final report

Project Code: UGR.004

Prepared by: Dr David Brown, Margaret White & Jodee Drew

Date published: January 1996

PUBLISHED BY
Meat and Livestock Australia Limited
Locked Bag 991
NORTH SYDNEY NSW 2059

Changes in Occupational Health and Safety Comprehensiveness in the Meat Processing Industry during 1993 - 1995

Meat & Livestock Australia acknowledges the matching funds provided by the Australian Government and contributions from the Australian Meat Processor Corporation to support the research and development detailed in this publication.

This publication is published by Meat & Livestock Australia Limited ABN 39 081 678 364 (MLA). Care is taken to ensure the accuracy of the information contained in this publication. However MLA cannot accept responsibility for the accuracy or completeness of the information or opinions contained in the publication. You should make your own enquiries before making decisions concerning your interests. Reproduction in whole or in part of this publication is prohibited without prior written consent of MLA.

ISBN 0 86857 710 3

This project was funded by the
Meat Research Corporation
(grant number: UG.004)
1995

Centre for the Study of Organisational Process,
Performance and Finance,
Griffith University, Queensland, Australia.

CONTENTS

Executive Summary

Over a three year period (1993-1995) the Best Practice OHS Programme has acted as a stimulus to the initiation and development of a number of OHS Projects in 26 abattoirs in the Meat Processing Industry. The focus of the present study was not on the restricted outcomes detailed in the specific OHS projects implemented by each of the 26 Project Teams. The unit of analysis in the present study was the broader impact of the Project Teams on indicators of OHS, irrespective of the restricted outcomes specified by each Project Team. The 26 Project Teams designed individual projects many of which differed markedly in their objectives, approach, and overall orientation. However, the systemic approach taken in this evaluation enabled the researchers to determine broad indicators of OHS which were relevant across all 26 abattoirs.

It has been argued that organisations operating within a comprehensive OHS infrastructure have greater OHS performance than those operating with little or no comprehensive infrastructure (Heiler, 1994). This author identified several key indicators that differentiated organisations with comprehensive OHS infrastructure from those having a 'limited' or under developed OHS infrastructure. A number of the measures of OHS comprehensiveness suggested by Heiler (1994) were operationally defined for the purposes of the present study.

The main objective of the present study was to evaluate changes in OHS comprehensiveness occurring during the period of the commencement of the Best Practice OHS Programme (1993) through to mid 1995. The study involved obtaining information on organisational processes and structure, changes in OHS comprehensiveness, and project impact on organisational processes and workplace developments not necessarily

related to OHS. Four questionnaires were designed to measure these areas.

The OHS comprehensiveness measures developed indicated improvements in OHS comprehensiveness over the time period sampled. These indices measured changes in co-operation and consultation between management and employees on OHS functions in the workplace; changes in the involvement of management in OHS functions; changes in the functions of the OHS Committee in the workplace; changes in the use of OHS Standards in the workplace; changes in the use of OHS safety audits in the workplace; and changes in the appointment of OHS specialist personnel in the workplace. Changes in OHS comprehensiveness were related to abattoir characteristics such as the size of the abattoir's workforce, and the abattoir's ratio of full-time to part-time employees.

There is some evidence in the present study which suggests that improvements in OHS comprehensiveness were related to broader effects in the workplace. The group of abattoirs demonstrating a relatively low improvement in OHS comprehensiveness reported less improvement in specific areas in the workplace than the group of abattoirs demonstrating higher improvement in OHS comprehensiveness. In particular, the team members in the low group tended to report lower levels of improvement in *communication in the workplace,* in *teamwork skills in the workplace,* and a lower level of improvement in *safe work practices.*

Section: 1.1

BACKGROUND TO THE BEST PRACTICE OHS PROGRAMME

Occupational health and safety (OHS) is one area of organisational change and development that has been the focus of Benchmarking and Best Practice in Australian industry. A major strategic approach has been to use employee involvement to facilitate the integration of OHS Best Practices with quality assurance programmes. This approach increases the likelihood of the integration of the OHS Best Practice methodology with the organisational culture (Knight, 1992).

Over the previous three years (1993-1995) the Meat Processing Industry Best Practice OHS Programme has acted as a stimulus to the initiation and development of a number of Best Practice OHS Projects in 26 abattoirs in the Meat Processing Industry. The Best Practice OHS Programme is an initiative of the Meat Research Corporation (MRC), which is supported by the Meat Allied Trades Federation (MATFA); the Meat Industry Trade Association; the Australian Pig Research and Development Corporation; and the Australasian Meat Industry Employees Union.

The Best Practice OHS Programme initiated a team based approach to the implementation of change. Best Practice OHS Project Teams were established in 26 Australian abattoirs participating in the study. The team based approach initiated by the Best Practice OHS Programme has features similar to the behavioural approach to organisational change. Teams provide an initial means for experimentation of new ideas and work practices, and provide an example with which the wider organisation can be compared. Through this team based approach, the team has the propensity to act as an agent of change. The impact of these teams on OHS often occurs as a result of developing cultural change through improving employee involvement in risk identification, assessment and control, and greater commitment from management and workers to OHS. The continual improvement of safe work practices through re-evaluation of these OHS projects and networking between abattoirs has been incorporated into the project to further develop the OHS cultural change. It is believed that this change will result in greater compliance to safe work practices and therefore improved workplace safety performance.

The use of Project Teams as agents of strategic change is consistent with behavioural approaches used by previous researchers (Preston & Topf, 1994; Duff, Robertson, Phillips & Cooper, 1994; Kunz, 1993; Reber, Wallin & Duhon, 1993; Mitchell & Dennis, 1991; Walker, 1991). These researchers have focused on areas of study which include management involvement; employee participation; integration of management systems with OHS; training; communication; risk assessment, identification and control; development of appropriate performance indicators; evaluation and monitoring strategies, and information dissemination. These researchers provide documented evidence concerning the outcomes of behavioural approaches to OHS from several high risk industries. The results from companies using these processes have been favourable, demonstrating major improvements in OHS performance.

A recent study conducted by Young *et al.* (1994) targeting 12 abattoirs in New South Wales is comparable to the current evaluation of the effectiveness of using Project Teams as agents of change. Young *et al.* (1994) developed an intervention centred around providing OHS advice and assistance, and supplied to the 12 abattoirs an information package containing hazard-based strategies. In their assessment of the effectiveness of the intervention Young *et al.* (1994) constructed outcome

measures regarding level of OHS awareness, adherence to OHS legislative requirements, OHS policy, safety audits, employee training, and compensation and rehabilitation practices. These performance measures were taken at two separate time points. Measures were taken prior to the intervention, and these same measures were taken after the intervention. The authors noted numerous improvements to OHS awareness and OHS legislative compliance at the abattoirs following the intervention phase. The paradigm used by Young *et al. (1994)* is similar to the design adopted in the present evaluation of the Best Practice OHS Programme.

Section: 1.2

CENTRAL FOCUS OF THE STUDY

In order to investigate changes in OHS parameters during the present time frame (1993 to mid-1995) of the Project Teams a research based evaluation was conducted by Dr. David Brown, Ms. Jodee Drew and Ms. Margaret White from Griffith University.

The central focus of this study was to evaluate, across a number of abattoirs, the broader impact of the Best Practice OHS Programme on indicators of changes in OHS during the present time frame of the Project Teams. The aim in the present study did not include an evaluation of the restricted outcomes detailed in the specific projects implemented by each of the 26 Project Teams. The unit of analysis in the present study was the broader impact of the Project Teams on indicators of OHS, irrespective of the restricted outcomes specified by each Project Team. As previously argued, the initiation of the Project Teams in itself can be seen as a strategy for change. The restrictive objectives outlined by each Project Team assume secondary interest in comparison to the broader impact on OHS that the evolution of the Project Teams may have stimulated.

Section: 1.3

THEORETICAL ORIENTATION OF THE STUDY

The model applied to the present evaluation is based upon the systemic theory of organisational change. Systemic theory views organisations as interrelated and interdependent components in which the sum of the parts is greater than the whole (Jenner, 1994; Hermansson, 1993). The systemic view studies the parts of the organisational environment in order to explore the structural and dynamic aspects of organisational functioning (Hermansson, 1993). Interventions applying this approach adopt a holistic orientation. This systemic approach involves organisational members from representative organisational sub-units both in the diagnosis, and in the intervention process of change.

Previous researchers have emphasised that evaluations involving the effects of a change agent need to focus upon the wider organisational context (Geller, 1994; Hermansson, 1993; Kleiner & Corrigan, 1989). In particular, infrastructure is essential for any safety culture. It is the organisational infrastructure which provides a framework to build upon

and develop safe operating processes (Geller, 1994). In this light, it is essential to consider the interrelationship between organisational structures and the wider OHS outcomes of the Project Teams. Recent research conducted by Zagumny (1992) supports the argument that effective organisational evaluations need to adopt a systemic perspective. The adoption of a systemic view allows the present evaluation to maintain consistency with the philosophy of change agency. The change agency approach runs parallel with a systemic perspective of organisational functioning.

The systemic approach taken in the study will enable the present researchers to evaluate the impact of organisational factors upon the broader OHS outcomes of the Project Teams.

Section: 1.4

MANAGING THE DIVERSITY OF THE PROJECT TEAMS

A major concern in the study involved measuring changes in OHS that occurred during the initiation of 26 diverse OHS projects. The 26 Project Teams designed individual projects many of which differed markedly in their objectives, approach, and overall orientation. However, the systemic approach taken in this evaluation enabled the researchers to determine broad indicators of OHS which were relevant across all 26 abattoirs.

The indicators to be utilised in this evaluation measure changes in the basic supportive functions aimed at creating on-going OHS improvements. The presence of a well developed OHS infrastructure facilitates the development of an organisation's safety climate and ultimately the safety culture. Numerous studies, such as those conducted by Geller (1994); Worksafe Australia (1994); Kunz (1993); and Kleiner and Corrigan (1989) provide support for this contention. For example, a Best Practice case study conducted on Herbert Adams Bakeries (Worksafe Australia, 1994) found that structures within the organisation provided the necessary support for improvements in OHS to

occur. Worksafe Australia (1994) documented that a well developed OHS committee, well developed OHS polices, well defined personnel roles, and management systems that integrate OHS into their daily functions were necessary for an improved company safety record at Herbert Adams Bakeries. This previous research suggests that without a well developed OHS infrastructure it is extremely difficult for an organisation to gain any long-term improvements in OHS performance.

