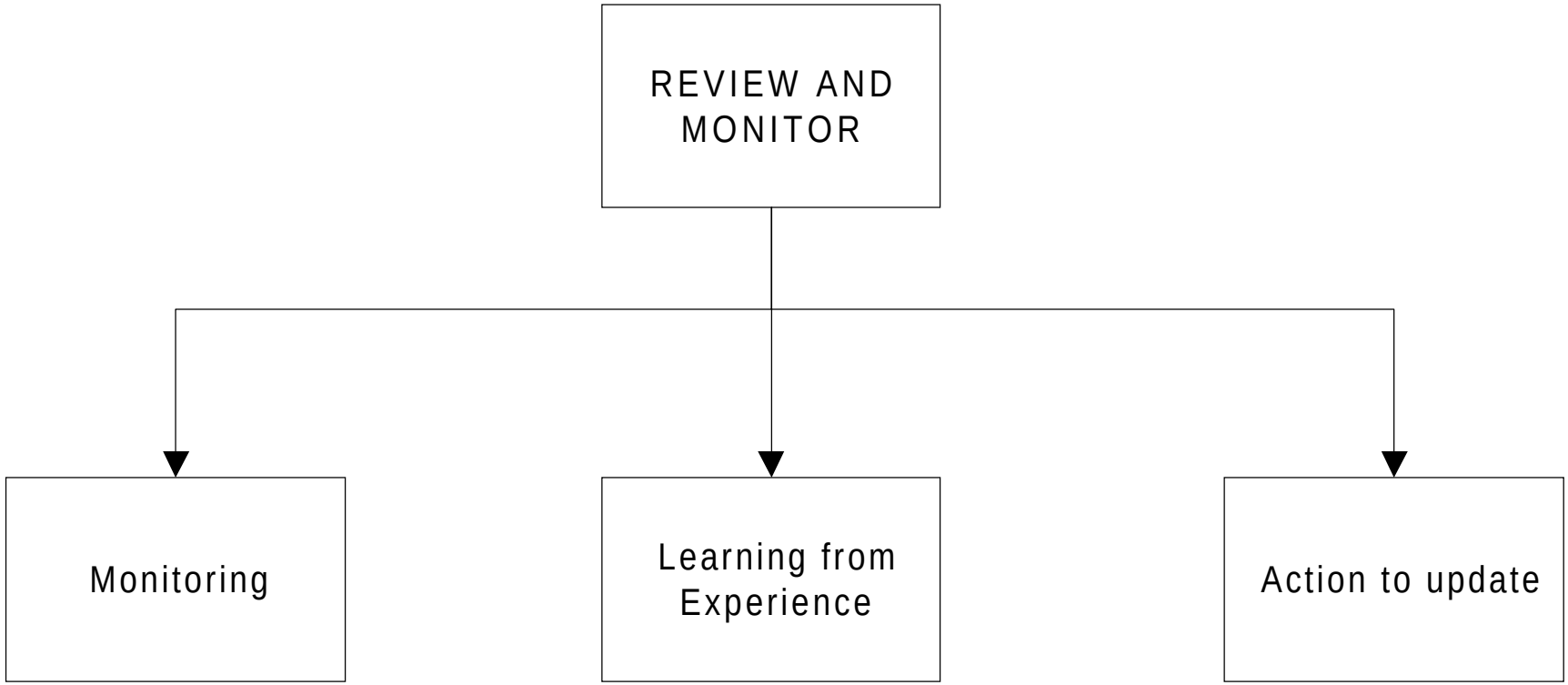

EVIDENCE OF IDENTIFICATION (& CONTROL)
EVIDENCE OF EFFECTIVE COMMUNICATIONS
EVIDENCE OF WORKFORCE UNDERSTANDING
Hazard Identification
Risk Control (Normal)
Risk Control (Emergency)
2 way Comms
Training
Personal Involvement
Compliance with risk control Measures
Competency
Awareness of Hazards
Emergency Response (inc Op & Emergency)

Table 1

Measure	Hazard ID & Risk Control			Communications			Workforce Understanding			
	Hazard Identification	Risk Control (Normal)	Risk Control (Emerg)	2 way comms	Training	Personal Involvement	Compliance with risk control measures	Competency	Awareness of Hazards	Emergency Response (inc. Op & Emergency)
1 Health Control	*	*								
2 More specific Health Category										
3 Procedures (inc. emergency)	*	*	*		*		*	*	*	
4 Training Needs Assessments (inc. Selection)					*			*		
5 Safeguards		*			*	*	*	*	*	
6 Incident Investigation	*	*	*	*	*	*				
7 Provision of Relevant Safety Information		*		*		*			*	
8 Suggestions for Improvement/Reporting				*		*			*	*
9 Training Delivery		*				*		*	*	
10. Welfare (inc. Housekeeping)		*					*		*	

NOTE: The asterisks in this table indicate where evidence might be found of 'Hazard ID & Risk Control', 'Communications' and 'Workforce Understanding'. It is necessary that there is evidence in each subgroup within each group (e.g. Hazard Identification, Risk Control (Normal) and Risk Control (Emergency) within 'Hazard ID & Risk Control'). However it is not necessary for there to be evidence in all of the areas indicated by the asterisks.


REVIEW AND MONITOR
Monitoring
Learning from Experience
Action to update

APPENDIX G

INITIAL TOOL DEVELOPMENT

INTRODUCTION

Once the Framework structure was in place (AppendixF), the development of the Tool itself commenced. The following was the initial thinking on the Tool development. It should be noted that some of the ideas in the early stages of Tool development were not taken further.

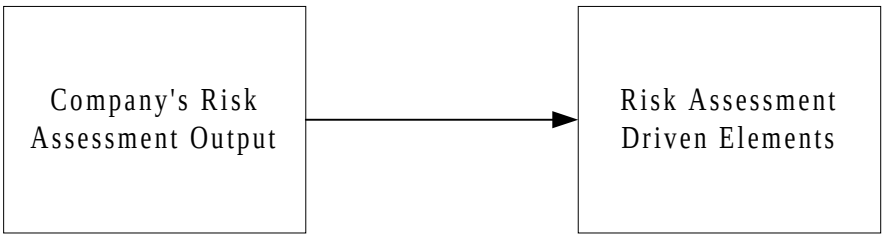
THE TOOL

'Inspector Process' Diagram

The 'Inspector Process' diagram provides a suggested method to apply the Tool. It is assumed that if Risk Assessments have not been completed, this will be the immediate course of action for the company before the tool can be applied.

Identify Required Risk Driven Elements

The Tool focuses on checking not only that the system is in place but that the system has been implemented. Of particular interest is whether the risk assessment feeds into the risk control measures.



The Risk Driven Elements are:

Health Monitoring
Formalised Procedures
Emergency Arrangements
Training Needs Assessment
PPE/Guards

It would not necessarily be expected that all companies will be addressing all risk driven elements and therefore some tailoring is required by the inspector depending on the industry. E.g. there may not be a requirement for health monitoring in catering.

It would be useful for the Inspector to carry out the following step on the Risk Driven Elements before assessing the KPIs (this would eliminate the need to carry out a separate assessment for each individual KPI Factsheet). Suggestion:

1. Consider hazards and risk controls that would be expected within the industry/company.
2. Talk through the risk assessment with the company.
3. Consider appropriateness of actions taken for what they are trying to control

OUTWITH THIS TOOL

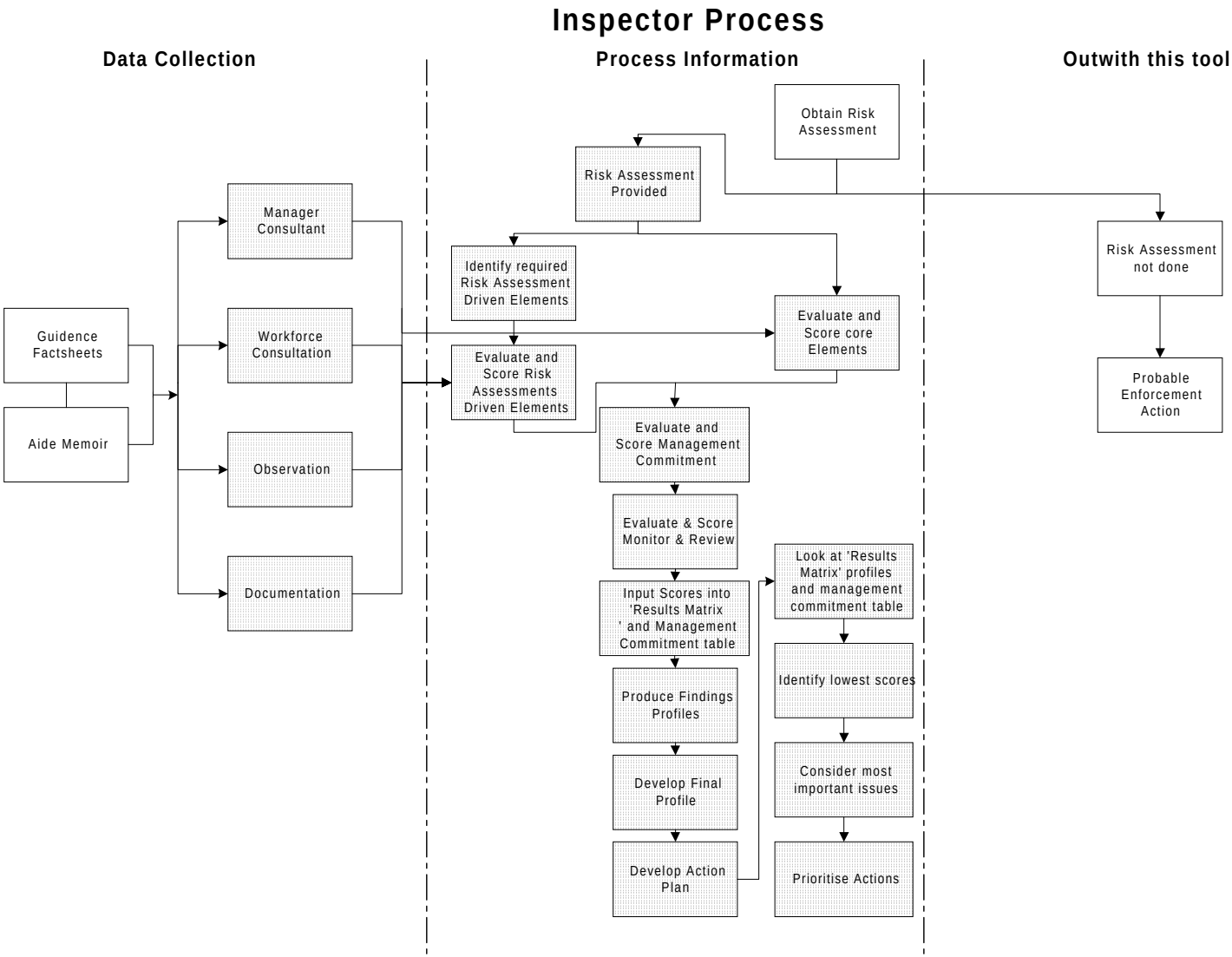
The review of the risk assessment is the initial process in using this Tool. Therefore the fact that the company has not conducted a risk assessment will immediately exclude it from using the Tool at that time and will require the first action to be to complete the required risk assessments. The fact that risk assessment is a legal requirement may lead to an enforcement action by the inspector.

Data Collection

In order to ensure that the inspector collects relevant data to allow them to be able to complete the assessment, the need for an Aide Memoir was identified. This Aide Memoir would outline the areas that the inspector needs to address. In addition, a similar requirement was identified for Guidance Factsheets to outline the expectations at the different levels of the scoring.

Process Information

Once the information has been collected, the various assessments should be completed. Following this, the Findings Profiles and the Final Profile should be developed. The information can then be used to develop the Action Plan.


Inspector Process
Data Collection
Process Information
Outwith this tool
Obtain Risk Assessment
Risk Assessment Provided
Risk Assessment not done
Probable Enforcement Action
Manager Consultant
Workforce Consultation
Observation
Documentation
Guidence Factsheets
Aide Memoir
Identify required Risk Assessment Driven Elements
Evaluate and Score Risk Assessments Driven Elements
Evaluate and Score core Elements
Evaluate and Score Management Commitment
Evaluate & Score Monitor & Review
Input Scores into 'Results Matrix ' and Management Commitment table
Produce Findings Profiles
Develop Final Profile
Develop Action Plan
Look at 'Results Matrix' profiles and management commitment table
Identify lowest scores
Consider most important issues
Prioritise Actions

CONDUCT ASSESSMENT

Evaluate Management Commitment

The Management Commitment assessment is aimed at establishing whether the management (either the owner or designated operational management) has a desire to protect the workforce. However, as it is difficult to measure this, the assessment elements focus on tangible but indirect measures which reflect this desire to protect the workforce.

The management commitment should be assessed (using Guidance factsheet for assistance (see below)) and the following table completed:

Management Commitment Assessment	
	Score
Knowledge of regulatory requirements	
Awareness of hazards	
Capitalising on external information	
Workforce Involvement/Participation	

The suggested scoring mechanism would look at both the implementation and effectiveness elements:

SCORING	
4	Good level of involvement and action taken
3	Reasonable level of involvement and action taken
2	Good level of involvement
1	Reasonable level of involvement

Evaluate & Score Risk Assessment Driven and Core Elements

A set of Guidance Factsheets will be available to the inspector for each of the KPI elements. An example of a guidance factsheet is attached. The Factsheets are designed to give the inspector an overview of the requirements for each of the elements, i.e. what kind of evidence to look for.

EXAMPLE OF GUIDANCE FACTSHEET

Name	**Incident Investigation**	
Outline	A process should be in place to monitor the occurrence of deviations. A good system would ensure that identified deviations are adequately investigated and that any improvement actions are put into place.	
Scoring Guidance	**0**	Evidence of process for reporting incident to regulatory bodies.
	1	Evidence of investigation for incidents involving significant injury, tending to focus on obvious causes and fault finding but the information is not systematically used.
	2	Evidence of investigation into potentially serious incidents, focusing on immediate causes and any underlying weaknesses but the information is not systematically used.
	3	Evidence of investigation for incidents involving significant injury, tending to focus on obvious causes and fault finding. Evidence that corrective actions are formulated and followed up effectively. Evidence that employees feel free to report near miss incidents.
	4	Evidence of investigation into potentially serious incidents, focusing on immediate causes and any underlying weaknesses. Corrective actions are formulated and followed up effectively. Evidence that employees feel free to report near miss incidents.

The inspector should then speak to managers and workforce as required. It is suggested that during workforce consultation, the inspector asks questions to assess the following:

- Awareness
- Understanding
- Used
- Problems

Following data collection, the inspector would score each element. The suggested scoring mechanism would look at both the implementation and effectiveness elements:

SCORING	
4	Good system and used
3	Reasonable system and used
2	Good system
1	Reasonable system
0	Baseline (i.e. meets minimum legal requirements)
NC	Non-compliant with legal requirements

The Results Matrix is provided (see attached) for the Inspector to input the score for each KPI element. If any of the elements is deemed 'not applicable', this should be entered in the matrix. In the same way, any element considered 'non-compliant' should be registered as such.

The inspector will then count the number of Non-compliances, 0s,1s, 2s, 3s and 4s for each KPI element. These should be presented as a Findings profile (bar chart) for:

Hazard Identification & Risk Control
Communications
Workforce Understanding

An example Findings Profile is attached.

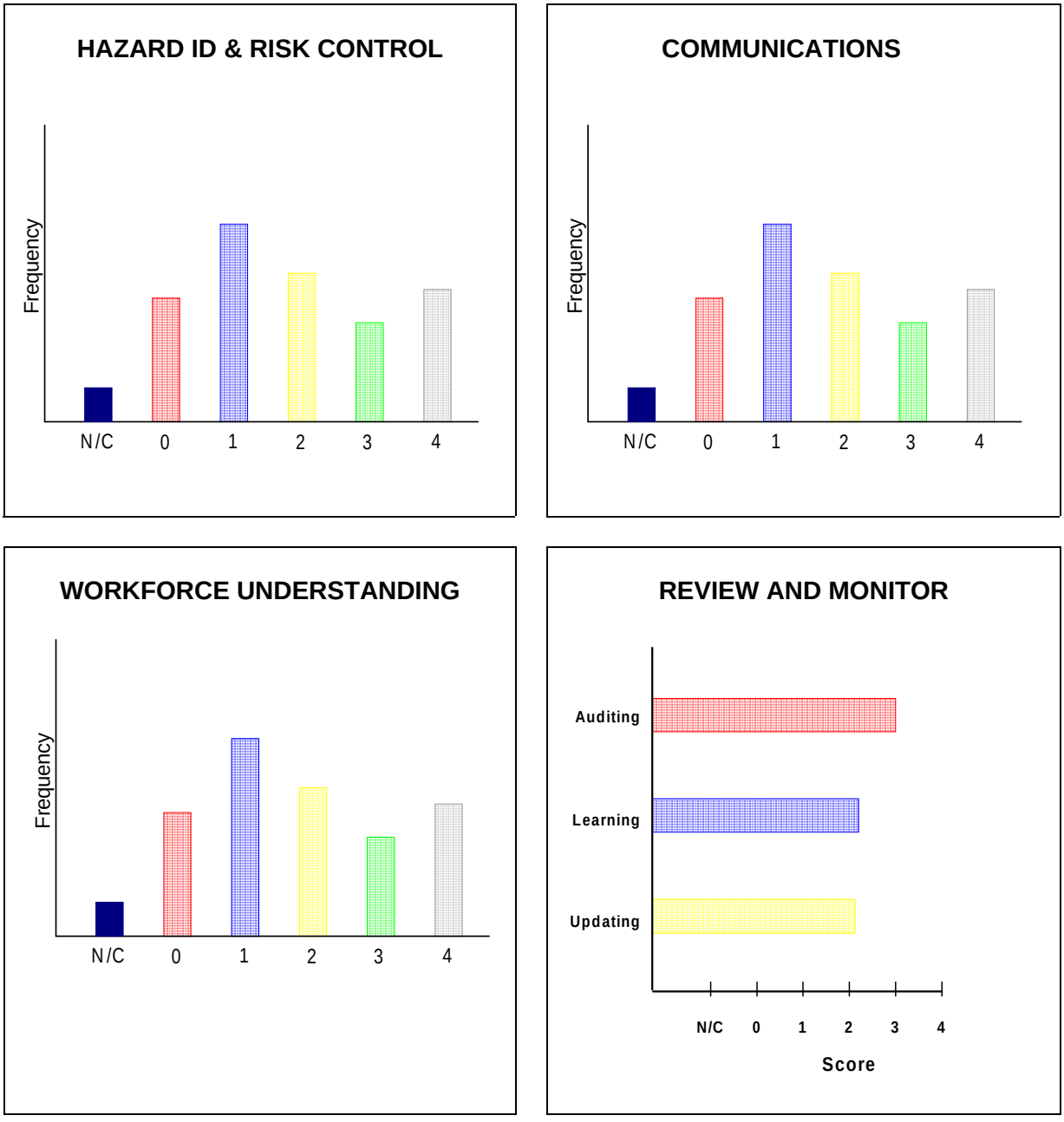
REVIEW & MONITOR

Three elements require assessment in order to complete the 'Review and Monitor' assessment. Each element will have its own Guidance factsheet to assist the inspector and the elements should be scored in the same way as the above assessment. A Findings Profile should then be developed (see below).

Results Matrix

Measure	Hazard ID & Risk Control			Comms			Workforce Understanding		
	Hazard Identification	Risk Control (Normal)	Risk Control (Emerg)	comms	Training	Compliance with risk control measures	Personal Involvement	Awareness of Hazards	Emergency Response
1. Health Monitoring									
2. Procedures									
3. Emergency Arrangements									
4. Training Needs Assessments									
5. Safeguards									
6. Accident Investigation									
7. Issue of Safety Information									
8. Suggestions for Improvement/Reporting									
9. Training Delivery									
10. Housekeeping									

FINDINGS PROFILE



Final Profile

Although the Findings Profile, Results Matrix and the Management Commitment table should be used to develop the action plan, the final profile provides an overview of the assessment findings. This profile combines the management commitment assessment findings with each of the other elements of the Framework in order to identify the elements requiring most effort.

For 'Management Commitment', the following approach should be taken:

Add together the number of scores of 1 & 2 (low) and 3 & 4 (high). The category with the largest number of entries provides the overall Management Commitment score.

For 'Hazard Id & Risk Control', 'Communications' and 'Workforce Understanding', the following process should be followed to develop the Final Profile:

Using the Results Matrix, identify the number of 'Not Applicable' scores within the 'Hazard Id & Risk Control' category and subtract this figure from the number of boxes within the category. This figure should be used to calculate a percentage for each score category (i.e. Non-compliance, 0s, 1s, 2s, 3s and 4s).

The following categories with the highest percentage score will be used to reflect the overall performance in that category:

- Non-Compliance
- 0 + 1 + 2 = Low
- 3+ 4 = High.

Input into the Final Profile.

Repeat this process for 'Communications' and 'Workforce Understanding'.

For 'Review & Monitor' the following approach should be taken:

The same approach is taken although the number of categories will always be three. The number of scores in each of the categories is added and a percentage calculated. It is recognised that each category may have a different score due to the small number of categories, resulting in each category having a percentage of 33.3 %.

The following categories with the highest percentage score will be used to reflect the overall performance in that category:

- Non-Compliance
- 0 + 1 + 2 = Low
- 3+ 4 = High.

Input into the Final Profile.

Non-Compliances

If a non-compliance is registered against any of the categories, an asterisk should be used to indicate this on the Final Profile.

The following is an example company profile:

Final Profile			
		Management Commitment	
		High	Low
Delivery KPIs	High (Score 3-4)	H C	
	Low (Score 0-2)	W M	
	Non-Compliant		

* Non-compliance in at least one element

Key	
H	Hazard id and risk control
C	Communication
W	Workforce Understanding
M	Monitor & Review

INTERPRETATION OF PROFILE

Taking the box from the Final Profile with the highest number of entries, the following interpretation can be made:

Management Commitment KPIs score low and Delivery KPIs score low:

Interpretation – no point in spending time and money on individual initiatives until management commitment sorted out, any actions taken likely to flounder.

Management Commitment KPIs score high and Delivery KPIs score low:

Interpretation – advice needed on improving "systems" with extra input on specifics (i.e. as identified by priorities from within the other measures) could get significant improvements.

Management Commitment KPIs score high and Delivery KPIs score high:

Interpretation – performing well, however, low scores within the Results Matrix could identify areas where fine tuning could help.

Management Commitment KPIs score low and Delivery KPIs score high:

Interpretation – it would suggest that there are some interesting cultural factors, for example, there may be someone who is more influential on shaping attitudes than the senior manager, e.g. operational management. This would obviously depend on the size of the firm.

SUGGESTED APPLICATION OF THE TOOL

The following is one suggestion of how the tool could be applied in practice.

A two-fold assessment would be undertaken where the inspector initially assesses the KPIs using the measures on a subjective scale. The Final Profile, Findings Profiles and the Results Matrix would be used together to identify general and then specific problem areas. Secondly, for the benefit of the organisation, the inspector would conduct a performance review with the manager of the company. This would have several benefits as it would provide the manager with feedback on the company's performance and ways to improve (using the guidance in the KPI document along with their own ideas from experience) whilst making the assessment more positive and the interaction between the parties more equal.

The assessment would have the following components:

OBJECTIVE AND ASSESSMENT RECORD

A Objective (end result)

B Performance standards (indicators of success)

C Results achieved (comment and justify rating)

PERFORMANCE IMPROVEMENT AND DEVELOPMENT PLAN

D Agreed indicators needing improvements

E Proposed method (including timescale)

F Evaluation of action and dates

APPENDIX H

INITIAL TRIAL OF TOOL

INTRODUCTION

The initial Tool that had been developed (outlined in Appendix G) was significantly modified during a series of internal workshops and following the feedback received from the inspectors at the workshop.

Two assessments were carried out using the Tool in the foundry sector. Two researchers were involved in the assessment to ensure reliability. The assessment findings are presented in this appendix with the company names removed for reasons of confidentiality.

The version of the Tool that was trialed by the researchers is the first Tool presented in Appendix J.

Initial Trial 1: Foundry
Scoring Summary Table

KPI	Score
Knowledge of Regulatory Framework	4
Use External H&S Information	4
Workforce Involvement/Participation	4
Incident Investigation	4
Training Needs Analysis & Delivery	4
Awareness of Hazards	4
Health Control	5
Welfare	4
Provision of Relevant Safety Information	3
Procedures	4
Safeguards	4
Review & Monitor	5

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Knowledge of Regulatory Framework

Evidence

Knowledge of COSHH, Risk Assessment requirements, etc

Gets information from Trade Organisations and HSE.

Although knows of the need to do Risk Assessments – not all of them have been completed at present

Score 4

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Use External H&S Information

Evidence

Croner's updates

Castings Development Centre Literature

HSE Guidance and leaflets

Brings in experts to carry out environmental surveys and tests

Tap into supplier's knowledge

Try to use companies that are within the industry (e.g. CDC carry out annual audit) as, although it may cost more, the results are of more use

Score 4

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Workforce Involvement/Participation

Evidence

Holds periodic meetings on health and safety although the manager feels that he should have more (considering monthly).

Safety Representative in each department. The workforce do suggest ideas/raise concerns via them or directly to the manager

Any particular pressing issues can be addressed in the daily meeting between the manager and the supervisors

Does try to get the workforce to take responsibility for solving health and safety problems/coming up with ideas, rather than simply raising the problem and leaving it to someone else to address

Score 4

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Incident Investigation

Evidence

If a problem arises then the manager will take a look at it and then identify what needs to be done to rectify the problem. The manager will also bring together the workforce in a meeting to communicate what has happened and what they should be doing.