Changes to the OHS infrastructure within each abattoir over the initiation of the Best Practice OHS Programme will provide an indication of the wider impact of the Project Teams. Geller (1994) indicated that an evaluation of safety programmes needs to focus upon process rather than definitive outcomes. Outcomes tend to be synonymous with a final result. Yet, a safety infrastructure is an ongoing process that continues throughout the life of an organisation. Therefore, it is essential that measures of outputs in the system also focus upon process developments. Traditionally, OHS performance indicators tend to measure such things as reduction in lost time injuries. However, these traditional measures may provide a restrictive view of OHS performance (Quinlan & Bohle, 1991; Worksafe Australia, 1994). In the light of these arguments, the present evaluation will measure infrastructure or wider

processes supporting OHS, rather than restrictive outcomes related to specific Project Teams.

Section: 1.5

SUMMARY

The theoretical framework outlined above provides the model for the evaluation of the Project Teams as change agents. The components of the model dictate the function of the site characteristics, OHS infrastructure, and OHS process developments upon which the evaluation rests. This model provides a theoretical approach to the evaluation of the impact of the Project Teams on OHS.

Section: 2.1

PERFORMANCE INDICATORS OF OHS COMPREHENSIVENESS

In order to measure OHS processes over the time period of the Best Practice OHS Programme, performance indicators must be defined that possess the necessary degree of statistical sensitivity to detect real change where it occurs. These factors may be classified according to an OHS comprehensiveness scale. It has been argued that organisations operating within a comprehensive OHS infrastructure have greater OHS performance than those operating with little or no comprehensive infrastructure (Heiler, 1994). In a recent report by Heiler (1994), several key indicators were identified that differentiated organisations with comprehensive OHS infrastructure from those having 'limited' or no comprehensive OHS infrastructure.

The indicators of comprehensiveness described by Heiler (1994) were developed from the findings of the Australian Workplace Industrial Relations Survey which surveyed delegates from 2004 Australian workplaces, and from the Agreements Data-base and Monitor which examined 605 enterprise agreements. Congruent with the results of these studies, Heiler (1994) labelled OHS comprehensive structures

according to criteria of (a) organisational factors, and (b) societal and environmental factors. The organisational factors defined by Heiler (1994) included:

i) consultation
ii) representation
iii) participatory mechanisms
iv) the existence of a written policy and set of objectives
v) measurement and monitoring
vi) personnel with OHS responsibilities
vii) provisions for training.

The societal and environmental factors may be classified according to industry specific criteria (Heiler, 1994). These criteria involve:

i) market environment
ii) labour market
iii) strategic position of the firm
iv) state regulation of OHS and industrial relations
v) industry size
vi) OHS bargaining position
vii) workplace reforms.

Further factors suggested by Heiler (1994) encompassing OHS comprehensiveness included union activity, technology, working hours, and employment status.

A number of the measures of OHS comprehensiveness suggested by Heiler (1994) will be operationally defined for the purposes of the present study. These measures will provide a set of indicators of OHS performance with the measurement properties necessary to evaluate

changes in OHS comprehensiveness over the duration of the Best Practice OHS Programme. The composition of the performance indicators of OHS comprehensiveness developed in the present study will be discussed in some detail in the following sections.

Section: 2.2

COMPREHENSIVENESS INDEX 1:

Co-operation and Consultation between Management and Employees on OHS Functions in the Workplace

Processes involving management and employee consultation, employee representation and participatory mechanisms, have been identified as important to OHS performance by numerous researchers (Heiler, 1994; Geller, 1994; Preston, & Topf, 1994; Hermansson, 1993; Biggins, Phillips & O'Sullivan, 1991; Pidgeon, 1991; Kleiner & Corrigan, 1989). These researchers agree that consultation and employee participation is essential for the development of a successful OHS climate. The process of involving employees in OHS decision-making readily enables organisations to recognise OHS problems occurring on the shop-floor. Employee involvement also enhances communication and information dissemination of current OHS work practices, changes to OHS procedures and other relevant information regarding OHS. An index measuring co-operation and consultation between management and employees on OHS functions in the workplace was developed for the present evaluation.

COMPREHENSIVENESS INDEX 2:

Involvement of Management in OHS Functions

The commitment and involvement of executive management in OHS functions has also been identified by numerous authors as an important factor in OHS performance (Cooper, 1995; Geller, 1994; Heiler, 1994; Preston & Topf, 1994; Krause, Hidley & Stanley, 1991; Pidgeon, 1991). These authors have emphasised the importance of management involvement in OHS practices, such as OHS decision-making, and in regular OHS meetings and general OHS functions. This involvement facilitates the integration of OHS with other organisational functions, and identifies OHS as an integral component in the organisational structure. Most importantly, executive management involvement helps to ensure daily OHS procedures and practices are adhered to and maintained. An index measuring the involvement of executive management in OHS functions in the workplace was developed for the present evaluation.

COMPREHENSIVENESS INDEX 3:

Functions of the OHS Committee in the Workplace

The identification of the functions of an OHS Committee is one approach to evaluate employee and management involvement in and commitment to OHS. Regular OHS Committee meetings provide a forum for discussing matters relevant to OHS. For example, one role of the OHS Committee may involve decision-making and problem-solving regarding risk identification, assessment and control. Committee meetings are held and should include employee representatives, management and union personnel, and OHS Officers. Although the formation of OHS Committees at workplaces has been legislated throughout Australia, the success of the Committee varies across workplaces. Factors such as the regularity of meetings and ratio of employee to management representation influence the effect of the OHS Committee upon OHS performance. In relation to OHS Committees, Cooper (1995) emphasised that including employees and management in the safety planning process facilitates the development and implementation of safe work practices. Cooper's (1995) analysis suggests that the functions of an OHS Committee are a useful indicator of the consultation, representation, and participatory mechanisms operating within an organisation. An index measuring the functions of the OHS committee in the workplace was developed for the present evaluation.

COMPREHENSIVENESS INDEX 4:

The use of OHS Standards in the Workplace

Heiler's (1994) study indicated that organisations with favourable OHS performance have a well developed written policy and set of objectives. OHS policies and objectives within an organisation provide a framework for developing and implementing safe operating behaviours. A formal OHS policy enables the organisation to adhere to OHS legislative requirements. Established objectives and the identification of OHS standards, regulations and organisational policies, facilitate goal-setting aimed at improving current and future OHS work practices. Duff *et al.* (1994) studied the implications of goal-setting on OHS outcomes in the construction industry and found that goal-setting greatly improved OHS performance. The favourable outcome of goal setting has also been found by other researchers (Harrison & Liska, 1994; Kunz, 1993 ; Sheen, 1992). An index measuring the use of OHS Standards in the workplace was developed for the present evaluation.

COMPREHENSIVENESS INDEX 5:

The use of OHS Safety Audits in the Workplace

A further measure of OHS comprehensiveness identified by Heiler (1994) involves the extent to which injury rates are recorded and the frequency of hazard auditing. Various authors agree that the measurement and monitoring of OHS procedures and practices are required for continuous improvements in OHS (Wilpert, 1995; Geller, 1994; Pidgeon, 1991; Krause *et al.*, 1991). Researchers have demonstrated that regular measurement and monitoring of OHS performance in the workplace enhances the extent to which organisations maintain and further improve OHS standards (Duff *et al.*, 1994; Kunz, 1993; Sheen, 1992). An index measuring the use of OHS safety audits in the workplace was developed for the present evaluation.

COMPREHENSIVENESS INDEX 6:

The appointment of OHS Specialist Personnel in the Workplace

The appointment of specialist OHS personnel has also been identified by Heiler (1994) as an indicator of OHS comprehensiveness. The positive effect of safety personnel upon OHS outcomes is strongly suggested by previous research (Cooper, 1995; Geller, 1994; Krause *et al.*, 1991). Cooper's (1995) study indicated that safety personnel are a credible source of OHS information and provide expertise regarding the management of safety programmes. In the light of this evidence, the appointment of full-time and part-time specialist OHS staff or consultants retained by the company can be taken as an indicator of OHS comprehensiveness. An index measuring the appointment of OHS specialists personnel in the workplace was developed for the present evaluation.

Section: 2.3

SUMMARY

Heiler (1994) suggests a number of possible measures of OHS comprehensiveness that may be related to OHS performance in the workplace. The present evaluation of changes in OHS comprehensiveness during the Meat Research Corporation's Best Practice Health and Safety Programme will utilise those indicators of OHS comprehensiveness most suitable for the identification of changes in OHS practices across a number of meat processing sites. These measures of OHS comprehensiveness must maintain relevance across sites engaged in solely domestic, or solely export or domestic/export businesses situated in a number of States in Australia. These measures must also be relevant across sites located in urban and rural areas, and across sites employing relatively small to large work forces on a part and full-time basis. The broad indicators of OHS comprehensiveness necessary to accomplish this task included measures of the degree of consultation between management and employees on OHS functions in the workplace, the involvement of management in OHS functions, the functions of the OHS committee, the use of OHS standards in the workplace, the frequency of safety audits, and the appointment of OHS

specialist personnel. While these measures of OHS comprehensiveness were developed by the present researchers specifically for the meat processing industry, they have a strong theoretical basis originating in the *Australian Centre for Industrial Relations Research and Teaching* (ACIRRT) report (Heiler, 1994).

Section: 2.4

RESEARCH OBJECTIVES OF THE EVALUATION

The Meat Research Corporation's Best Practice Health and Safety Programme (1993-1995) has provided the initiative for the improvement in OHS processes across 26 abattoirs. The effective agency of the programme has been via the formation of OHS Project Teams within each abattoir. This approach is consistent with the arguments of Schien (1988) and Egan (1990) which imply that the strategic approach adopted by change agents working within a system may have a major impact upon the broader effectiveness of the organisational system. These OHS Project Teams have developed a number of site specific OHS projects. The central focus of the present study is not to evaluate the outcomes specific to each of these 26 projects, but to evaluate broader measures of OHS impact relevant across the 26 sites. The broad measures of OHS comprehensiveness outlined in Section 2.3 will be used to evaluate changes in OHS comprehensiveness during 1993-1995. These measures will provide a snapshot of changes in OHS comprehensiveness both before and during the initiation of the Best Practice Programme, and during the development of the Project Teams. The approach taken provides a theoretical framework involving the Project Teams as change

agents, and a theoretically supported approach to the measurement of OHS comprehensiveness.

The main objective of the present study is to evaluate changes in OHS comprehensiveness occurring during the period of the commencement of the Best Practice Programme (1993) through to mid 1995.

It has been well documented that the organisational structures (size of workforce, years of operation etc.) provide a vital supportive function for improvements to occur in OHS (Heiler, 1994; Geller, 1994; Worksafe Australia, 1994; Kunz, 1993; Hermansson, 1993; Camp *et al.* 1986). Consequently, a further objective of the study was to evaluate changes in OHS comprehensiveness related to the site structure.