The manager will also identify whether any lessons need to be learned on other areas/departments.

An incident occurred recently where a casting overturned and grazed the leg of a worker. The investigation identified that the floor in the area had worn and that this had partly caused the incident. As a result of this finding, the floor has been re-surfaced.

Score 4

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Training Needs Assessment & Delivery

Evidence

The manager tends to identify an area where training is required and then bring together the workforce (or relevant part of the workforce) to train. If there is new piece of equipment, someone is given the responsibility for maintaining it and making sure that everyone uses it correctly.

The workforce are given training on how to use power tools correctly and the manager had devices fitted on the power tools so that if they were used incorrectly then they would switch off (as usually misuse results in an increased power demand).

New starters are inducted and monitored by a supervisor and a leading person (assigned to be their 'mentor'). The induction tends not to address foundry hazards too much as they try to take on foundrymen but they do sometimes take on novices and train them up

Score 4

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Awareness of Hazards

Evidence

Aware of all of the relevant hazards (inc. COSHH, VWF, dust, fume, etc) and if action has not already been taken, then plans are in place to carry out actions.

The workforce has a good understanding of the hazards in each work area. They wear the PPE the majority of the time but can get complacent – so supervisors are reminded of the need to use regularly.

The manager did point out that although he did reason with workers about things, he does sometimes have to take an authoritarian approach.

Score 4

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Health Control

Evidence

Fume levels in the main foundry are acceptable but the manager is currently costing a project to replace the roof (incorporating an improved ventilation system (which will make a better environment for the Melting area)). This is planned to take place within 18 months.

The manager also had an Environmental Management survey conducted which highlights general improvements to the environment, e.g. siting of the skip, lighting on the skip, etc.

Environmental monitoring is carried out and ventilation is maintained.

The CDC carry out a survey on an annual basis (for a fee) which involves personal intake monitoring.

Each tool is fitted with an anti-vibration damper. The company is currently carrying out checks on the number of hours that they work effectively. In addition, if a tool is sent away for repair, a vibration test is carried out before it is returned.

A daily check is carried out of the foundry environment, which involves carrying out a visual check from various locations in the foundry. Problems have been identified carrying out this check.

There is also a continuous dust monitoring device.

All machine and extraction equipment have maintenance regimes.

Score 5

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Welfare (including Housekeeping)

Evidence

The standard of housekeeping is good. All workers have to do a half and hour of tidying up at the end of the shift. In addition, as this is a small workplace, they need to keep it tidy.

The mess room facilities are reasonable. There is a shower and lockers to keep home clothes in.

Barrier creams are provided

Score 4

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Provision of Relevant Safety Information

Evidence

There is a safety chart and noticeboard with H&S booklets on.

If the manager receives information that is relevant to a particular department, then the manager will go through it with them.

Score 3

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Procedures

Evidence

Instructions are in place for each department – simple and on one sheet. The workers are trained using these instructions. An example of the instructions in the dressing area state that the workforce should clean up half an hour a day and outlines the best position to stand for the extraction to be most effective.

Score 4

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Safeguards

Evidence

Electric interlocks on machines.

Guards on machines.

Barrier cream and cotton gloves for dermatitis avoidance. PPE provided as required – the manager tries to buy the best as it pays off in the long run. PPE wearing is enforced.

Airstream helmets are provided for knockout as there is no designated area for knock-out (as small jobbing foundry and work changes every day); knock out occurs in the evening only.

The grinder is the only noisy equipment and hearing protection is provided.

Score 4

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Review & Monitor

Evidence

The company is constantly looking forward and planning future improvement (e.g. ventilation improvements).

Maintenance contracts are in place to keep machines and ventilation in good order.

They are required to test water supply (e.g. for legionella) twice a year. However the manager is considering putting a monthly contract in place to test more frequently.

Score 5

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Initial Trial 2: Foundry
Scoring Summary Table

KPI	Score
Knowledge of Regulatory Framework	3
Use External H&S Information	3
Workforce Involvement/Participation	3
Incident Investigation	3
Training Needs Analysis & Delivery	1
Awareness of Hazards	3
Health Control	2
Welfare	3
Provision of Relevant Safety Information	1
Procedures	1
Safeguards	3
Review & Monitor	1

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Knowledge of Regulatory Framework

Evidence

Knowledge of COSHH, Risk Assessments requirements, etc

Gets information from HSE and Trade Organisations

Score 3

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure
Use External H&S Information
Evidence
Information from the HSE and trade organisations Have copies of HSE guidance notes and leaflets Croner's
Score 3

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Workforce Involvement/Participation

Evidence

There are three formal committees; Safety Reps, Management and Chargehand & Foreman.

There is no problem with attendance and the workforce is happy to speak their mind. The workforce is perhaps a little frustrated with the lack of action on occasions and/or have high expectation of action.

The workforce will go to either their supervisor or the H&S Manager with complaints and problems.

Score 3

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Incident Investigation

Evidence

Not had an accident for 5 years until a couple of weeks ago. The incident is being investigated although they had not spoken to the injured party at the time of the visit.

The investigation identified that due to dust it was not possible to see whether the mechanism is operating. The investigation identified the need for a light to indicate machinery in operation and interlocked doors, although arguably these should have been in place before. It was thought that lessons would be learned in area of accident but not in the rest of the work areas.

Investigation conclusions were good but could/should have been seen as foreseeable in Risk Assessment.

Score 3

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Training Needs Assessment & Delivery

Evidence

All training is on the job with an induction provided by the chargehand/foreman but thought that there was room for improvement.

No Evidence of any formal TNA. Delivery was only on the job. No Evidence that what training is given is reviewed.

Score 1

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Awareness of Hazards

Evidence

Aware of COSHH, resins in sand including volatility, VWF, noise, dust and fume.

Although awareness of the hazards was good, there was little evidence of a thorough and systematic approach to drive the awareness through risk assessment to rigorous risk control measures.

Score 3

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Health Control

Evidence

Little consideration at all, e.g. VWF only arose when a complaint was made.

There is no suggestion serious consideration of risk control beyond ventilation (which is not subject to any routine or planned maintenance schedule) and PPE.

There is no active monitoring.

There is no check on dust levels and the only evidence of leakage from the shotblaster would be ‘if the inspector mentioned it’.

There is little or no consideration of control of manual handling risk – not even training.

Hearing defenders are provided but the wear is patchy, as are attempts to enforce use.

Score 2

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Welfare (including Housekeeping)

Evidence

Toilets are good and have barrier creams, soaps and medicated skin cream.

Housekeeping standards are patchy with some poor places – lots of swarf in one area of the machine shop, sand under the conveyor in the mould room. However the other areas are generally good with workers in areas such as the teaming bay cleaning the area on Friday afternoon (or Saturday morning if they need to work Friday afternoon).

The H&S Manager was concerned about material left for long periods of time in the work area when there is storage available.

Score 3

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Provision of Relevant Safety Information

Evidence

Found difficulties providing information for the workforce because many of them do not speak/read English and not aware of what language they do speak.

Attempts had been made to use signs for gloves, for example, but could only find a ‘Wear Gloves’ sign and as they have various types of gloves, this was not seen as appropriate.

Score 1

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Procedures

Evidence

Procedures tend to be verbal. There does not appear to be an organised framework or specific, formal procedures.

There are clearly working practices/custom & practice which is passed via on the job training or as a result of instructions from supervisors/management. Although these will be of some value, the reliability must be seriously doubted.

Score 1

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Safeguards

Evidence

The recent incident indicates a lack of safeguards at the time of the accident. This will improve following this incident in the immediate work area but there is no evidence that the issue will be addressed on a wider basis.

PPE is provided but the use is patchy. Fettling bays are good but elsewhere is not so consistent. Teaming area is also good, although the furnaceman/chargehand does not provide a good example. Little evidence of enforcement of PPE wearing.

Score 3

5 Good System & Used
4 Reasonable System & Used
3 Good
2 Reasonable
1 Poor

Measure

Review & Monitor

Evidence

No **Evidence** of any systematic effort to ensure that provisions and measures in place are monitored and/or reviewed.

Even when it is known that PPE is not used, little is done by way of enforcement.

No on-going planned maintenance regimes to ensure reliability of the engineering control measures.

Score 1

APPENDIX I

TRIAL ASSESSMENTS

INTRODUCTION

The Tool was trialed by inspectors within four site visits, two to foundries and two to plastics companies. The inspectors and the researcher(s) undertook parallel assessments at each of the visits to check consistency. The four assessments are presented in this appendix with the company names removed for reasons of confidentiality.

It should be noted that these assessments were conducted as part of a trial and in a small number of cases the score against a KPI may appear higher or lower than expected given the recorded evidence. As a result there may appear to be inconsistencies between scores against a particular KPI between two assessments. The sources of such inconsistencies have been identified and improvements made to address them. However the findings of the assessments and the scores have been presented as reported at the time.

In addition, as the assessment findings were being sent to the companies involved in the trial, a number of the inspectors chose to consider any plans that the company had made when scoring certain KPIs as a way of motivating the company. Although the Tool should not be used in this way when carrying out sector level assessments, it is recognised as acceptable as a means of feedback and encouragement at the individual company level.

Following feedback from the inspectors involved in the trial and observations made by the researchers, modifications were made to the Tool. A further assessment was carried out in a plastics company by the researchers to ensure that any changes were practical. The scoring between the researchers proved highly consistent, with the same score assigned for 10 of the 12 KPIs and only one score level difference in the other two KPIs. The fifth assessment is presented at the rear of this appendix with the company name removed for reasons of confidentiality.

Trial 1 - Foundry
Scoring Summary Table

KPI	Score
Knowledge of Regulatory Framework	3
Use External H&S Information	4
Workforce Involvement/Participation	4
Incident Investigation	3
Training Needs Analysis & Delivery	2
Awareness of Hazards	4
Review & Monitor	3
Health Control	4/3
Welfare	4/3
Provision of Relevant Safety Information	3
Procedures	3
Safeguards	3/4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Findings Record

Measure

Knowledge of Regulatory Framework

Evidence:

System

The MD is well aware of his responsibilities. Reasonable knowledge of regulations with a system for ensuring that they are up to date.

Use

They have undertaken risk assessments and written them down. The MD is aware of the need to do them again if the situation changes or if any new work arises, but this is unlikely.

Score 3

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Use of External Information

Evidence:

System

Company subscribes to Croners. Members of BSC/EEF and get their magazines. Use CDC for metal sides e.g. fume. Got CDC booklets on safety in founding. Use insurance company on hardware side.

Use

MD keeps abreast of the information by reading the above and ringing them for advice if necessary. CDC has visited re fume. Insurance company visits re hardware.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Workforce Involvement/Participation

Evidence:

System

There is not a formal system. Most of the workforce are members of the same extended family and those who are not have been employees for many years and count as family. MD consults when any changes arise or suggestions are received. All can approach him at any time.

Use

Those spoken to confirmed the above and the system appears to work well.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Incident Investigation

Evidence:

System

They have not got a formal system. They discuss as a group if anything goes wrong and implement any changes necessary.

Use

They have not had any accidents, but the approach was used when there was an explosion in the furnace. They realised that a piece of scrap tubing had been sealed at both ends that had not been noticed by the furnaceman. They have changed the system for buying scrap so that they are not likely to find themselves in this situation again and have reminded furnace men of the need to look carefully at what they are putting in.

Score 3

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Training Needs Analysis & Delivery

Evidence:

System

There is no formal system as there is a long experienced workforce with no new training needs as far as the company is concerned. However, they are quite prepared to send people on courses if necessary.

The approach would tend to fall down with new employees but this is not really an issue at present.

Use

Those who change abrasive wheels and those who drive the forklift trucks have been on outside courses.

Score 2

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Awareness of Hazards

Evidence:

System

See answer to question on ‘knowledge of regulatory framework’. Aware of the hazards and aware of the required PPE for the job.

Use

All spoken to were well aware of all the hazards

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Review & Monitor

Evidence:

Nothing formal but MD spends a lot of his time in the workshops and checks visually, while doing that, that all are working as they should. Evidence from a few employees suggested that he does in fact tell them off if he sees them doing something wrong.

Problems raised are reviewed even though it is on an informal basis.

Score 3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Health Control

Evidence:

There is noise in fettling, blasting, knockout, painting and sand reclamation. All are separated from the main workshop and ear protection is provided and worn.

HAVS - they are implementing the advice given by another inspector on a recent visit.

Fume – foundry fume has been measured and is below the limits. They have had some problems with additional fume since they introduced sand reclamation as they are not always using new sand, but they have identified the improvements necessary and these are being installed.

There is dust from sand reclamation but LEV is fitted.

Score 4/3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Welfare (including Housekeeping)

Evidence:

The toilet and washing facilities are adequate and clean. There is no rest room and the employees take their breaks in the "warehouse" which is near the office and away from the dirty area. The housekeeping is very good on the whole.

Score 4/3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Provision of Relevant Safety Information

Evidence:

The workers knew the dangers inherent in their work and the precautions they had been told to take. No noise signs are displayed but all were wearing ear protection in the correct places (no training on effective use of PPE although access is available to the manufacturer's instructions). Signage, posters and information positioned around the place.