A final objective of the study was to evaluate the impact of the Project Teams on wider organisational processes and workplace developments not necessarily related to OHS comprehensiveness.

Section: 3.1

METHODOLOGY

Subjects

Twenty-six abattoirs participated in the Best Practice OHS Programme. Of these 26 abattoirs 19 abattoirs returned the questionnaires. The return rate of 73% can be considered high for field studies of this nature.

Materials

The study involved obtaining information on processing site structure, changes in OHS comprehensiveness, and project impact on organisational processes and workplace developments not necessarily related to OHS. Four questionnaires were developed to measure these areas. These questionnaires were entitled *Site Profile*; *Occupational Health and Safety Infrastructure (Chairperson of the OHS Safety Committee)*; *Occupational Health and Safety Infrastructure (Executive Manager of OHS Practices)*; and *Occupational Health and Safety Project Programmes*.

The questionnaires were initially developed from the OHS research literature and OHS literature specific to the Meat Industry.

Base-line data from each individual site was not collected at the initial onset of the Best Practice OHS Programme. Therefore, the questionnaires were designed to incorporate measures of the status of OHS comprehensiveness both prior to the commencement, and during, the Best Practice OHS Programme. Where appropriate, the questionnaires contained factors to determine changes that may have occurred prior to the commencement of the Best Practice OHS Programme through to mid 1995.

Design and Procedure

The study contained three phases aimed at collecting data on site structure, OHS infrastructure, and project impact on workplace developments not necessarily related to OHS. The questionnaires were mailed to each site following a verbal explanation of the purpose of the study to the employee listed at each study site as the Best Practice OHS Programme representative. Three followup phone prompts were used to maximise the percentage of returns. The questionnaires were sent out

separately, and only when the preceding questionnaire had been returned. It took approximately 12 weeks for a site to return each questionnaire.

Phase One: Data Collection on Site Structure

The aim in the first phase of the study involved the collection of archival data on site structure. The *Site Profile Questionnaire* (Appendix 1) was developed to collect background data from the sites participating in the OHS Best Practice Project. The purpose of this data collection was to identify site (abattoir) characteristics that may be related to OHS practices. It was anticipated that the employee responsible for the Project Team at each site would complete the questionnaire. There were 26 areas of interest covered in this questionnaire. Information collated in this questionnaire included:

- ***abattoir location (state, urban or rural);***
- ***nature of site ownership (private, public);***
- ***employee numbers (part-time, full-time);***
- ***employee turnover rates;***
- ***non English speaking employees;***
- ***form of tally system;***
- ***form of operation (shifts, seasons, hours);***
- ***production quotas;***

- ***export and domestic ratio of production;***
- ***union membership;***
- ***plant and equipment;***
- ***recruitment and selection.***

Phase Two: Data Collection on OHS Comprehensiveness and OHS Infrastructure

The aim of the second phase of the study was to collect archival and perceptual data on OHS comprehensiveness and other supportive structures and processes for OHS. Two separate questionnaires were developed to target specific individuals at each abattoir. The target individuals were the Executive Manager for OHS, and the Chairperson of the OHS Safety Committee. These two separate questionnaires were necessary in order to collate information from two possibly independent sources. However, in 50% of the study sites both of these positions were occupied by a single employee.

There were 29 areas of interest covered in the *Occupational Health and Safety Infrastructure (Executive Manager of OHS Practices)* questionnaire (Appendix 2). Information collated in this questionnaire included:

- ***familiarity and availability of OHS standards;***
- ***sources of OHS information;***
- ***OHS policy;***
- ***professional safety staff and consultants;***

- ***OHS budget;***
- ***safety audits, medical examinations and environmental monitoring;***
- ***procedures for resolving OHS issues;***
- ***management attitudes to performing OHS functions;***
- ***OHS problems or issues.***

These items provided information on management OHS practices, employee and management involvement in OHS processes, OHS comprehensiveness and data on OHS supportive structures.

Twenty-two areas of interest were covered in the *Occupational Health and Safety Infrastructure (Chairperson of the OHS Safety Committee)* questionnaire (Appendix 3). Information collated in this questionnaire included:

- ***information on the establishment of the Safety Committee;***
- ***regularity of OHS Committee meetings;***
- ***OHS Committee membership;***
- ***the type of employer and OHS Committee relationship;***
- ***OHS Committee roles and functions;***
- ***OHS Committee training;***
- ***consultation with employees and safety representatives;***
- ***provisional improvement notices and work cessations;***
- ***regularity of inspectors attendance;***
- ***barriers to OHS;***
- ***OHS problems or issues;***
- ***familiarity and availability of OHS standards;***

- ***management attitude to performing OHS functions.***

These areas provide information regarding the OHS Committee's functions and the impact of the Committee on OHS practices at the abattoirs.

Phase Three: Data Collection on Project impact on Organisational Processes and Workplace Developments not necessarily related to OHS.

The aim in the third phase of the study involved the collection of data measuring specific areas of development other than OHS in which the Project Teams may have had an impact. Each member of the Project Team at each study site was required to complete this questionnaire entitled *Occupational Health and Safety Project Programmes*(Appendix 4). This questionnaire was designed to collate data on the subjective perceptions of each Project Team member on the impact of the Project Team on specific areas of development other than OHS.

Thirteen areas of interest were covered in the *Occupational Health and Safety Project Programmes* questionnaire. Information collated in this questionnaire included:

- ***team membership composition;***

- *initial project outcomes or goals;*
- *OHS knowledge;*
- *workplace communication;*
- *workplace commitment;*
- *training;*
- *work design;*
- *rehabilitation;*
- *safe work practices (primarily an outcome measure);*
- *development of team work in the Project Team;*
- *development of team work in work groups.*

Section: 3.1

PILOT STUDIES

Three pilot studies were conducted for each phase of the evaluation. The pilot studies were conducted to assess the *Content* and the *Face* validity of the questionnaires. The process of *Content* validation entails identifying the omission of any important areas of concern within the study sites, and the identification of irrelevant issues included in the questionnaires. The process of *Face* validation entails the identification of problems with terminology and/or readability and suitability of the items in the questionnaire, and assists in the determination of the appropriate structure and length of the questionnaires.

The *Site Profile*; *Occupational Health and Safety Infrastructure (Chairperson of the OHS Safety Committee),* and the *Occupational Health and Safety Infrastructure (Executive Manager of OHS Practices)* were piloted at Teys Bros., Killarney Abattoir Pty Ltd, and at Q-Meat Brisbane. The *Occupational Health and Safety Project Programmes* was piloted at Teys Bros., and at Q-Meat Brisbane. The questionnaires were piloted on separate occasions and in sequence with the phases of the study. The pilot studies entailed meeting with representative(s) involved in the Best

Practice OHS Programme at the abattoirs. These meetings lasted between one and two hours. In this time period the representative(s) and researchers read through the questionnaire discussing ways of modifying the questionnaire when problems were encountered. Only a few minor changes were necessary for each questionnaire and these were made in accordance with the representative(s) suggestions. The final version of the questionnaires including the piloted modifications were then distributed to the 26 abattoirs within one week following each pilot study.

Section: 4.1

RESULTS OF MAIN STUDY

Descriptive Statistics of Abattoirs Participating in the Study

Details of the 19 abattoirs participating in the study are given in the following tables (1 to 5). Table 1 gives a breakdown of the sample by State. It is noted that only one abattoir from Tasmania participated in the study. Six of the abattoirs described their location as Urban, and thirteen described their location as Rural.

Table 1: State Location of Abattoirs

STATE	NUMBER OF ABATTOIRS
NEW SOUTH WALES	5
QUEENSLAND	5
SOUTH AUSTRALIA	2
TASMANIA	1
VICTORIA	3
WESTERN AUSTRALIA	3

Table 2 provides details of the gender of the employees of the nineteen abattoirs. It is evident in Table 2 that the majority of the sites have a far higher proportion of male employees than female employees. This Table also gives the percentage of full-time employees for each

abattoir. The majority of abattoirs in the study employ mostly full-time workers as opposed to part-time casual or seasonal staff.

Table 2: Number of Males and Females employed, and percentage of Full-time Employees at each Site

	NUMBER OF EMPLOYEES		
ABATTOIR NUMBER	**FEMALE**	**MALE**	**PERCENTAGE OF FULL TIME EMPLOYEES**
1	5	82	100%
2	35	250	93%
3	175	455	90%
4	74	355	99%
5	75	537	100%
6	31	110	76%
7	127	420	99%
8	11	372	96%
9	4	52	63%
10	4	52	13%
11	7	100	82%
12	0	33	58%
13	18	123	94%
14	3	231	99%
15	33	146	86%
16	7	100	91%
17	5	216	86%
18	8	125	52%
19	53	282	94%

Tables 3 and 4 show the number and percentage of participating abattoirs which are single and multi site, along with the status of their

ownership (public or private). Three of the abattoirs also stated that they were multi-national.

Table 3: Single versus Multi-site abattoirs

NUMBER OF SITES	NUMBER OF ABATTOIRS	PERCENTAGE
SINGLE SITE	11	58%
MULTI SITE	2	10%
NO RESPONSE	6	32%

Table 4: Publicly versus Privately owned Abattoirs

SITE OWNERSHIP	NUMBER OF ABATTOIRS	PERCENTAGE
PUBLICLY OWNED	2	10%
PRIVATELY OWNED	11	58%
NO RESPONSE	6	32%

In Table 5 abattoirs are grouped according to their percentage of production for export. The majority of the abattoirs produce a low percentage of their goods for export. The production of ten of the abattoirs is 100% domestic market (53% of the participating abattoirs).

Table 5: Percentage of Product for Export

PERCENTAGE OF PRODUCT FOR EXPORT	NUMBER OF ABATTOIRS
0 - 5%	12
6 - 74%	2
75 - 100%	5

Section: 5.1

RESULTS OF MAIN STUDY

Data Analysis of Changes in OHS Comprehensiveness

The following analyses evaluate changes from pre 1993 to mid 1995 in the various comprehensiveness indices. In some cases, due to the nature of the data collection, information on specific comprehensiveness parameters was only available from 1993. In these instances, changes in OHS comprehensiveness involved comparisons of 1993 to mid 1995 data. Statistical analyses evaluating change over the study period were conducted on the composite score of each index. A composite score is the sum of the various items within each index. Thus, to evaluate change from 1993 to mid 1995, a single score characterising the comprehensiveness at 1993 was compared to a score of comprehensiveness at mid 1995. A matched t-test (single sample) statistic was used for this evaluation of change. For a statistical test to be significant the probability of a chance finding was set at α=.05. This figure can be roughly interpreted to indicate that the probability of obtaining statistically significant differences by chance is equal to or less than five in a hundred. Following each comparison of change the exact probability of the statistical test is reported along with the statistical outcome for the matched t-test. Eighteen abattoirs reported complete data for this analysis.

COMPREHENSIVENESS INDEX 1

The theoretical rationale for the composition of Index 1 is presented in ***Section 2.2.*** The Code column contains the mnemonics used in the following graph, the Function column contains the description of the items that compose the index. The composite score on Index 1 is the sum of four items all scored on a scale of *0=never; 1=sometimes; 2=always.*

Table 6: Cooperation and Consultation between Management and Employees on OHS Functions in the Workplace in 1993 and in 1995

CODE	FUNCTION
Comm. fac. cooperat.	**Whether the OHS Committee facilitates cooperation between the employer and employee on safety measures**
man. supp. OHS Comm.	**Whether the employer facilitates or supports the role of the OHS committee on OHS matters**
cons. minor change	**How frequently employees or OHS representatives are consulted on proposed minor changes to the workplace and equipment**
consult. major change	**How frequently employees or OHS representatives are consulted on major changes to the workplace and equipment**

In Figure 1 the frequency of cooperation and consultation practices in 1993 are compared to those in 1995.

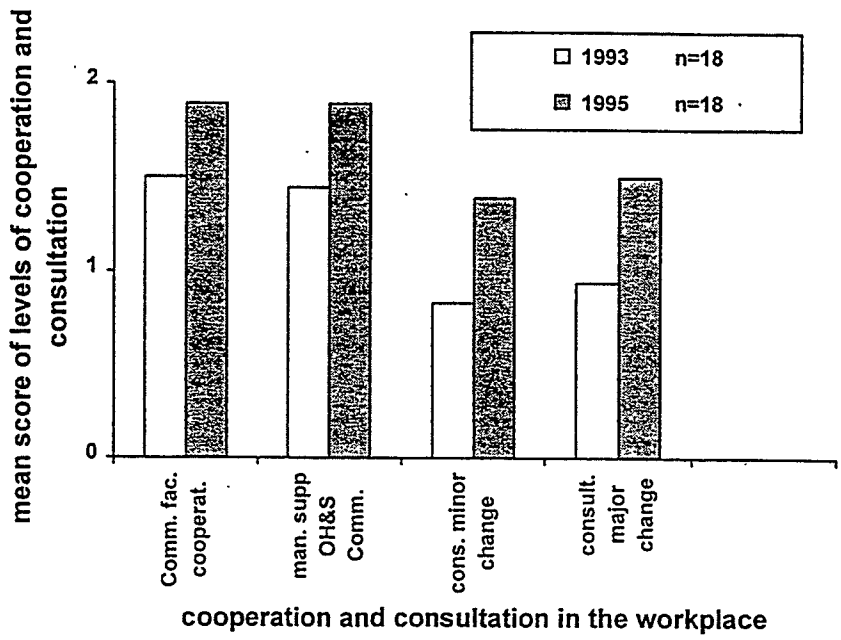

Figure 1: Changes in Cooperation and Consultation Between Management and Employees on OHS Functions in the Workplace in 1993 and in 1995

The graph shows that a significant increase (t= 3.83; df=17; P=.001) in consultation and cooperation practices in relation to OHS matters occurred from 1993 to 1995.

COMPREHENSIVENESS INDEX 2

The theoretical rationale for the composition of Index 2 is presented in ***Section 2.2.*** The Code column contains the mnemonics used in the following graph, the Function column contains the description of the items that compose the index. The composite score on Index 2 is the sum of two items. Function (a) was scored on a scale of *0=never; 1=infrequently; 2=sometimes; 3=regularly; 4=often.* Function (b) was scored on a scale of *1=refuses to acknowledge; 2=unhelpful, argumentative, confrontationist; 3=reserved/guarded; 4=cooperative/encouraging.*

Table 7: Involvement of Management in OHS Functions in the Workplace in 1993 and in 1995

CODE	FUNCTION
(a) OHS in man. meetings	**Frequency with which OHS matters (statistics, prevention, control) are discussed as regular items of management planning/operational meetings.**
(b) man. rel. to OHS manager	**Management's relationship with the Executive Manager of OHS.**

In Figure 2 changes in the frequency (a) and attitude (b) of management in OHS functions in 1993 are compared to 1995.

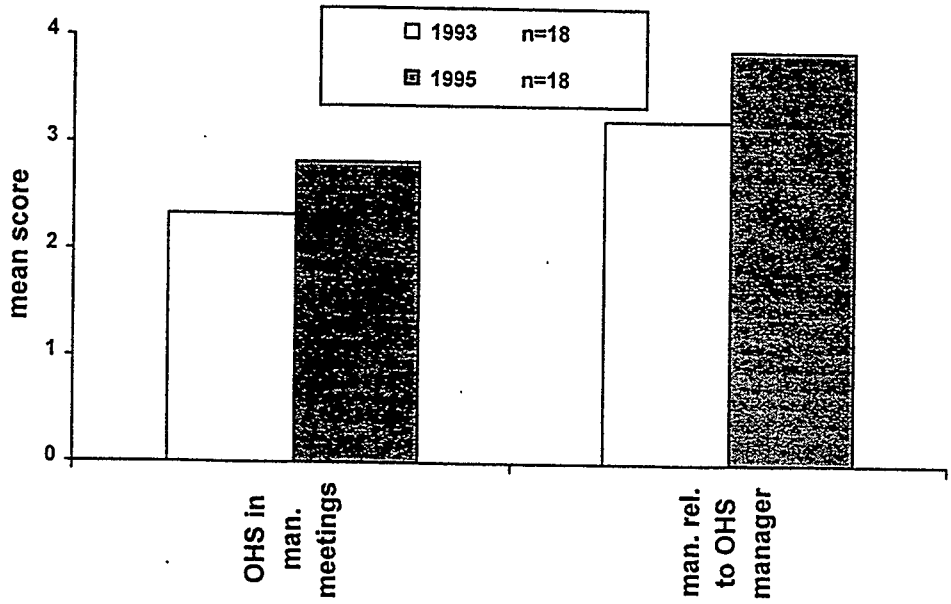

Figure 2: Changes in Involvement of Management in OHS Functions in the Workplace in 1993 and in 1995

The graph shows that compared to 1993, management has a significantly (t=2.54; df=17; P=.021) more positive relationship with the executive manager of OHS in 1995 and that OHS matters are more frequently included in management/operational meetings.

COMPREHENSIVENESS INDEX 3

The theoretical rationale for the composition of Index 3 is presented in ***Section 2.2***. The Code column contains the mnemonics used in the following graph, the Function column contains the description of the items that compose the index. The composite score on Index 3 is the sum of 16 items all scored on a scale of *0= the function is not a role of the Committee; 1= the function is a role of the Committee.*

Table 8: Functions of the OHS Committee in the Workplace from Pre 1993 to Mid 1995

CODE	FUNCTION
facilitate injury invest.	Facilitating the accident investigation process
provision OHS training	Provision of OHS training to workers
reco. OHS training	Recommending OHS training
keeping OHS info. accessible	Maintaining accessibility of OHS information
reco. changes post injury	Recommending changes in the workplace following an accident or dangerous occurrence
recommend OHS programs	Recommending OHS programs, measures and procedures
maintain OHS knowledge	Maintaining up to date knowledge on relevant OHS matters
facilitate cooperat.	Facilitating cooperation
facilitate consultat.	Facilitating consultation
dissem. inform. re. hazards	Coordinating dissemination of information regarding hazards
devel. new policy/practice	Developing new policies and practices
reviewing OHS perf.	Reviewing OHS performance
monitoring implemen.	Monitoring implementation OHS
formulating OHS practices	Formulating OHS organisational practices
formulating OHS proceed.	Formulating OHS procedures
formulating OHS policy	Formulating OHS organisational policy

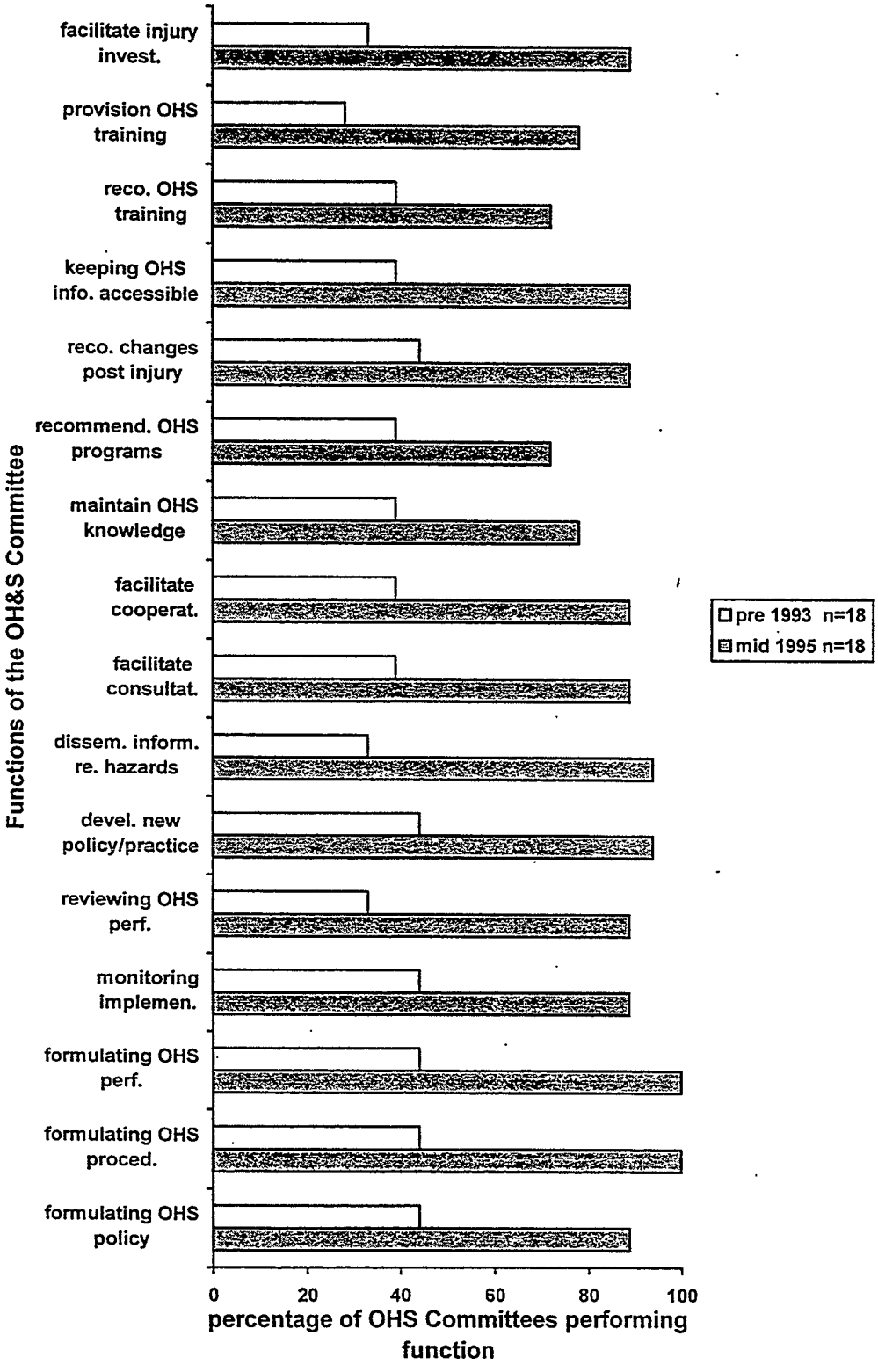

Figure 3: Changes in Functions of the OHS Committee in the Workplace from Pre 1993 to Mid 1995

In Figure 3 each item identifies a function that may be a role of the OHS Committee in each abattoir. The period pre 1993 was compared with the period post 1993. The graph compares the percentage of abattoirs listing the respective functions as roles of the OHS Committee in the two time periods.