Score 3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Procedures

Evidence:

Informal procedures in place, e.g. use two people to push castings around the conveyor. Rotate jobs in order to vary work and not require to be bent over for too long. Generally all precautions and systems of work in place.

Score 3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Safeguards

Evidence:

All necessary guarding is in place on the sand mixing machines, furnace, drill, shotblaster. They need a better guard on the vee belt and pulleys on the machine in the fettling shop. All are in good condition.

Score 3/4

Trial 2 – Foundry
Scoring Summary Table

KPI	Score
Knowledge of Regulatory Framework	3/4
Use External H&S Information	¾
Workforce Involvement/Participation	4
Incident Investigation	4
Training Needs Analysis & Delivery	2
Awareness of Hazards	2
Review & Monitor	1
Health Control	2
Welfare	3
Provision of Relevant Safety Information	2/3
Procedures	2
Safeguards	2

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Findings Record

Measure

Knowledge of Regulatory Framework

Evidence:

System

The company is aware of its duties and responsibilities. The MD was trained in the Dupont system in a previous company and the Manufacturing Director has used it in the same previous company. They understand risk assessment very well.

Use

The MD takes upon himself the task of ensuring that other managers know what is required by health and safety legislation in general terms. However their knowledge of individual regulations is probably not so good, for example, they did not fully appreciate the full implications of 'competent person' for legionella.

Score 3/4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Use of External Information

Evidence:

System

In the past, most information has come from their membership of British Foundries Association and CDC, HSE Newsletter, etc. and they also find the magazine of the Institute of Directors and the Chartered Engineers very useful.

Use

Information from trade bodies/press goes to the MD/Manufacturing Director, who pass it on as required. They have just used the group safety officer for training 55 people, directors and line managers including foreman in Job Safety Assessment (risk assessment by task analysis). Senior management know their limitations and are happy to seek assistance, for example, legionella, asbestos, roofers, etc.

Score 3/4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Workforce Involvement/Participation

Evidence:

System

The Trade Union is officially recognised as are TU safety reps. The central health and safety committee meets monthly and various other, e.g. hazards, COSHH meet as required and the chairmen sit on the monthly senior management committee. There is a booklet for employees to fill in if they spot any hazards. Safety is one of the four company goals. There are monthly team briefings and staff appraisal has recently been introduced.

Use

Committees meet as stated and minutes or action sheets are issued. All staff have had a talk on company goals, yearly health and safety objectives have just been included in the staff appraisal system (3 or 4 each) and bonus payments are dependent on achieving these. The hazards booklets are used and actioned.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Incident Investigation

Evidence:

System

A team investigates each accident/near miss. There are some standing members, including the TU reps, and they add the IP (if possible) and the supervisor from the department where the accident took place. The team produces a written report, including both immediate and root causes, both in hardware and software. Action plans are drawn up following the investigation. The MD is currently the chairman of all investigations but hopes to delegate this task at some stages, but presently feels that the lower management is not ready.

Use

The system is well used, although sometimes a little late in the day if the MD is not available. Findings are linked to the risk assessment.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Training Needs Analysis & Delivery

Evidence:

System

Each department has a matrix of the skills that are needed for each job and who possesses these skills. Currently this is production based but health and safety training needs are now being identified as part of the JSA. They intend to include the training needed on each instruction.

Use

JSAs that have already been carried out have identified the need for slinging and additional manual handling training for moulders, etc. and this was being organised at the time of the visit. There is plenty of evidence of other courses, both internal and external, being organised. However there has not been any training on how to use protective equipment (other than breathing apparatus) or hearing protection. No evidence of refresher training or competence testing following training.

Score 2

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Awareness of Hazards

Evidence:

System

Management aware of the majority of the hazards (See Knowledge of Regulatory Framework).

Use

Aware of the hazards in principle, although not necessarily aware of all of the particulars, but this is being addressed by JSA.

Score 2

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Review & Monitor

Evidence:

Just beginning to think about formal monitoring, e.g. weekly monitoring of housekeeping has just been introduced. The workforce can make complaints to the line manager, in the hazards booklet or via the TU and there is plenty of evidence that they are dealt with.

Score 1

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Health Control

Evidence:

They are well aware of the hazards; fume, dust, manual handling, hand arm vibration and noise. They have had the fume and dust measured. They have got LEV. They have provided additional craneage, etc and had some manual handling training (identified that they need more). They have had anti-vibration equipment put on tools and the workforce say that they are now much better and that there is now regular maintenance, but they had not actually done a risk assessment. PPE is provided although no training or advice had been given on hearing protection in terms of how to use, maintain, how often to change it, etc. PPE audits are undertaken to check on wearing of PPE but no sanctions if not wearing it. There was no requirement for health surveillance. They have access to a company doctor.

Score 2

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Welfare (including Housekeeping)

Evidence:

There are an adequate number of toilets, washing and showering facilities and lockers and work wear is provided. There are also several rest rooms with tables, seating, fridges and microwaves. There is a contract for cleaning them. After a recent complaint about lack of cleanliness, changes have been made to the cleaning contract and additional hand drying facilities provided in the toilets. There have also been changes to the contract for maintaining work wear as a result of an accident. There are plans to refurbish the main toilets and showers this year.

Housekeeping is very mixed but they have recently introduced a system for regular monitoring of housekeeping.

Score 3 (Housekeeping = 2)

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Provision of Relevant Safety Information

Evidence:

Employees have been shown the results of the JSAs already done. There are plenty of signs re noise and the necessary PPE. However they had not been given the results of monitoring, although this is a lack of awareness of the need to give this information out as it shows they are under the limit rather than trying not to give it out. They have been given the instructions for how to fit PPE (but no training except for those using powered helmets and breathing apparatus) although those asked had read the instructions on the packet. The safety committee meetings minutes, etc are published and the action taken to deal with points put in the hazards booklets are also available.

Score 2/3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Procedures

Evidence:

General awareness of how the permits work and what should be done. The isolation procedures committee is an excellent idea, as it will encourage workforce involvement in developing effective procedures. Certainly the hazards working in sand silos did not appear to be covered (which is a confined space activity).

Score 2

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Safeguards

Evidence:

There is evidence of safeguards not being in place due to inadequate risk assessments, e.g. the moulding machine and the electrician's accident. However what is known about is generally in position, in adequate condition and effective.

Score 2 (but 3 where they are known)

Trial 3 – Plastics
Scoring Summary Table

KPI	Score
Knowledge of Regulatory Framework	4
Use External H&S Information	4
Workforce Involvement/Participation	4
Incident Investigation	3 (4 with plans)
Training Needs Analysis & Delivery	4
Awareness of Hazards	4
Review & Monitor	3 (4 with plans)
Health Control	4
Welfare	4
Provision of Relevant Safety Information	3
Procedures	3 (4 with plans)
Safeguards	3

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Findings Record

Measure

Knowledge of Regulatory Framework

Evidence:

System

They have a good understanding of their H&S duties and responsibilities.

3 members of the management team have attained the NEBOSH certificate.

Company is aware of the risk assessment requirements and there is a programme in place.

Use

The majority of risk assessments have been done. Risk assessments are reviewed following changes, the installation of new equipment, accidents/near misses.

Some manual handling tasks had been assessed at the time of the visit; an expert will be providing assistance with the outstanding assessments.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Use of External Information

Evidence:

System

Company utilises HSE guidance material, e.g. manual handling regulations ACOP, requested copy of recent Plastics Process Information Sheet re handknife injuries.

Have identified that they need external trainers for many types of training and have brought them in.

Get information through various sources (e.g. from the internet) and know their limits and when they should seek advice.

Use

Internal FLT trainer who trains the other drivers.

Bringing external body to assess DSE (previously self-assessed).

Involvement in local initiative for advice and assistance on manual handling.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Workforce Involvement/Participation

Evidence:

System

Company is keen on employee participation.

TU reps have been appointed.

Use

Team leaders, TU reps and employees involved in risk assessment.

3 monthly H&S action meetings involving employee reps and TU reps.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Incident Investigation

Evidence:

System

Investigation procedure in place which involves re-visiting the risk assessment.

There are plans to carry out cluster analysis of incidents on an annual basis.

Use

Tend to have similar incidents in certain areas, e.g. cuts in the compression area (training on how to use hand knives safely) and slips in areas where there are leaks in the roof and the floor is wet (nearly completed fixing the roof).

Recently bought a digital camera that can be used for capturing information for accident reports/investigations.

Score 3 (4 with plans, e.g. for yearly reviews, carried through)

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Training Needs Analysis & Delivery

Evidence:

System

Put a great deal of effort into identifying the required training and providing that training.

Training requirements have been drawn up for each operation.

Use

All 4 department managers received three day risk assessment training.

Retraining of FLT drivers takes place every 3-5 years.

Induction includes basic health and safety training which is being enhanced with extra training materials, e.g. video.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Awareness of Hazards

Evidence:

System

Management has a good understanding of the safety and health hazards that the workforce is exposed to.

Use

Dust monitoring has been carried out.

Fire precautions, including provision of sprinklers. Fire drills are carried out. Bulk storage of materials outside.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Review & Monitor

Evidence:

Plans are in place to carry out reviews. Other reviews, e.g. of FLT ability and risk assessments, already take place.

An overall review of the processes is planned.

Risk assessment procedure states that risk assessments will be reviewed every 2 years unless already reviewed within that period.

Score 3 (4 if take plans into account)

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Health Control

Evidence:

Dust identified as a potential problem. Measurements have been taken and low levels indicated.

Noise identified as an issue. Hearing protection zone has been introduced and signs positioned. Hearing protection has been provided and enforced.

Score 4

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Evidence:

Welfare (including Housekeeping)

Evidence:

Facilities are reasonable – good toilets and washing facilities (including barrier creams), although showers require modernising.

Level of housekeeping was acceptable given the nature of the business.

Score 4

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Provision of Relevant Safety Information

Evidence:

Signage is in place in the appropriate areas.

The workforce are given information that is relevant to them (from risk assessments, etc). There is an employee manual.

Workers are made aware of the correct usage of PPE.

Recently purchased a video to enhance safety induction.

Safety notice-boards were hidden by equipment in some instances.

Score 3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Procedures

Evidence:

Safe system of work drawn up for the majority of the higher risk activities. These are provided for the employees who read and sign them.

A permit system is being defined and will be used in exceptional circumstance that fall outside the safe system of work. The permit form had not been defined at the time of the visit.

There was a system for operator guard checks at the compression moulding machines. However at the particular machine viewed at the visit, this check only included front and side operator guards; a non-operator side guard had been left open following maintenance and this had not been identified in the check. Due to time constraints of our visit, only the one machine was checked and it is acknowledged that this may be unrepresentative of other machines.

Diagrams have been prepared detailing the operator guard checks required for the blow moulding machines in different modes of operation.

Contractors must provide a method statement for work that they conduct on site.

Score 3 (4 once PTW in place and guard checks tightened up)

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Safeguards

Evidence:

PPE provided as required, e.g. arm guards, chain mail, etc provided for cutting.

A major effort is being made to design out manual handling risk by, for instance, two team operation of processes, auto feed systems, etc.

The standard of guarding at the side operator's guard on the compression moulding machine viewed was questioned. The company will refer to the relevant HSE information to check this.

Score 3

Trial 4 – Plastics
Scoring Summary Table

KPI	Score
Knowledge of Regulatory Framework	2
Use External H&S Information	3
Workforce Involvement/Participation	1
Incident Investigation	2
Training Needs Analysis & Delivery	2
Awareness of Hazards	2
Review & Monitor	1
Health Control	N/A
Welfare	3
Provision of Relevant Safety Information	2
Procedures	3
Safeguards	3

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Findings Record

Measure

Knowledge of Regulatory Framework

Evidence:

System

The former production manager set up a health and safety management system. However, since his departure, health and safety management appears to be passive and not an ongoing activity, with reliance placed on the systems that were already in place.

They are not fully aware of their duties and responsibilities under the H&S regulations.

New legislation would be identified from HSE and trade magazines but it is not clear who is responsible for the core knowledge of present legislation.

Use

Score 2

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Use of External Information

Evidence:

System

H&S information is obtained from the publication ‘Plastics & Rubber Weekly’.

Use

Aware of the requirement for a ‘new’ health and safety poster.

They have used external training courses in the past.

Score 3

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Workforce Involvement/Participation

Evidence:

System

The former production manager initiated health and safety meetings. However, following his departure they have ceased to take place. As a result there were no formal routes for workforce involvement. There also did not appear to be any evidence of any informal systems.

There are no suggestion schemes.

Use

Score 1

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Incident Investigation

Evidence:

System

The incident investigation system appeared to be geared towards accidents rather than both accidents and dangerous occurrences. This was backed up by the fact that employees were not clear about the procedures for reporting dangerous occurrences, or what comprised a dangerous occurrence.

Following an accident, a written statement is taken from the injured person, causes investigated and F2508 sent to the HSE where appropriate.

Unfortunately, there was also the expectation that HSE would investigate accidents and identify the root causes for the company.