It is evident from the graph that the OHS Committees are performing a significantly ($t = 5.46$, $df = 17$, $p < 0.001$) larger number of OHS roles and functions in the period mid 1995 compared to the period prior to 1993.

COMPREHENSIVENESS INDEX 4

The theoretical rationale for the composition of Index 4 is presented in ***Section 2.2***. The Code column contains the mnemonics used in the following graph, the Standard column contains the description of the items that compose the index. These items relate to the use of OHS Standards relevant to the meat industry. The composite score on Index 4 is the sum of thirteen items all scored on a scale of *0= the Standard was not used in the workplace; 1= the Standard was used in the workplace.*

Table 9: The use of OHS Standards in the Workplace from Pre 1993 to Mid 1995

CODE	STANDARD
A.S.1885.1-1990 Injury record	**A.S.1885.1-1990 Australian Workplace Injury and Disease Recording Standard or National Standard NS 002-1990**
A.S 1885-1976 Injury record	**A.S 1885-1976 Recording and Measuring Work Injury Experience**
Construc./equip. guide export	**Construction and Equipment Guidelines for Export Meat**
Chemicals	**Storage and use of Chemicals in the Workplace**
A.S.2336 Knife safety	**A.S.2336 Hand Held Knives in the Meat Industry**
A.S.2056 Safety in the Meat Ind.	**A.S.2056 Safety in the Meat Industry**
Hearing	**Health Hearing Conservation Regulations**
General safety reg.	**OHS General Safety Regulations**
Machinery regulations	**OHS Machinery Regulations**
Manual handling	**OHS Manual Handling Regulations and Code**
Workplace safety code	**OHS Workplaces Code**
First aid code	**OHS First Aid Code**
OHS act	**OHS Act**

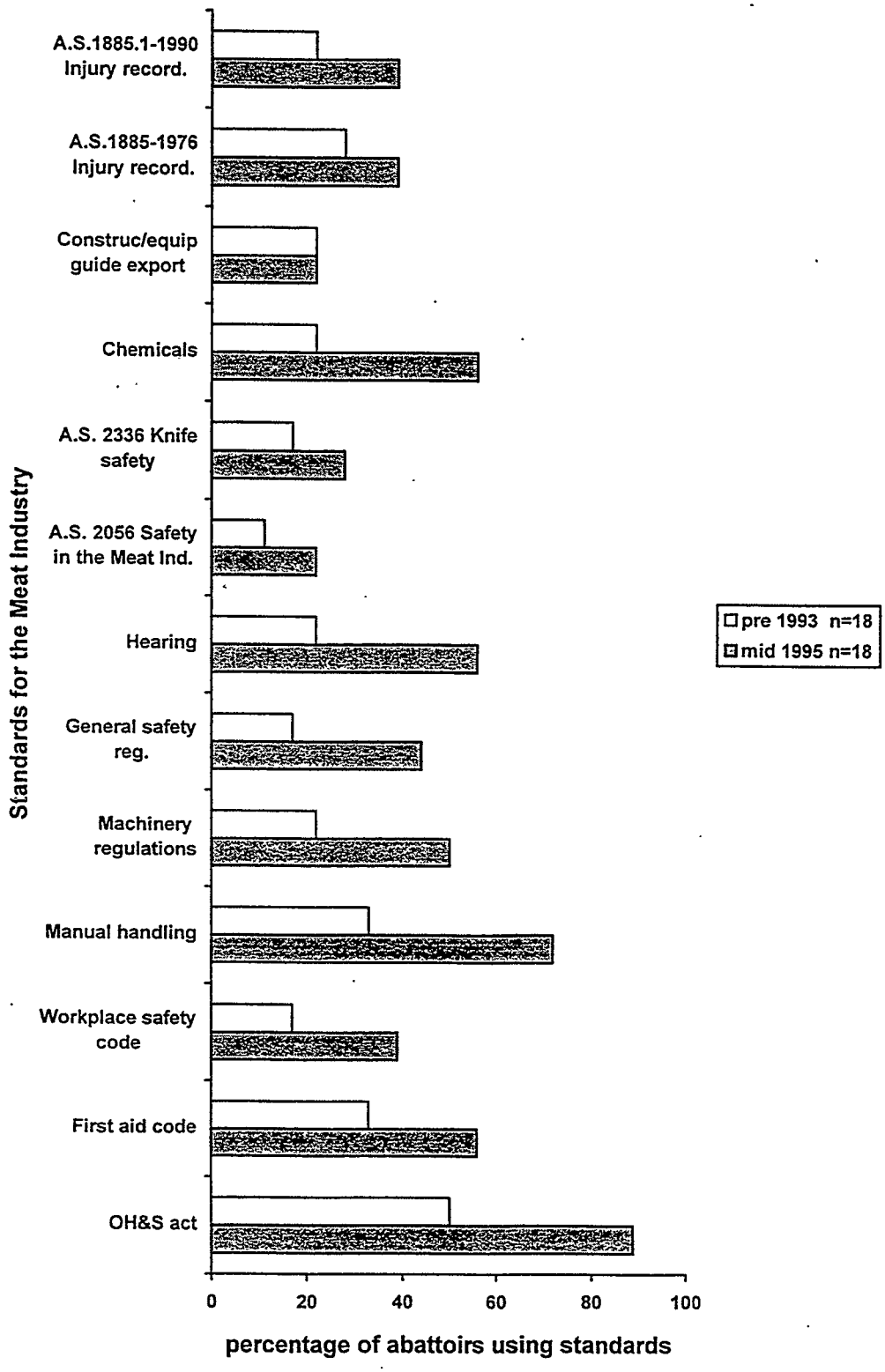

Figure 4: Changes in the use of OHS Standards in the Workplace from Pre 1993 to Mid 1995

In Figure 4 the use of OHS Standards in the workplace pre 1993 was compared to the period mid 1995. Figure 4 illustrates the percentage of abattoirs using the Standards in the two time periods. Figure 4 shows that a significant ($t= 3.46$, $df=17$, $p=0.003$) increase in the use of OHS Standards occurred in the period mid 1995 compared to pre 1993.

COMPREHENSIVENESS INDEX 5

The theoretical rationale for the composition of Index 5 is presented in ***Section 2.2.*** The Code column contains the mnemonics used in the following graph, the Audit column contains the description of the items that compose the index. These two items relate to the frequency with which health and safety audits are conducted in the workplace and the frequency with which the environment is monitored for toxic substances or gases. The composite score on Index 5 is the sum of two items both scored on a scale of *0=never, 1=annually; 2=quarterly; 3=daily or when necessary.*

Table 10: Frequency of Conducting Safety Audits in the Workplace in 1993 and in 1995

CODE	AUDIT
Safety Audits	**Frequency with which safety audits are conducted in the workplace**
Toxic sub./gases	**Frequency with which the environment is monitored for toxic substances or gases**

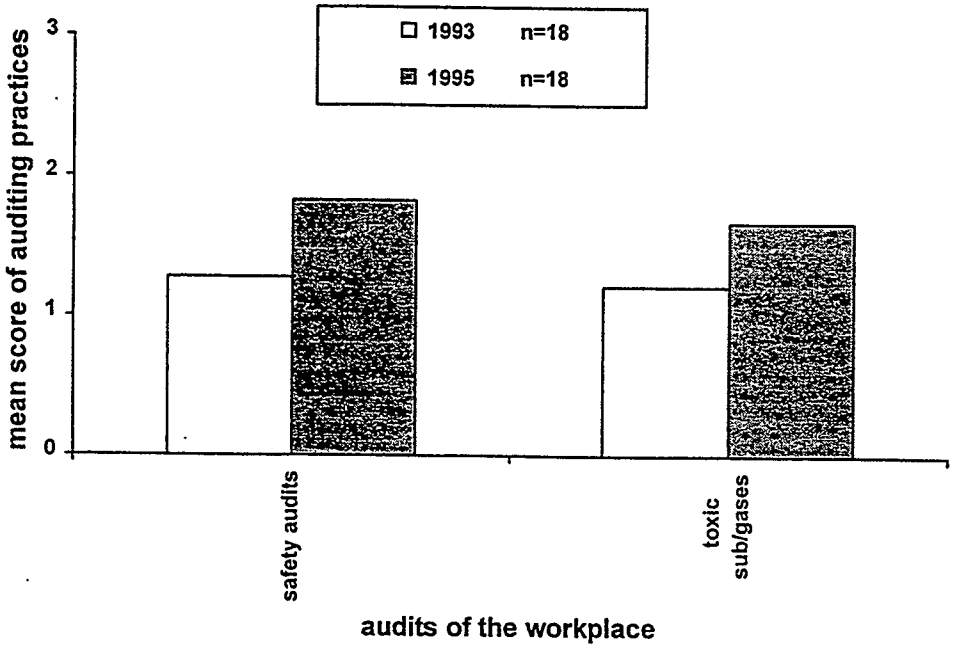

Figure 5: Changes in the Frequency of Conducting Safety Audits in the Workplace in 1993 and in 1995

Figure 5 illustrates that compared to 1993, auditing practices were significantly ($t = 3.19$, $df = 17$, $p = .005$) more frequent in 1995.

COMPREHENSIVENESS INDEX 6

The theoretical rationale for the composition of Index 6 is presented in ***Section 2.2.*** Each item relates to the appointment of specific OHS specialists in the workplace, either on a full-time, part-time, casual or consultancy basis. The composite score on Index 6 is the sum of seven items all scored on a scale of *0= a safety specialist in this area was not appointed at this time; 1=a safety specialist in this area was appointed at this time.*

Table 11: The appointment of OHS Specialists in the Workplace from Pre 1993 to Mid 1995

SPECIALIST AREA
Safety Officer
Doctor
SRN Nurse
Ergonomist
Audiologist
Risk Manager
Safety Specialist

Figure 6 compares the percentage of abattoirs employing OHS specialists pre 1993 and in the period 1993 to mid 1995.

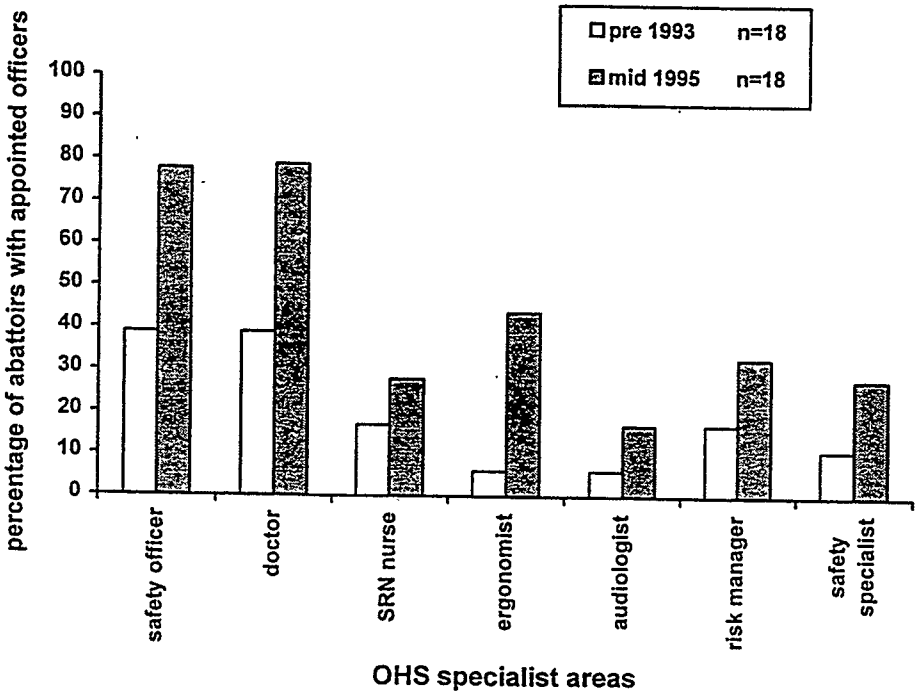

Figure 6: Changes in the Appointment of OHS Specialists in the Workplace from Pre 1993 to Mid 1995

Figure 6 illustrates that a significantly ($t = 4.34$; $df = 17$; $p<0.001$) greater number of OHS specialists were retained in the period mid 1995 compared to pre 1993.

Section 5.2

Analysis of Changes in Total OHS Comprehensiveness Index by Site (Abattoir) Characteristics

The Heiler (1995) report drew attention to the relationship between site characteristics and the degree of OHS comprehensiveness. Heiler (1994) noted that larger work sites are generally better resourced than smaller work sites, therefore these organisations tend to have a more comprehensive OHS structure than small organisations. Heiler (1994) also noted that the working hours and the employment status of employees (full-time or part-time) may inhibit or facilitate OHS performance. Working irregular hours and part-time employment status can impinge upon employee involvement in regular OHS meetings and deter employees from receiving adequate OHS information.

Archival data on site structure was collected via the *Site Profile Questionnaire* described in detail in Section 3.1. This questionnaire was developed to collect background data from the sites participating in the OHS Best Practice Project. The purpose of this data collection was to identify site (abattoir) characteristics that may be related to OHS comprehensiveness.

Calculation of the Total OHS Comprehensiveness Index

To examine the relationship between site (abattoir) characteristics and changes in the degree of OHS comprehensiveness a Total OHS Comprehensiveness Index was calculated.

In order to compute a Total OHS Comprehensiveness Index (TOCI) the scores on the six indices of OHS comprehensiveness were standardised (mean=50; standard deviation=10) so that they were directly comparable. Following standardisation, the Total OHS Comprehensiveness Index (TOCI) was calculated as:

$$\mathbf{TOCI} = \mathit{index1(.828)+index2(.733)+index3(.602)} \\ \mathit{+index4(.566)+index5(.487)+index6(.835)}$$

Thus TOCI is the summation of the six standardised OHS comprehensiveness indices weighted by their coefficients (*). These coefficients can be roughly interpreted to indicate the strength of the relationships between the standardised OHS comprehensiveness indices and, the latent variable, Total OHS Comprehensiveness (TOCI). Using a summation of weighted scores to calculate TOCI provides a performance indicator of greater statistical sensitivity than if the six

OHS comprehensiveness indices were simply summated (ie. accorded weights equal to 1). (Greater detail on the statistical rationale and on the estimation of coefficients for this weighted calculation can be obtained from Dr. David Brown.)

The Total OHS Comprehensiveness Index (TOCI) was used to estimate differences in OHS comprehensiveness in mid 1995 compared to OHS comprehensiveness occurring prior to the Best Practice OHS Programme (defined at or before 1993). For this analysis a single score characterising the Total OHS Comprehensiveness Index (TOCI) at 1993 was compared to a single score characterising the Total OHS Comprehensiveness Index (TOCI) at mid 1995. A repeated measures analysis of variance (ANOVA) *F* statistic was used for this evaluation of change. For a statistical test to be significant the probability of a chance finding was set at α=.05. In the following tables the exact probability of the statistical tests are reported along with the statistical outcomes for the ANOVA F-tests. Seventeen abattoirs reported complete data for the analysis.

In Table 12 changes in the TOCI scores for 1993 and 1995 are compared across low and high export sites. A low export abattoir was one which reported 5% or less production as export.

Table 12: Mean and (standard deviation) of Total OHS Comprehensiveness Index (TOCI) for Low and High-Export abattoirs.

GROUP	TOCI MEAN (std)	TOCI MEAN (std)
	1993	1995
LOW EXPORT (n= 10)	13.09 (6.83)	27.25 (4.32)
HIGH EXPORT (n= 7)	20.21 (6.64)	25.86 (3.41)
ANOVA	F = 6.20 df = 1,15 P = 0.03	

In Table 12 a significantly greater change in TOCI is evident in the low export group compared to the high export group. It is evident that the high export group had a markedly higher TOCI in 1993 than the low export group. This higher TOCI suggests that a greater degree of Total OHS Comprehensiveness was present in the higher export abattoirs in 1993 compared to the lower export abattoirs. The greater resources of the high export group may account for the higher TOCI observed in 1993. It is also possible that the higher TOCI in 1993 would restrict the degree of change possible in 1995 due to scale restrictions in the present measurement of TOCI.

In Table 13 changes in the TOCI scores for 1993 and 1995 are compared across small and large workforce sites. A small workforce site was one which reported 200 or less employees, a large workforce site was one which reported greater than 200 employees.

Table 13: Mean and (standard deviation) of Total OHS Comprehensiveness Index (TOCI) for Small and Large Workforce abattoirs.

GROUP	TOCI MEAN (std)	TOCI MEAN (std)
	1993	1995
TOTAL OF WORKFORCE ≤ 200 (n = 8)	10.87 (4.73)	27.25 (4.89)
TOTAL OF WORKFORCE > 200 (n = 9)	20.60 (6.47)	26.17 (3.02)
ANOVA	F = 14.14 df = 1,15 P = 0.002	

In Table 13 a significantly greater change in TOCI is evident in the smaller workforce group compared to the larger workforce group. It is evident that the larger workforce group had a markedly higher TOCI in 1993 than the smaller workforce group. In manner similar to the data comparing low and high export abattoirs, this higher TOCI suggests

that a greater degree of Total OHS Comprehensiveness was present in the larger workforce abattoirs in 1993 compared to the smaller workforce abattoirs. The greater resources of the larger workforce group may account for the higher TOCI observed in 1993.

It must be ***noted*** that many of the larger workforce abattoirs were also in the high export group. Thus, the data on size of workforce is confounded with export categorisation. The appropriate analysis of these data would be to use a two-way ANOVA design. However, this analysis could not be conducted due to the small numbers in each group.

In Table 14 changes in the TOCI scores for 1993 and 1995 are compared across groups defined by the number of years the abattoir had been established. Groups were defined where abattoirs had been operating for 10 years or less; 11 to 20 years; or 21 or greater years of operation.

Table 14: Mean and (standard deviation) of Total OHS Comprehensiveness Index (TOCI) for abattoirs grouped by Years of Establishment

GROUP	TOCI MEAN (std)	TOCI MEAN (std)
	1993	1995
ESTABLISHED ≤10 YEARS (n = 6)	15.43 (7.53)	28.50 (4.38)
ESTABLISHED 11 - 20 YEARS (n = 3)	15.38 (9.74)	27.65 (5.24)
ESTABLISHED ≥ 21 YEARS (n = 8)	16.70 (7.67)	24.95 (2.62)
ANOVA	F = 0.67 df = 2, 14 P = 0.53	

In Table 14 a significant change in TOCI from 1993 to 1995 is evident in all of the groups. It is also evident that all three groups have similar TOCI scores at 1993. There is some evidence in Table 14 that a greater degree of change in TOCI occurred in the group of abattoirs which had been established for 10 years or less, compared to the older group of abattoirs established for 21 years or more. However, this effect was not statistically significant.

In Table 15 changes in the TOCI scores for 1993 and 1995 are compared across groups defined by the ratio of full-time employees to part-time employees. Groups were defined according to a low ratio of full-time to part-time employees, a middle ratio of full-time to part-time, and a high ratio of full-time to part-time employees.