Use

Employees were aware that if there was an accident, a first-aider should be fetched/contacted.

Employees knew who the first-aiders were.

Score 2

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Training Needs Analysis & Delivery

Evidence:

System

The company aims to recruit fully qualified and trained individuals.

Employees workshadow a more experienced operator to learn the process. They would also be shown the safety procedures.

There was a lack of awareness as to whether training records are kept.

Training is not reviewed.

Use

Spoke to employee on the compression moulding machine. Initially he was not allowed to use the press and worked at trimming the finished work pieces. After a few weeks he was shown how to use the press.

FLT drivers are trained.

First-aiders are trained.

The production manager had trained employees in H&S (PPE) in the past 12 month. At present there is no one who could continue this

Score 2

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Awareness of Hazards

Evidence:

System

Employee at the compression moulding machine was aware that he should not put his hand between the plates when they are moving. However he did not appear to have been explicitly told of the hazard.

Management had some awareness of the hazards that the employees are exposed to, but there were gaps in the knowledge, e.g. potential handknife injuries during the trimming process.

Use

Score 2

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Review & Monitor

Evidence:

No review or monitoring appears to be taking place.

Score 1

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Health Control

Evidence:

Not relevant.

Score N/A

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Welfare (including Housekeeping)

Evidence:

Welfare facilities were not observed.

Housekeeping was fair in the compression moulding area.

Score 3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Provision of Relevant Safety Information

Evidence:

Employees are given information on COSHH and the general safety rules. They are also given a section of the H&S policy.

Information on PPE is also passed on.

Score 2

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Procedures

Evidence:

A Permit To Work (PTW) system is used to get access to some of the machinery for maintenance purposes.

Employees are told how the PTW system operates when they join the company.

There was a lack of awareness as to whether:

- formal training is given in the PTW.
- records are kept of training given.

Health and safety is not being actively managed. Formal procedures, such as PTW are therefore likely to lapse into incorrect usage or, at worse, cease to be used.

The lack of active management also means that the procedures are less likely to be developed.

Score 3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Safeguards

Evidence:

Emergency stops on the two accessible sides of the press that looked at. Both were working.

Maintenance required improving. One of the emergency stops was not securely mounted.

The safeguards were understood. However, a routine check/inspection of their effectiveness is not undertaken.

PPE is readily available.

Score 3

Trial 5 – Plastics (Modified Tool)
Scoring Summary Table

KPI	Score
Understanding of Regulatory Responsibilities	4
Use of External H&S Information & Support	4
Workforce Involvement/Participation	4
Incident Investigation	3
Assessment of Training Needs	3
Awareness of Hazards	4
Monitor	3
Health Control	4
Welfare	3
Communication of Safety Information to the Workforce	4
Procedures	4
Safeguards	4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Findings Record

Measure

Understanding of Regulatory Responsibilities

Evidence:

- Senior manager is NEBOSH trained.
- Regular reader of SHP often get advanced warning of new Regs therein.
- Use sources such as Croner updates for specific issues such as Fire Regs.
- Started to use HSE Helpline
- HSE Inspector very Useful in forewarning and keeping up to date
- For very specific areas e.g. forklift use their specialist training advisors.

Despite the above, representative did acknowledge that keeping abreast can be difficult at times.

Summary

Although it would be generous to call what they have a system – there is no doubt that they have several means of keeping abreast and that they appear to do so.

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Use of External H&S Information & Support

Evidence:

- Access to SHP
- Access to Croners updates
- Use Lancashire and Cheshire Safety Services for specialised input such as acoustic surveys and initial input when establishing risk assessments
- Use HSE Helpline and not afraid to seek help/assistance from HSE Inspector
- Use Trade Association

Summary

As previous

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Workforce Involvement/Participation

Evidence:

- Safety committee – changed structure and representation as became a “Whining” shop
- New committee chaired by Works Engineer and meets every two months and has a set agenda
- Does not feel that Safety Committee is actually needed for feedback as they get this anyway either directly to management or through supervisors
- Safety Committee is however good means of ensuring action is initiated and followed through
- Moving away from routine issues such as PPE and trying to increase focus on issues such as safety culture
- All staff have a supervisor and they can communicate their views through them.
- Discussions with Supervisor confirmed all of the above

Summary

Not sure how “institutionalised” the process is – seems very dependent on individuals in post – both H&S “manager” and current supervisors. At present however seems to work reasonably well

Score 3

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Incident Investigation

Evidence:

- Would generally involve Safety “manager”, supervisor, casualty, witnesses
- Safety “manager” decides whether it is worth investigating (obviously this decision is sensible in the sense that some first-aid injuries will never merit major investigation) but, nonetheless the way the decision is made seemed a little ad hoc as presented
- As presented, the primary focus for accident investigation seemed to be concern about liability with a primary emphasis on completing the insurer’s liability claims form

Summary

They would seriously investigate any significant injury but don not appear to focus on accident investigation as input to accident prevention.

Score 3

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Assessment of Training Needs

Evidence:

- Induction training established and regularly reviewed
- Specialist (outside) help in specific H&S training needs sought and used (e.g. forklift trucks, manual handling, first-aid)
- In the process of developing new training matrix to link skills to jobs ensuring that only trained workers are allocated appropriate tasks
- Length of time on job before being considered skilled (and perhaps moving on to a different more “skilled” role is considerable (e.g. moving from one extruder to another))
- H&S officer has NEBOSH certificate and will soon be doing the diploma course (both company funded)

Summary

Although it would be difficult to claim they had a training needs system they do seem training focused and more than willing to make the investment to bring in outsiders when necessary.

Score 3 (4 once training matrix in place)

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Awareness of Hazards

Evidence:

- Good response to what are major hazards –with comprehensive coverage of all those had expected to be listed. Only reservation was started with housekeeping which is not a hazard and which pales into insignificance against some of the other mentioned. Probably mentioned housekeeping first as it is the most difficult to address (not the least when compared with other complex hazards which they face but which they have dealt with well)
- Well aware of the hazard/risk control hierarchy

Summary

Apart from slight confusion as to definition of a hazard – overall perception of hazards on the plant very good

Score 4

4 Good System & Used
3 Reasonable System & Used
2 System not effectively used
1 Poor system

Measure

Monitor

Evidence:

They clearly do monitor for changing needs as evidenced by:

- the revision of induction training
- changes in additives
- review of engineering to reduce additive use
- development of own product for acoustic screening
- feedback loops from supervisors re new equipment and involvement of supervisors in new process design

Summary

Clearly there are a number of effective feedback loops but whether they are co-ordinated let alone a system is debatable and as before probably very largely dependent on the people currently in post

Score 3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Health Control

Evidence:

- Good approach to noise risk management, e.g. sound proofing on machines
- Carrying out hearing tests/monitoring of individual who has reported problems
- Seemed to understand COSHH well and again approach primarily on hazard removal where possible, e.g. building new machine to produce pellets which will eliminate the need for the additive
- Actively seek external input on health risks such as noise and manual handling

Summary

As far as needed seems good particularly the emphasis on removal at source.

Score 4

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Welfare (including Housekeeping)

Evidence:

- Housekeeping identified by H&S “manager” as his major concern but standards seemed good on visiting shop floor
- Staff – appreciate the need

Summary

As far as examined seemed acceptable

Score 3

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Communication of Safety Information to the Workforce

Evidence:

- H&S issues were claimed to be open and supported as such from the shop-floor
- Induction recently reviewed in terms of effectiveness
- Tool-box training and memos on specific issues commonly used
- Safety Committee seems well thought of in both directions

Summary

Seems to be little that is written. Some reservation about quality of relationship with night shift in terms of getting information back but, on the whole, reasonable as long as current people in place

Score 4

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Procedures

Evidence:

- Good arrangements for developing working instructions and procedures – led primarily from shop floor
- Good lock-out arrangements and procedures
- Regular checks are carried out on the machines
- Nice arrangement s with marked pad-locks designating who can gain access
- Workforce “complaints” effective in changes operational arrangements adding H&S safeguards etc.

Summary

Very good process for establishing procedures. Clearly sensitive to feedback on effectiveness

Score 4

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Safeguards

Evidence:

- New equipment H&S needs established in part by shop floor
- Equipment suppliers specification changed when considered inappropriate (e.g. number and position of emergency stops)
- In house retrofits introduced (e.g. platforms for improved manual handling)
- PPE provision and use sound – wearing of hearing defenders was very impressive. gloves are colour coded to identify the level of protection offered and operators know which colour of glove should be used for which job

Summary

Good – especially responsiveness to additional needs – they make the final judgement.

Score 4

APPENDIX J

MODIFICATIONS TO THE TOOL

INTRODUCTION

The version of the Tool and training package used in the trials by the inspectors is presented at the beginning of this appendix. This is followed by a summary of the modifications made to the Tool following the trials. The updated version of the Tool and training package is presented at the rear of this appendix.

THE TOOL & TRAINING – THE TRIAL VERSION

The Project

This main objective of the project is to develop a health and safety measurement tool to be used by inspectors within Small and Medium sized Enterprises. The Amey VECTRA team has undertaken the project over a 14 month period and has now reached the stage where a trial of the tool needs to take place.

The Tool

The Tool is primarily aimed at tracking improvement in SMEs at the sector level, although, where appropriate, it would also focus at the company level. A consistent approach is required in order to track improvement and it is intended that this tool will provide a structure to ensure this consistency.

The Tool is aimed at identifying a system or approach to managing health and safety rather than carrying out an audit of the paper-based system.

Elements of the Tool

The tool requires information to be collected on a series of Key Performance Indicators (KPIs) that have been specifically chosen to, collectively, assess the effectiveness of health and safety management and it's delivery. The KPIs are used to provide a structure for the normal mixture of discussions, observations and document checking which form part of a standard inspection visit.

The KPIs divide into two categories; indicators concerned with the management of H&S and the extent of, and provisions for, workforce involvement in the H&S assurance and indicators concerned with how the H&S system/provisions are delivered in practice. The KPIs are described below:

SETTING THE PROCESS	
KPI	**Description**
Knowledge of Regulatory Framework	Are they aware of their Duties & Responsibilities under the H&S Regulations? Do they understand that risk assessment (and related issues such as COSHH, Manual Handling Regulations, Welfare Regulations, etc) Are these ongoing, active, rather than one-off, passive, activities?
Use External H&S Information	Where do they get their H&S information, guidance, advice from? Do they actively seek support in areas where their knowledge is limited? Do they understand that some support (e.g. asbestos, dangerous waste, etc) needs to be dealt with by licensed operators if required?

SETTING THE PROCESS	
KPI	**Description**
Workforce Involvement /Participation	Do they have any formal processes for workforce involvement, e.g. safety reps? If there are no formal systems, are their informal systems? Do they seek workforce input, e.g. into PPE, procedures, etc.
Incident Investigation	Do they have a systematic approach to investigation? Do they seek root causes? Do they use action plans (or similar) to deal with identified improvements? Are the findings linked to the risk assessments? The important issue is to check that they have a systematic process rather than attempting to assess the detail of their actual procedures. Therefore asking how they would investigate should provide sufficient information on which to form a judgement.
Training Needs Analysis & Delivery	While not necessarily expecting a formal system for Training Needs Analysis, do they identify training needs (e.g. basic competence, when there is new equipment or as a result of risk assessment)? Do they periodically review? If they identify a need, is it actioned?
Awareness of Hazards	The first pre-requisite of effective health and safety management is management awareness of the hazards to which their workforce is exposed. General question before walk-round with follow up questions if necessary.

DELIVERING THE PROCESS	
KPI	**Description**
Health Control	If any health related hazards are identified, do they understand them? What control measures are taken? (are they understood and used by the workforce?) Is any action taken (if necessary) regarding health surveillance and/or pre-employment medicals?
Welfare	Are welfare facilities adequate?
Provision of Relevant Safety Information	Are the workforce informed of the results of the risk assessment? Is the workplace information available (e.g. noise zone signs)? Is training (even informal) provided on effective use of PPE, etc?
Procedures	If Permit To Work, safe working systems, method statements, etc are used as control measures, are they understood and used by the workforce?
Safeguards	Are physical safeguards (barriers, interlocks, etc) sufficient for the hazards? Are they well maintained, understood and effective?
Review & Monitor	Are risk control measures reviewed (even informally but systematically)? Are risk assessments reviewed in the light of changes in equipment and/or operation, etc? Do workforce complaints trigger a review, if appropriate?

Application of the Tool

The Tool has been designed to fit in with inspector site visits. It is envisaged that the majority of the required information would be identified during the normal inspection process. The Tool has been designed to use this information and restructure it against the H&S performance indicators.

Figure 1 outlines the suggested application process.

It is intended that information should be collected and recorded in the usual way during the site visit. It may be necessary to slightly modify the subjects covered during the visit to ensure that evidence will be collected against all of KPIs. A **prompt sheet for the Management & Workforce** issues and **Prompt Sheets for the Foundries' processes** are attached. These provide an overview of the issues for which information would need to be collected. These prompt sheets are provided as an example. It is suggested that similar process based prompt sheets should be developed on an industry/sector basis. Inspectors who are experienced in a particular industry/sector may find such detailed prompt sheets unnecessary once they are used to the system.