Table 15: Mean and (standard deviation) of Total OHS Comprehensiveness Index (TOCI) for abattoirs grouped by Ratio of Full-time to Part-time employees

GROUP	TOCI MEAN (std)	TOCI MEAN (std)
	1993	1995
LOW RATIO OF FULL-TIME TO PART-TIME EMPLOYEES (n = 5)	11.79(4.08)	28.09(5.20)
MIDDLE RATIO OF FULL-TIME TO PART-TIME EMPLOYEES (n = 6)	15.35(9.22)	27.42(4.06)
HIGH RATIO OF FULL-TIME TO PART-TIME EMPLOYEES (n = 6)	20.21(6.37)	24.76(1.97)
ANOVA	F =4.44 df = 2, 14 P = 0.032	

In Table 15 a significantly greater change in TOCI is evident in the low ratio of full-time to part-time employee group compared to the high ratio full-time to part-time group. The abattoirs with a higher number of full-time to part-time employees (higher ratio group) had a markedly higher TOCI in 1993 than the abattoirs with a lower number of full-time to part-time employees (lower ratio group). In a manner similar to the data comparing low and high export abattoirs, this higher TOCI suggests that a greater degree of Total OHS Comprehensiveness was present in the abattoirs with a higher number of full-time to part-time employees (higher ratio group) in 1993 compared to the lower ratio abattoirs. The greater resources provided by a higher number of full-time to part-time employees may account for the higher TOCI observed in 1993. It should be ***noted*** that an improvement in Total OHS Comprehensiveness is most likely easier to achieve from a relatively low baseline, than from a relatively high baseline. Therefore, an increase in the higher ratio groups from 1993 to 1995 may be more difficult to attain.

In Table 16 changes in the TOCI scores for 1993 and 1995 are compared across groups defined by their reported location. Respondents to the questionnaires reported their abattoir's location as either Urban or as Rural.

Table 16: Mean and (standard deviation) of Total OHS Comprehensiveness Index (TOCI) for abattoirs grouped by Location

GROUP	TOCI MEAN (std)	TOCI MEAN (std)
	1993	1995
URBAN (n = 6)	16.16 (8.76)	28.31 (3.91)
RURAL (n = 11)	15.94 (7.13)	25.79 (3.79)
ANOVA	F = 0.31 df = 1,15 P = 0.59	

The data in Table 16 indicates that the TOCI scores at 1993 are similar in both groups. A change in TOCI is evident in both groups, however, a significant difference in this change between groups was not obtained.

In Table 17 changes in the TOCI scores for 1993 and 1995 are compared across groups defined by the State of location of the abattoir. Due to the small sample sizes in some States a formal statistical analysis could not be conducted and the results should be interpreted with caution.

Table 17: Mean and (standard deviation) of Total OHS Comprehensiveness Index (TOCI) for abattoirs grouped by State

GROUP	TOCI MEAN (std)	TOCI MEAN (std)
	1993	1995
South Australia (n =2)	21.60 (3.41)	23.82 (2.31)
Queensland (n = 5)	18.97 (7.61)	26.40 (4.10)
New South Wales (n = 4)	14.75 (6.12)	26.51 (3.44)
Victoria (n = 3)	15.79 (10.44)	26.75 (4.74)
West Australia (n = 2)	10.12 (8.18)	26.30 (2.42)
Tasmania (n = 1)	7.69 (0)	35.00 (0)

In Table 17 it is apparent that in 1993 South Australia and Queensland had the highest TOCI scores, and that West Australia and Tasmania had the lowest TOCI score for 1993. However, in 1995 high values for TOCI are apparent in all States, with Tasmania demonstrating the greatest increase in TOCI.

Section 5.3

Analysis of changes in the Workplace by Total OHS Comprehensiveness Grouping

The third phase of the study involved the collection of data measuring specific areas of development in the workplace during the period of the Best Practice OHS Programme. Each member of the Project Team at each abattoir was required to complete this questionnaire. The total sample of Team members for this analysis was n=69. Fifteen abattoirs reported complete data for this analysis.

In this phase of the evaluation the abattoirs were formed into two groups on the basis of their change in Total OHS Comprehensiveness from 1993 to 1995. The Total OHS Comprehensiveness Index (TOCI) scores previously calculated in Section 5.2 were used for this purpose. The abattoirs were formed into one group that demonstrated relatively low improvement in Total OHS Comprehensiveness from 1993 to 1995, and a comparison group was formed that demonstrated a relatively high improvement in Total OHS Comprehensiveness.

It was hypothesised that if the data already presented in Sections 5.1 and 5.2 is demonstrating a systematic effect, then the group recording a low change in TOCI should show less impact in the workplace when compared to the group recording a high change in TOCI.

Employees' responses to the statements in the questionnaire, *Occupational Health and Safety Project Programmes,* entailed identifying the extent to which practices such as *employee OHS training* had changed in their abattoir since the beginning of the Best Practice OHS Programme.

The following analysis grouped responses to the questionnaire into the following sets:

- ***training;***
- ***workplace commitment;***
- ***workplace communication;***
- ***OHS knowledge;***
- ***rehabilitation;***
- ***safe work practices (primarily an outcome measure);***
- ***development of team work in work groups;***
- ***work design.***

A description of the items in the various sets of questions are presented in Table 18.

Table 18: Description of Items appearing in each Set

SET	DESCRIPTION OF ITEMS	RELIABILITY COEFFICIENT	NUMBER OF ITEMS
TRAINING	This set of questions measured deterioration/improvement in OHS training during the period of the Best Practice Programme.	α= 0.97	12
COMMITMENT	This set of questions measured deterioration/improvement in commitment of management and workers to OHS during the period of the Best Practice Programme.	α= 0.96	20
COMMUNICATION	This set of questions measured deterioration/improvement in communication between management and workers during the period of the Best Practice Programme.	α= 0.90	14
OCCUPATIONAL HEALTH AND SAFETY KNOWLEDGE	This set of questions measured deterioration/improvement in OHS knowledge during the period of the Best Practice Programme.	α= 0.88	16
REHABILITATION	This set of questions measured deterioration/improvement in rehabilitation support programmes during the period of the Best Practice Programme.	α= 0.95	10
SAFE WORK PRACTICES	This set of questions measured deterioration/improvement in safe work practices during the period of the Best Practice Programme.	α= 0.94	21
OTHER TEAM WORK	This set of questions measured deterioration/improvement in group work other than that of the Project Team during the period of the Best Practice Programme.	α= 0.96	14
WORK DESIGN	This set of questions measured deterioration/improvement in work design during the period of the Best Practice Programme.	α= 0.87	14

The employee's responses to the statements in this questionnaire were measured over a 5 point scale from *Greatly Improved* to *Greatly Deteriorated*. Each member of the Project Team in each abattoir recorded a score for each statement in each set of questions. The sum of the

scores in each set of questions, such as *training*, became the employee's score for that set.

Table 18 illustrates the number of statements (items) in that set, and the internal consistency coefficients (α) for that set. These coefficients indicate the degree of internal consistency of responding by members of the Project Teams for each set of questions. These coefficients (α) can be used as an indicator of the reliability of the Team members responses. A coefficient equal to, or greater than, .5 is considered to be acceptable reliability. As can be seen from Table 18, the internal consistency coefficients indicate that all sets of questions have acceptable reliability.

A Profile analysis was conducted to test for differences between the low and high change TOCI groups. For this analysis the employees' scores for each set of questions were statistically standardised (mean=50; standard deviation=10) so that they could be directly compared across each set of questions. The mean standardised scores for each set of questions, for each Project Team, were used as the indicators for that abattoir. For a statistical test to be significant the probability of a chance finding was set at $\alpha=.05$. The exact probability of the statistical test will be reported along with the statistical outcome for the Profile analysis.

Figure 7 illustrates the mean scores for each group on each set of questions. The average change in Total OHS Comprehensiveness Index (TOCI) for the abattoirs in the low change group was 4.55. The average change in Total OHS Comprehensiveness Index (TOCI) for the abattoirs in the high change group was 14.87.

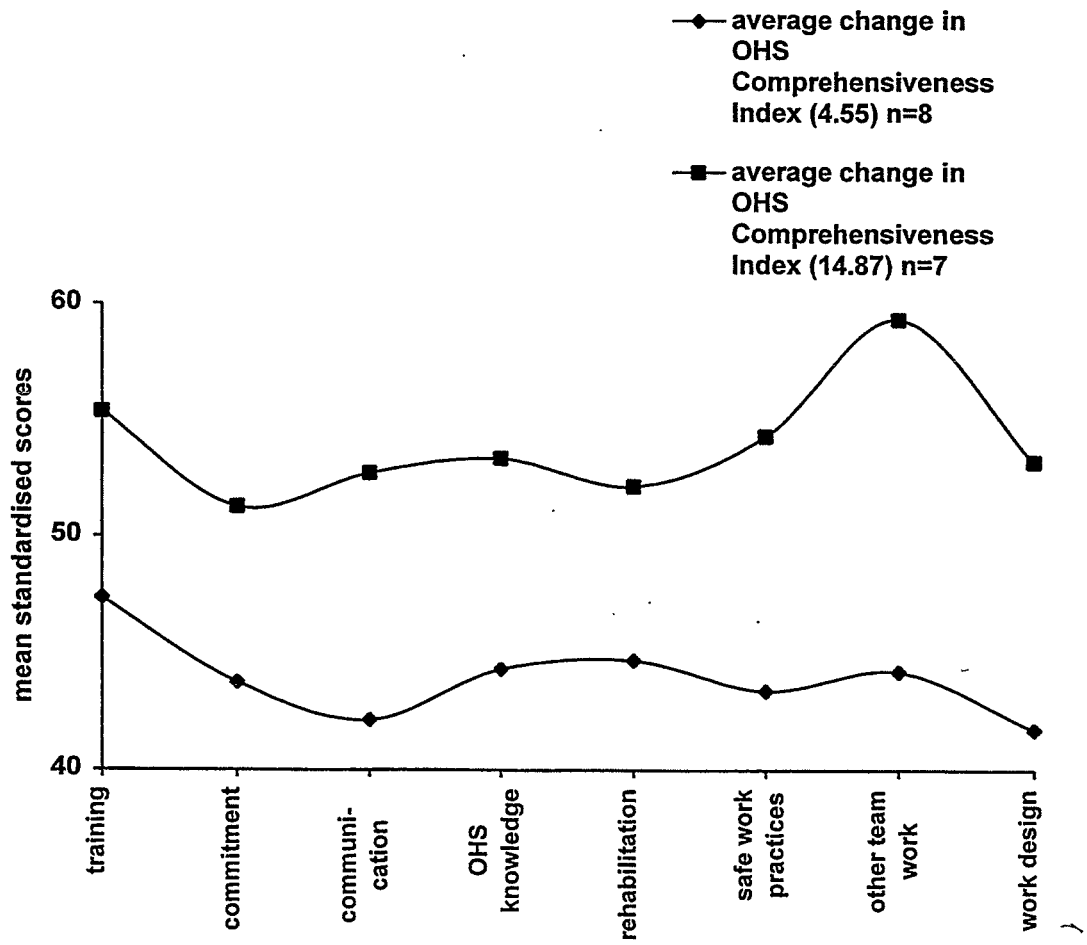

Figure 7: BEST PRACTICE TEAM MEMBERS' PERCEPTIONS OF THE IMPACT OF THE BEST PRACTICE PROJECT ON THE WORKPLACE

The analysis indicated significantly (F=11.14; df=1,13; P=0.005) different levels for the profiles of the two change groups. The profile of the group of abattoirs demonstrating a low (4.55) improvement in Total OHS Comprehensiveness from 1993 to 1995 was consistently lower than that of the group of abattoirs demonstrating high (14.87) improvement in Total OHS Comprehensiveness from 1993 to 1995. It is particularly noticeable from Figure 7 that the team members in the low group tended to report lower levels of improvement in *communication in the workplace*, in *teamwork skills in the workplace*, and a lower level of improvement in *safe work practices*.