The information should be transferred to the pro-formas following the visit.

It is important to explain during the visit that the Tool is aimed at identifying whether there is a system or approach to managing health and safety rather than carrying out an audit of the paper-based system.

It is also important to talk to lower level workers as well as the H&S Manager (or equivalent) in order to ensure that the Tool is addressing what they are actually doing rather than what they should be doing.

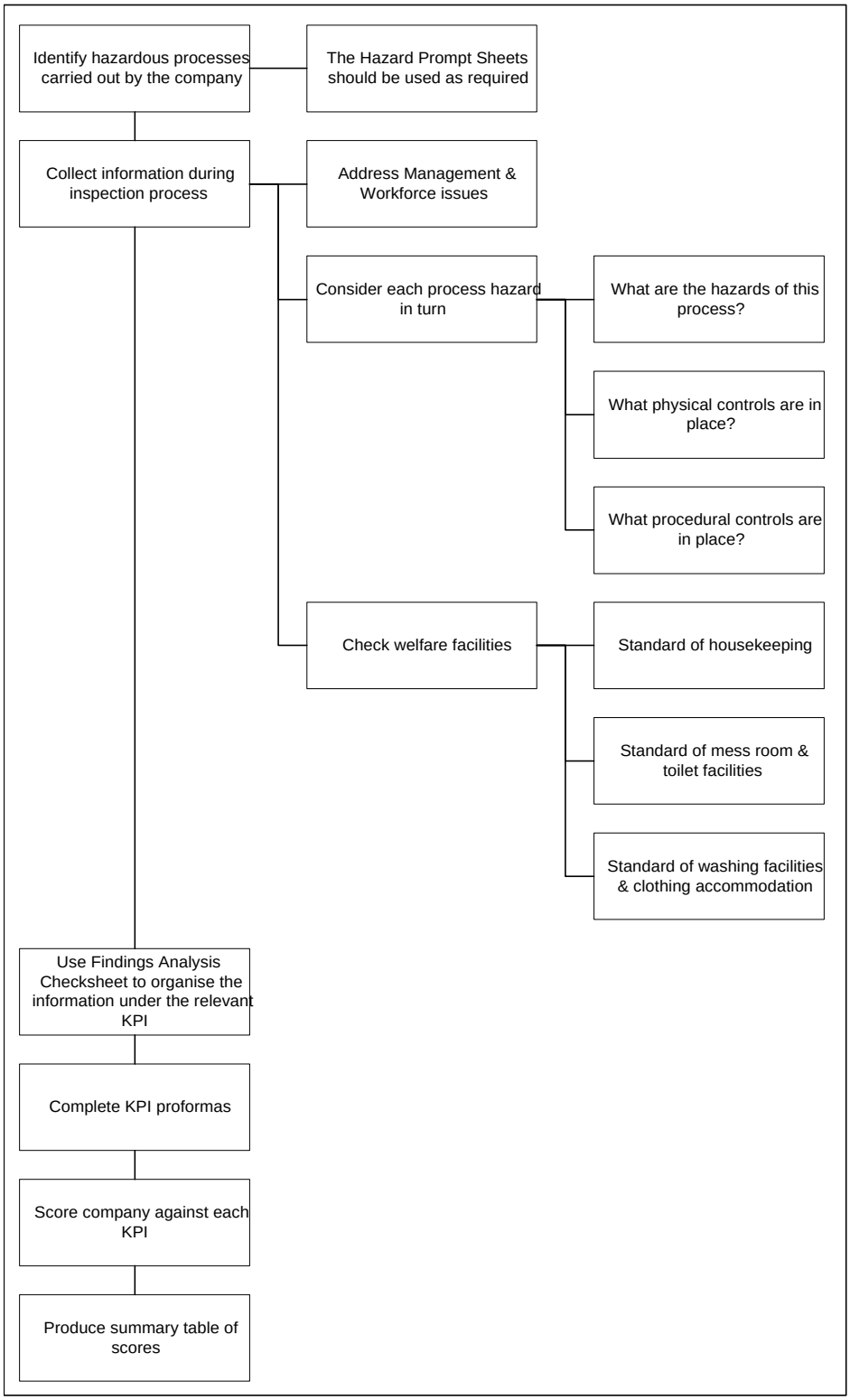


Figure 1: Application Process

Findings Analysis & Reporting

Once the visit is complete, the findings should be evaluated and a **Findings Record Sheet** completed for each KPI. Attached are all of the blank Findings Record Pro-formas presented

on one sheet. In order to assist with the scoring of the KPIs, evidence of a system being in place and evidence of its use should be recorded. For example, if there is evidence of a system but no evidence of it being used then this limits the score that can be assigned.

The attached **Findings Analysis Checksheet** is designed to provide a guide of what information should be logged against which KPI. The information can be documented in the Findings Record Proformas (see attached) and a score can be assigned for each KPI.

The scores for each KPI should then be collated in the **Summary Table** (see attached).

Scoring System

There are separate scoring systems for the two sets of indicators.

For the issues relating to setting the process, the scoring system is:

Score	Meaning
4	Good system & used
3	Reasonable system & used
2	System not effectively used
1	Poor system

The scoring system has been designed to ensure that no matter how good the systems/procedures are "on paper" unless there is evidence of them being successfully and routinely used on a day-to-day basis it is impossible to achieve the higher scores.

This weighting for "practice" rather than "theory" is also echoed down the scoring scale. For example, a reasonable system which is used scores higher than a good system which is not used.

On this basis:

> In order to score '4' (i.e. the top score), it is necessary that the system in place is good and that it is used/followed in the workplace in a consistent manner.
>
> A score of '3' is achieved for a system that is acceptable (rather than good) but is used.
>
> A score of '2' is ascribed if there is a system in place but it is not used.
>
> A score of '1' indicates that there is no consistent, systematic approach to managing safety.

It follows therefore, that even if a company has a system in place which is ideal "on paper" but with little or no evidence that it is applied in the work place will, at best, score a '2'.

For the issues relating to delivering the process, the scoring system is:

Score	Meaning
5	Review
4	Monitor
3	Controls in place
2	Awareness of hazards
1	Ad hoc approach

A score of ‘1’ is assigned when there is no systematic approach to risk management.

In order to score ‘2’ or above, there needs to be evidence of a systematic approach to the identification of workplace hazards.

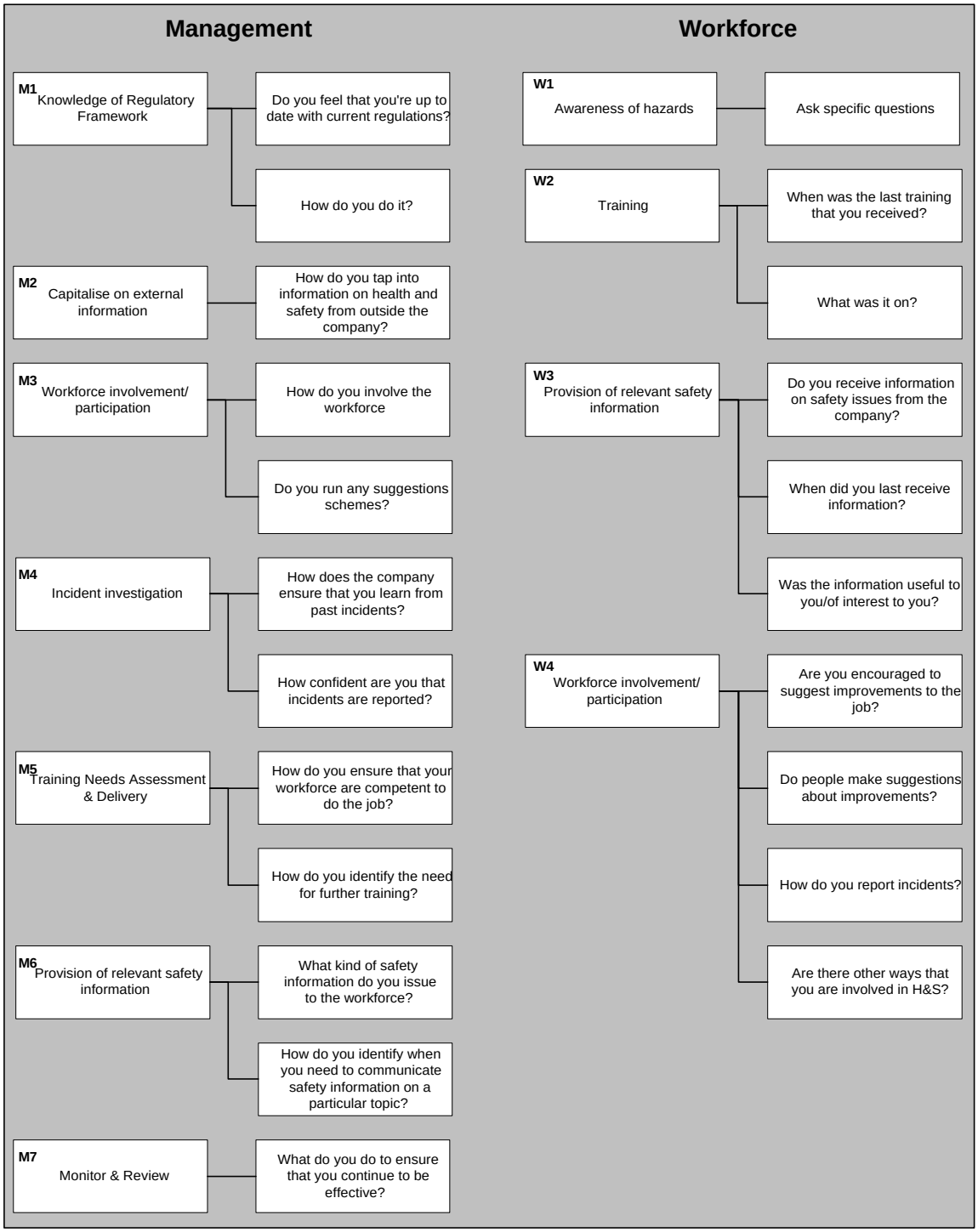
A score of ‘3’ is achieved when adequate control measures have been put in place (and are used) to address the identified hazards.

A score of ‘4’ implies that there is monitoring of the control measures in place to ensure that they are being used and are effective.

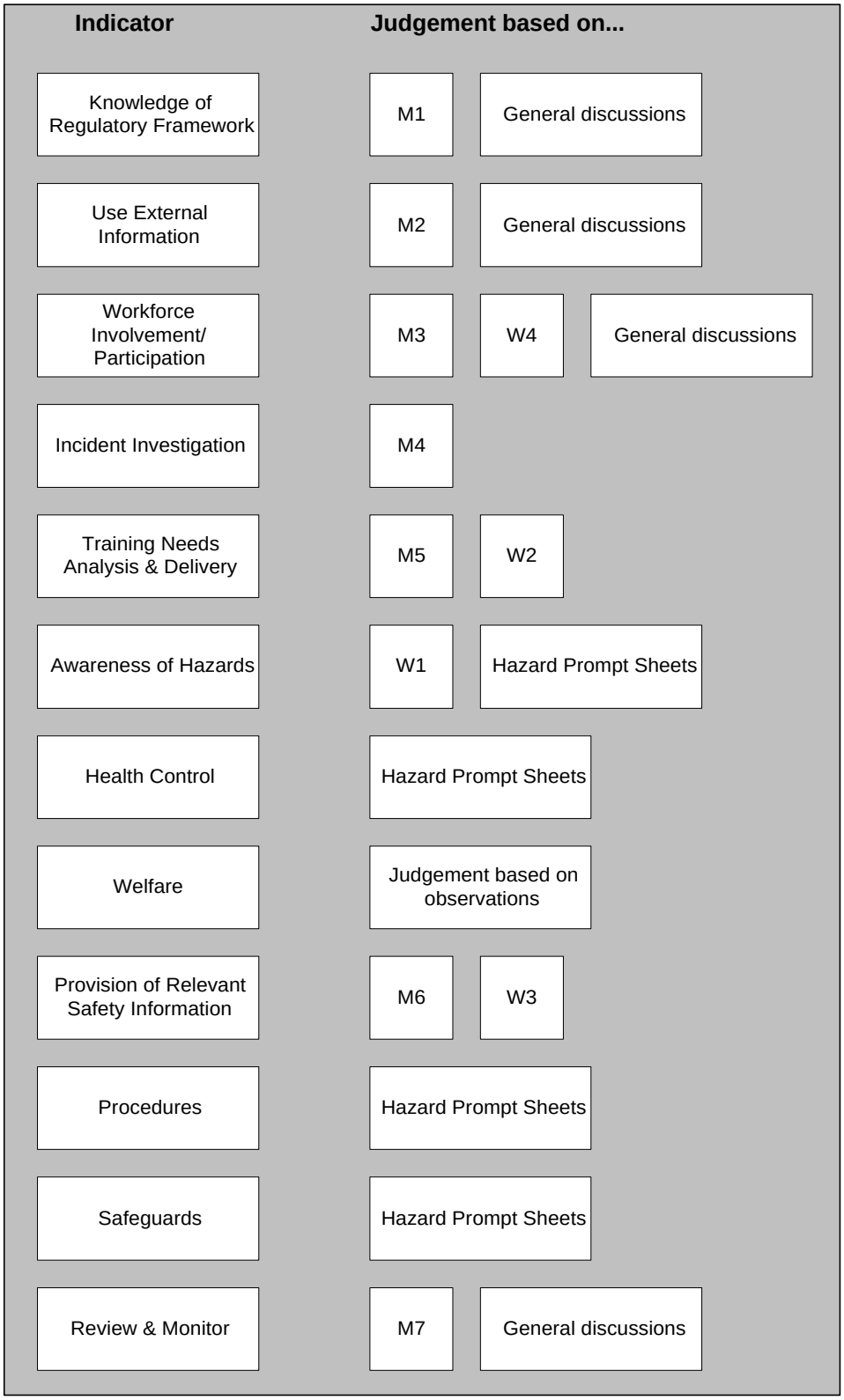
A score of ‘5’ implies that deliberate/”formal” reviews of the system are undertaken on a regular basis.

In order to score ‘5’ (i.e. the top score), it is necessary to have also met the requirements in 2, 3 and 4.

Management & Workforce Issues
Prompt Sheet



Findings Analysis



4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure

Knowledge of Regulatory Framework

Evidence:
System

Use

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure

Use of External Information

Evidence:
System

Use

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure

Workforce Involvement/ Participation

Evidence:
System

Use

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure

Incident Investigation

Evidence:
System

Use

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure

Training Needs Analysis & Delivery

Evidence:
System

Use

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure

Awareness of Hazards

Evidence:
System

Use

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure

Review & Monitor

Evidence

Score

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Health Control

Evidence

Score

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Welfare (including Housekeeping)

Evidence

Score

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Provision of Relevant Safety Information

Evidence

Score

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Procedures

Evidence

Score

5 Review
4 Monitoring
3 Controls in Place
2 Awareness of Hazards
1 Ad Hoc Approach

Measure

Safeguards

Evidence

Score

MODIFICATIONS TO THE TOOL

A number of modifications were made to the Tool and the training package as a response to feedback received from the inspectors involved in the Tool trial and the observations made by the researchers during the trials.

The significant modifications are outlined below. In addition, a number of minor changes were made to the text to improve clarity and thereby consistency.

There are now 10 rather than 12 KPIs. This was achieved by including the 'Welfare' category in the 'Health Control' category as it was considered that the adequacy of the welfare facilities was a health issue. In addition, the 'Review & Monitor' category was removed as it was seen as inappropriate for the majority of SMEs. The concept of monitor/review remains within the scoring system, as a 'good' system would be one which has, at least, an informal monitoring process in place.

The KPIs are now grouped in 3 rather than 2 categories. It was found that there was too much overlap between the previous categories of 'Setting the Process' and 'Delivering the Process' with a number of the checks on the 'use' of the KPIs in the first category being in the second category. The new categories are 'Regulatory Responsibilities', 'Risk Control' and Enabling Activities' (i.e. activities which enable the delivery of effective H&S performance), which are considered better descriptors of the KPIs in the respective categories.

A single scoring system has replaced the two scoring systems for the two KPI groups. It was found that the second scoring system was difficult to use in relation to certain KPIs and that the 'Setting the Process' scoring system was more appropriate in the majority of cases. In order to ensure that the scoring system is appropriate for all of the KPIs, a number of the KPI titles and their content were modified. This accounts for some of the changes to the KPIs outlined below.

The scoring system has been expanded to include a further level (new level '3') making 5 levels in all. This level was added in order to address the common situation of companies having a 'patchy' implementation approach to H&S, in that they have a systematic approach in some areas but not in others.

There is no longer an analysis sheet outlining which collected information should be used as evidence against which KPI. This information has been transferred into the 'Management' and 'Workforce' prompt sheets so that the inspector is aware of what information is needed as evidence against which KPI whilst they are collecting the information. Each element in the 'issues for the inspector to address' column outlines whether it addresses the 'system' or 'use' aspect of the scoring in order to provide more guidance to the inspector in order to increase consistency.

'System' and 'Use' were also taken off of the Findings Record Sheets as difficulties were experienced trying to divide evidence between the two categories.

The 'Management' and 'Workforce' prompt sheets have been expanded further to include all of the issues that need to be addressed at the company visit. In the previous version, the prompt sheets contained the majority of the issues but the application process sheet also contained issues that needed to be addressed. By combining all of the issues onto the 'Management' and 'Workforce' prompt sheets, this increases the likelihood that all of the issues will be addressed and reduces the number of sheets of paper that need to be referred to during the site visit.

The following are changes to specific KPIs:

‘Knowledge of regulatory framework’ has been changed to ‘Understanding of regulatory responsibilities’ which is thought to be a more meaningful KPI as a number of inspectors found difficulties interpreting the previous KPI .

‘Use of external H&S information’ has been changed to ‘Willingness to use external H&S information and support’ in order to account for those companies that have not needed to use external information and support but who would be prepared to do so if it were appropriate.

‘Incident investigation’ has been changed to ‘Incident/Accident Investigation’ to clarify that both incident and accidents are to be included.

‘Training needs analysis & delivery’ has been changed to ‘’Assessment of Training Needs’

‘Awareness of hazards’ has been changed to ‘Identification of Hazards’ as the issue is more than being aware of the hazards, including a process to actively identify them.

‘Provision of relevant safety information’ has been changed to ‘Communication of safety information to the workforce’.

‘Procedures’ has been changed to ‘Safety procedures’, in order to ensure that only safety procedures are addressed.

‘Housekeeping’ is now included in ‘Safeguards’, as a safeguard to avoiding slips, trips and falls. The category’s previous position under ‘Welfare’ had proved inappropriate in practice and difficult to score at times when welfare facilities were adequate but housekeeping was poor.

THE TOOL & TRAINING - THE FINAL VERSION

Amey VECTRA has developed a health and safety performance measurement Tool during a 14 month project for the Health and Safety Executive. The Tool has been designed to be used by inspectors within Small and Medium Sized Enterprises (SMEs). It is primarily aimed at tracking improvement in health and safety performance at the sector level, although, where appropriate, it could also be used at the individual company level. It is recognised that a consistent approach is required in order to track improvement and it is intended that this Tool will provide the structure to ensure this consistency.

Elements of the Tool

The Tool requires information to be collected on a series of Key Performance Indicators (KPIs) that have been specifically chosen to, collectively, assess the effectiveness of health and safety management and delivery. The KPIs are used to provide a structure for the normal mixture of discussions, observations and document checking which form part of a standard inspection visit. The evidence against each of the KPIs is left to the inspector's discretion and should be based on the information and evidence that the inspector would normally collect.

The 10 KPIs divide into three categories:

- Regulatory Responsibility
- Risk Control
- Enabling Activities.

The KPIs in each category are outlined in Table 1.

KEY PERFORMANCE INDICATORS	
Category	**KPI**
Regulatory Responsibility	Understanding of regulatory responsibilities
Risk Control	Identification of hazards
	Safety procedures
	Safeguards
	Assessment of training needs
	Health Control
Enabling Activities	Willingness to use external H&S information and support
	Workforce involvement/participation
	Communication of safety information to the workforce
	Incident/accident investigation

Table 1: Key Performance Indicators

Application of the Tool

The Tool has been designed to fit in with inspector site visits. It is envisaged that the majority of the required information would be identified during the normal inspection process. The Tool has been designed to use this information and restructure it against the H&S Key Performance Indicators.

Figure 2 outlines the suggested application process.

It is intended that the inspector collects and records information/evidence in the usual way during the site visit. It may be necessary to slightly modify the subjects covered during the visit to ensure that evidence will be collected against all of KPIs. The inspector needs to be able to identify for each KPI, whether there is a systematic approach (referred to as 'system') in place and whether it is used. This information will come from discussions with the management and with the workforce. The 'system' information is more likely to come from the management and the use information from a combination of the management and the workforce.

The scoring for the KPIs (see below) is based, essentially, on two elements; whether there is a systematic, management-driven approach to the control of health and safety risks and whether the approach is effectively used on a day-to-day basis on the shop floor.

Although, as mentioned earlier, it is not considered necessary (especially in the context of SMEs) that this systematic approach takes the form of a detailed, written, formal safety management system, the word 'system' is used throughout the scoring for the sake of brevity.

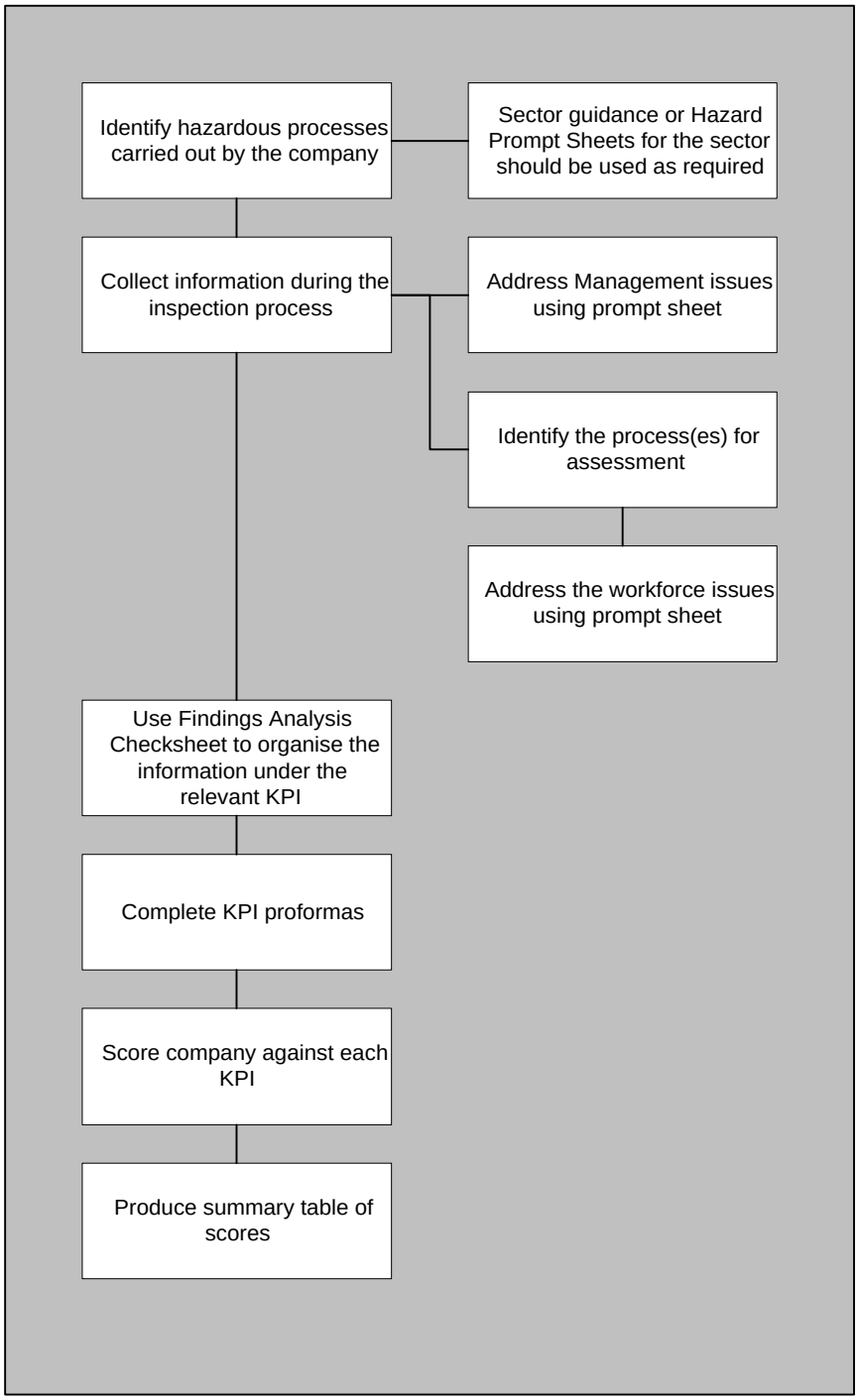


Figure 2: Application Process

Prompt sheets for the Management issues and the Workforce issues are attached. These provide an overview of the issues for which information needs to be collected. The 'Issues for inspector to assess' column of the prompt sheet identifies the requirements against each KPI. The 'possible questions' column provides examples of the types of question that the inspector may ask in order to address the issues under each KPI. However, individual inspectors may choose to ask their own questions to address the issue.

Where sector guidance sheets are available, these should be used to identify the processes to be focused on and the likely hazards and related control measures that the inspector should expect to see. Where deemed appropriate/necessary specific hazard prompt sheets should be

developed on an industry/sector basis. An example hazard prompt sheet is attached and a complete set for the foundry industry is provided in Appendix A. However, inspectors who are experienced in a particular industry/sector may find sector guidance or detailed prompt sheets unnecessary.

The information should be transferred to the pro-formas following the visit.

It is important to explain to the company representative during the visit that the Tool is aimed at identifying whether there is a systematic approach to managing health and safety rather than carrying out an audit of their paper-based system (or equivalent).

Findings Analysis & Reporting

Once the visit has been completed, the findings should be evaluated and a pro-forma completed for each KPI.

In order to assist with the scoring of the KPIs, the management and workforce prompt sheet identify which issues relate to the 'system' and which to the use. At this point, it is necessary for the inspector to combine the information that they elicited from the management with that from the workforce. So, for example, if there is evidence of a 'system' but no evidence of it being used then this limits the score that can be assigned.

If the Tool is being used to assess a company and feed back information that the inspector feels it appropriate to offer on the visit, then the inspector may find it beneficial to give a summary of their views of the company's performance against each KPI rather than just stating the evidence. If the Tool is being used as a 'snapshot' at the sector level, the inspector's summary would not be appropriate. In addition, it would not be appropriate to include any plans for future activities or work made by the company. However, the inspector may choose when scoring a KPI to include plans that the company have made, but not yet put into action in order to motivate the company.

The information should be documented in the Findings Record Pro-formas and a score assigned for each KPI. Attached are all of the blank Findings Record Pro-formas presented on one sheet.

The scores for each KPI should then be collated in the Summary Table (see attached).

Scoring System

The scoring system is presented below:

Score	Meaning
5	Good system & used
4	Reasonable system & used
3	Partial system & used
2	System not effectively used
1	Poor system

It should be noted that as stated before 'system' means a systematic approach rather than implying that it is necessary for a formal system to be in place.

The scoring system has been designed to ensure that no matter how good the systems/procedures are 'on paper' unless there is evidence of them being successfully and routinely used on a day-to-day basis it is impossible to achieve the higher scores.

This weighting for 'practice' rather than 'theory' is also echoed down the scoring scale. For example, a reasonable 'system' that is used scores higher than a good 'system' that is not used.

The fact that a company's approach to health and safety management is reliant on a key person, or key people, should be reflected in scoring. Therefore such a 'system' should not attain a 'good' score.

The scoring interpretation is outlined below. It is necessary that each particular sector defines industry rules in relation to the scoring, so, for example, it will be necessary to establish for a particular industry what the difference is between a 'good system' and an 'acceptable system'.

Scoring interpretation:

> In order to score '5' (i.e. the top score), it is necessary that the 'system' in place is good and that it is used/followed in the workplace in a consistent manner and that there is some element of monitoring.
>
> A score of '4' is achieved for a 'system' that is acceptable (rather than good) but is used.
>
> A score of '3' is awarded where there is a 'system' is in relation to some issues but not for others but what there is in place is used.
>
> A score of '2' is ascribed if there is a 'system' in place but it is not used.
>
> A score of '1' indicates that there is no consistent, systematic approach to managing safety.

It follows therefore, that even if a company has a 'system' in place which is ideal 'on paper' but with little or no evidence that it is applied in the work place will, at best, score a '2'.

Examples of completed pro-formas can be found in Appendix H and Appendix I.

Management Issues Prompt Sheet

KPI	Issues for Inspector to Assess	Possible Questions for Management
REGULATORY RESPONSIBILITIES		
Understanding of Regulatory Responsibilities	Are management aware of their duties and responsibilities under the H&S regulations? (SYSTEM & USE)	How do you keep up to date with current regulations?
	Do they understand risk assessment (and related issues such as COSHH, Manual Handling Regulations, etc.)? (USE)	How do you know that you're up to date with current regulations?
	Do they undertand that these are ongoing rather than one-off activities? (SYSTEM)	
RISK CONTROL		
Identification of Hazards	How do the management identify the hazards to which their workforce is exposed? (SYSTEM)	What are the major hazards in the workplace?
		Which are the hazardous processes?
Safety Procedures	Are procedural control measures appropriate and adequate? (SYSTEM)	Check Permit To Work, safe systems of work, method statements, etc
Safeguards	Are the physical safeguards (including safety PPE) sufficient for the hazards? (SYSTEM)	What physical safeguards (barriers, interlocks, etc) are in place?
	Are physical safeguards (e.g. interlocks) well maintained, understood and effective? (SYSTEM & USE)	Are the standards of housekeeping adequate?
	Are there adequate controls for common risks such as slips, trips and falls? (SYSTEM)	
Assessment of training needs	Do they have a system (formal or informal) to assess training needs (e.g. if a new piece of equipment is introduced)? (SYSTEM)	How do you ensure that your workforce are competent to do the job?
	If they identify a need, is it actioned? (USE)	How do you identify the need for further training?
	Is adequate H&S induction training provided? (USE)	
Health Control	Have potential health hazards been identified? (SYSTEM)	Are health related hazards identified?
	Have effective control measures been implemented? (USE)	What control measures are taken?
	Is any action taken regarding pre-employment medicals and/or health surveillance ? (USE)	

Management Issues Prompt Sheet

KPI	Issues for Inspector to Assess	Possible Questions for Management
ENABLING ACTIVITIES		
Willingness to Use External H&S Information & Support	Where do they get their H&S information, guidance & advice from? (SYSTEM)	How do you obtain information on health and safety?
	Do they actively seek support in areas where they know their knowledge is limited? (USE)	Have you sought exteranl advice or would you if you needed to?
	Do they understand that some support (eg asbestos, noise, etc) needs to be dealt with by licensed operators? (SYSTEM & USE)	
Workforce involvement/ participation	Are there systems (formal or informal) to allow workforce involvement in H&S, (e.g. safety reps)? (SYSTEM)	How do you involve the workforce in H&S?
	Do they encourage workforce input? (USE)	
Incident/accident investigation	Is there a system for reporting incidents/accidents? (SYSTEM)	How confident are you that incidents/accidents are reported?
	Is the reporting system used? (USE)	How does the company ensure that it learns from past incidents?
	Do they have a systematic approach to investigation? (SYSTEM)	
	Are actions taken as a result of investigations? (USE)	
Communication of Safety Information to the Workforce	Are systems in place to pass H&S information to the workforce? (SYSTEM)	What kind of safety information do you issue to the workforce?
	Do the communication systems work? (USE)	How do you identify when you need to communicate safety information on a particular topic?
	Are the workforce informed of the results of the risk assessment? (USE)	How is H&S Information passed down to the shopfloor?

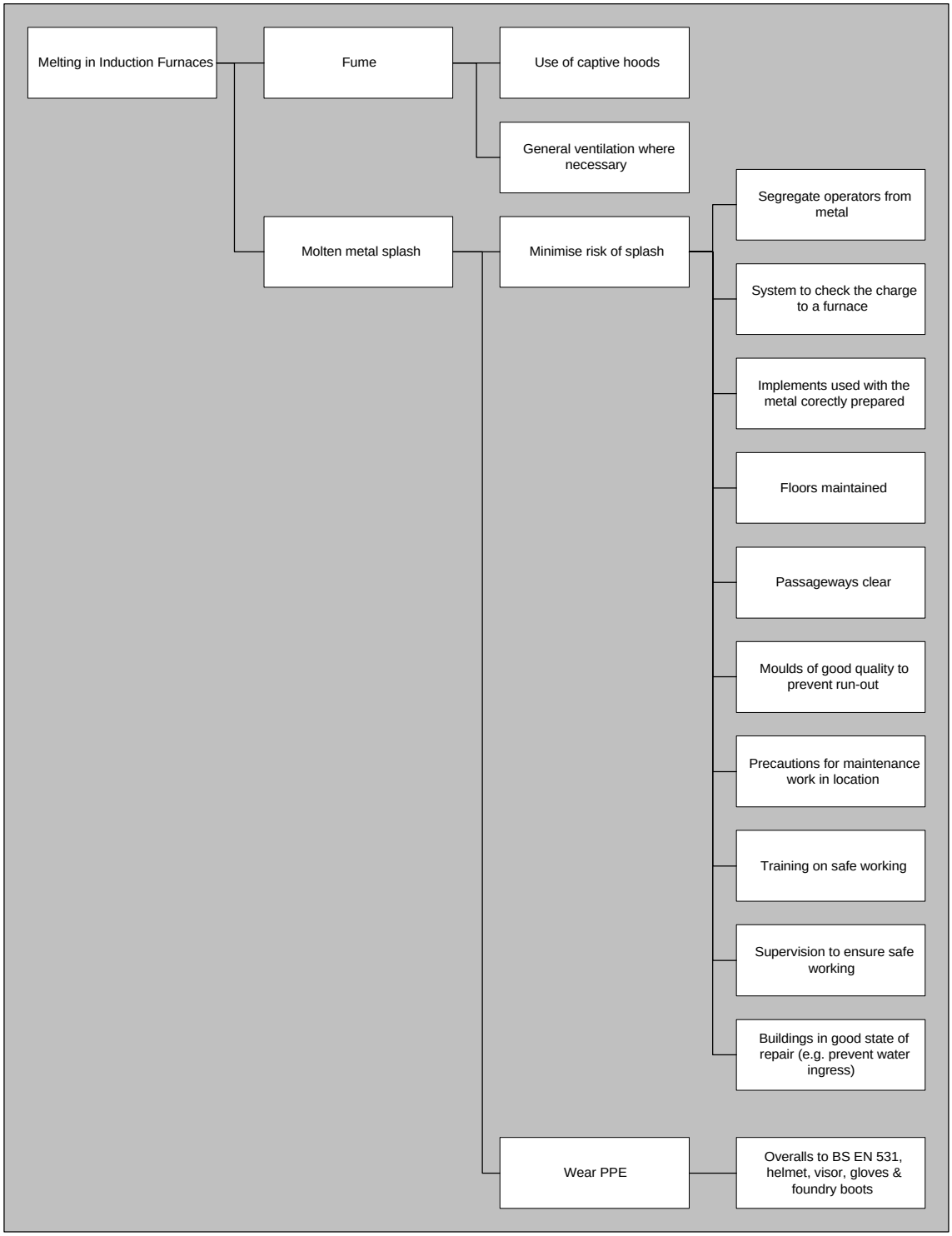
Workforce Issues Prompt Sheet

KPI	Issues for Inspector to Assess	Questions for Workforce
RISK CONTROL		
Identification of hazards	Are the workforce aware of the hazards of their work? (USE)	Ask questions on local hazards
Safety Procedures	Are procedural control measures appropriate and adequate? (SYSTEM)	Ask questions on local procedures
	Are the procedural control measures used and understood by the workforce? (USE)	
Safeguards	Are the physical safeguards sufficient for the hazards (including safety PPE)? (SYSTEM & USE)	What physical safeguards (barriers, interlocks, etc) are in place?
	Are they well maintained, understood and effective? (USE)	Are they well maintained, understood and effective?
Assessment of training needs	Is training (formal or informal) provided on H&S issues (e.g. on the effective use of PPE)? (USE)	Have you received H&S training?
	What H&S induction training is provided? (USE)	Did the induction training cover the local hazards?
Health Control	Do the workforce understand the health hazards? (USE)	Ask questions on local hazards
	Are control measures in place (including PPE)? (SYSTEM)	
	Do the workforce understand the control measures? (USE)	
	Are the welfare facilities adequate? (SYSTEM & USE)	

Workforce Issues Prompt Sheet

KPI	Issues for Inspector to Assess	Questions for Workforce
ENABLING ACTIVITIES		
Workforce involvement/ participation	Is there evidence that the workforce have the opportunity to get involved in H&S? (SYSTEM)	Are you encouraged to suggest improvements to the job?
	Are the workforce actively involved in H&S? (USE)	Do people make suggestions about improvements?
		How do you report incidents?
		Are there other ways that you are involved in H&S?
Communication of safety information	Do the communication systems work? (SYSTEM & USE)	Do you receive information on safety issues from the company?
	Are the workforce informed of the results of the risk assessment? (USE)	When did you last receive information?
	Is the workplace information available (e.g. noise zone signs)?	Was the information useful to you/relevant?

Example Foundry Hazard Prompt Sheet
Melting



Scoring Summary Table

KPI	Score
Understanding of regulatory responsibilities	
Identification of hazards	
Safety procedures	
Safeguards	
Assessment of training needs	
Health Control	
Willingness to use external H&S information and support	
Workforce involvement/participation	
Communication of safety information to the workforce	
Incident/accident investigation	

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Understanding of Regulatory Responsibilities

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Identification of Hazards

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Safety Procedures

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Safeguards

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Assessment of training needs

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Health Control

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Willingness to Use External H&S Information & Support

Evidence

Score

5 Good System & Used
4 Reasonable System & Used
3 Partial System & Used
2 System Not Effectively Used
1 Poor System

Measure

Workforce Involvement/ Participation

Evidence

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure
Communication of Safety Information to the Workforce

Evidence:
System

Use

Score

4 Good System & Used
3 Reasonable System & Used
2 System Not Effectively Used
1 Poor System

Measure

Incident/Accident Investigation

Evidence

Score

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ISBN 0-7176-1906-0