Section: 6.1

CONCLUSIONS AND RECOMMENDATIONS

CHANGES IN OHS COMPREHENSIVENESS OVER THE BEST PRACTICE OHS PROGRAMME

The results presented in Section 5.1 indicate that significant changes in OHS comprehensiveness occurred from 1993 to mid 1995. The improvements in OHS comprehensiveness appeared to be systematic and were statistically significant for indices measuring:

co-operation and consultation between management and employees on OHS functions in the workplace;
involvement of management in OHS functions;
functions of the OHS Committee in the workplace;
the use of OHS Standards in the workplace;
the use of OHS safety audits in the workplace;
the appointment of OHS specialist personnel in the workplace.

These indices comprised data collected from the Chairperson of the Safety Committee, and the Executive Manager for OHS. These data were collected from a mix of archival and perceptual sources. In 50% of the sample, these data were provided by two different sources of informed respondents. These features of the present study contribute to the

Congruent validation of the data. However, it should be noted that the data for these indices were collected in 1995. It would have been preferable to have collected base line measures on these indices at the time of commencement of the initiation of the Project Teams in each abattoir.

The indices of OHS comprehensiveness developed in the present study provide measures of some of the OHS processes theoretically necessary for a successful Best Practice OHS Programme. These indices are in the main limited, and measures of process and not of OHS outcome. Without measures of the effects of these processes on OHS outcome they constitute only one side of the OHS Best Practice equation. However, it is doubtful whether improvements in OHS outcome can be achieved without such processes being initiated.

RECOMMENDATIONS

In consideration of the present findings relating to changes in OHS comprehensiveness it is recommended that:

- **further data, over the same time periods (1993-1995), be collected on OHS outcome measures related to OHS comprehensiveness from the abattoirs in the present sample. The OHS outcome measures selected should be appropriate performance indicators for the process indices. The OHS outcome measures should include both process orientated outcomes such as changes in OHS climate in the workplace, and traditional OHS performance indicators such as accident data. Taken together, these forms of data will allow some estimation of the effects of changes in measures of OHS processes on changes in measures of OHS outcome.**

- **further development of the indices of OHS comprehensiveness, and of additional indices of OHS processes should be conducted to assist in the construction of a model of OHS Best Practice with some generality across the industry.**

CHANGES IN TOTAL OHS COMPREHENSIVENESS INDEX BY SITE (ABATTOIR) CHARACTERISTICS

The development of a model of Total OHS Comprehensiveness (TOCI) provided an indicator by which changes in total OHS comprehensiveness could be evaluated in relation to the characteristics of the abattoirs in the sample. The Total OHS Comprehensiveness Index constitutes the first step in the development of an OHS performance indicator that estimates the contribution of each of the comprehensiveness indices and then combines them in a model of OHS comprehensiveness. This model was used to evaluate differences in OHS comprehensiveness in relation to differences in abattoir characteristics.

Differences in the change in Total OHS Comprehensiveness were found between abattoirs with a low percentage of export product versus abattoirs with a high percentage of export product. Differences in the change in Total OHS Comprehensiveness over the time period sampled were also found between abattoirs employing a smaller versus a larger workforce, and between abattoirs reporting different ratios of full-time to part-time employees. It should be noted that the data indicated that abattoirs with a high percentage of export product also tended to employ a larger workforce. However, due to the small sample size in the present

study, these confounding effects could not be controlled for in the statistical analysis.

The design of the present study allowed some group comparisons of the change in Total OHS Comprehensiveness (TOCI). However, within the design of the study, 1993 or prior to 1993 data from each abattoir was used as a referent for the effects of the initiation of the Best Practice OHS Programme. Greater scientific rigour would have been obtained by using as a referent group a sample of abattoirs outside of the group which elected to join the Best Practice Programme.

RECOMMENDATIONS

In consideration of the present findings relating changes in Total OHS Comprehensiveness (TOCI) to the characteristics of the abattoirs in the sample it is recommended that:

- **Data from a small sample (n=6) of abattoirs outside of the abattoirs which elected to join the Best Practice Programme should be collected and used as a referent group for the evaluation of the effects on OHS comprehensiveness of the Best**

Practice Programme. This referent (control) group of abattoirs should be selected so that the group composition reflects those site characteristics found to be significantly related to change in Total OHS Comprehensiveness (TOCI).

- **further development of the Total OHS Comprehensiveness Index (TOCI) is necessary to establish the optimum weightings of the various indices included in the model. Further development of the TOCI model is necessary to establish its generality across the industry.**

CHANGES IN THE WORKPLACE BY TOTAL OHS COMPREHENSIVENESS (TOCI) GROUPING

The systemic view of organisations outlined in Section 1.3 suggests that although the Teams in each abattoir focused on specific OHS objectives, these Teams may effect wider changes in the workplace. There is some evidence from the present study which suggests that changes in Total OHS Comprehensiveness (TOCI) were related to broader effects in the workplace. The group of abattoirs demonstrating a relatively low improvement in Total OHS Comprehensiveness from 1993 to 1995 reported less improvement in specific areas in the workplace than the

group of abattoirs demonstrating higher improvement in Total OHS Comprehensiveness during this period. In particular, the team members in the low group tended to report lower levels of improvement in *communication in the workplace*, in *teamwork skills in the workplace*, and a lower level of improvement in *safe work practices*. These data were collected only from the Project Team members, and for this reason may be considered to be positively biased. However, the difference in profiles detected when the abattoirs were grouped according to change in TOCI is consistent with the data collected in the other phases of the study. A further problem with this phase of the study is the lack of baseline data. The present data reflecting change over the period of study is dependent on the recollections of the Project Team members. Due to these limitations the present findings must remain tentative.

RECOMMENDATIONS

In consideration of the present findings relating broader changes in the workplace to degree of change in TOCI it is recommended that:

- **further studies be conducted examining OHS interventions in the workplace and their relationship to development in areas such as team work, communication, and commitment in the workplace.**

- **data measuring the perceptions of employees located in various work areas should be evaluated in addition to the perceptions of OHS Project Team members.**

RECOMMENDATIONS FOR FUTURE RESEARCH

ASSESSMENT OF THE IMPACT OF CHANGES IN OHS COMPREHENSIVENESS ON OHS PERFORMANCE

A major benefit of the methodology outlined in the MRC Preparation Report, Work Related Issues Key Program (1992, page 17) is 'the ability to directly compare the results of individual projects to identify those that have had the biggest productivity impact'. The MRC Preparation Report emphasises 'the identification of more efficient formats and structures for both the industry and individual processors to address the OH&S issues and improve OH&S performance'.

The present report suggests that changes in OHS comprehensiveness have occurred over the time period of the Best Practice OHS Programme. However, the impact of these changes in OHS processes on OHS performance in the abattoirs was not assessed. Thus, further research linking changes in OHS comprehensiveness to changes in OHS performance is a necessary step in assessing the productivity benefits stated in the Key Program methodology. The performance indicators developed to evaluate this impact may include traditional outcome

measures encompassing work injury rate, compensation OHS costs, rehabilitation costs, and positive performance indicators such as worker perceptions of OHS climate, auditing of specific OHS processes, and supervisors' evaluation of worker OHS performance. Baseline measures of these performance indicators are necessary at or prior to 1993 for comparison with followup measures at 1995. An outline of a possible paradigm for assessing the impact of changes in OHS comprehensiveness on OHS performance over the time period 1993-1995 is presented in Table 19. In the event of accurate OHS performance data at or prior to 1993 being unavailable, it may be necessary to obtain a further sample of abattoirs for the study and repeat the complete paradigm starting in 1996.

Table 19: Paradigm for assessing the impact of changes in OHS comprehensiveness on OHS performance over the time period 1993-1995

1. Define OHS characteristics, processes, etc. in abattoirs that are likely to impact on OHS performance indicators.	2. Review OHS measures of comprehensiveness in the light of phase 1.	3. Define performance indicators appropriate to measure the impact of OHS comprehensiveness.
4. Devise data collection tools (archival, perceptual, performance etc.).	5. Collect data. Within the present study this entails obtaining 1993 baseline data and 1995 change data.	6. Analyse data evaluating improvement in OHS performance measures related to changes in OHS comprehensiveness.

FEEDBACK TO ABATTOIRS ON IMPLICATIONS OF RESEARCH RESULTS

An essential step outlined in the MRC Preparation Report, Work Related Key Program (1992, page 17) is that 'changes made are documented and published to enable other abattoirs to take advantage of the improvements made as the result of research'. The MRC can achieve this objective in the present study by implementing a positive feedback strategy. This feedback strategy entails providing each abattoir participating in the present study with a specific document (of up to 10 pages) profiling their performance in OHS comprehensiveness against the group averages illustrated in the report. This form of feedback would provide each abattoir with indicators of their individual performance from 1993-1995, and may well act as a positive stimulus for change by improving awareness concerning OHS improvement.

Section: 6.2

GENERAL COMMENTS

The data collected in the study suggests that improvements have occurred in OHS comprehensiveness during the time period covering the Best Practice OHS Programme. The performance indicators developed in the present study have theoretical support from the research literature, but cannot be considered an exhaustive set of measures of OHS comprehensiveness. However, the indices used have been sufficient to suggest changes in OHS comprehensiveness over the time period sampled. Due to the problems outlined in Section 6.1, it is difficult to attribute the changes observed in OHS comprehensiveness directly to the influence of the Best Practice OHS Programme. In relation to the various indices of OHS comprehensiveness, each abattoir reported data indicating its status prior to, and at the initiation of, the Best Practice OHS Programme. This data was used as a referent (baseline) for the estimation of changes in OHS comprehensiveness. In this form of research design each abattoir acts as its own control. Within the limitations of this paradigm, improvements in OHS comprehensiveness were observed in mid 1995.

REFERENCES

Biggins, D.R., Phillips, M. & O'Sullivan, P. (1991). Benefits of worker participation in health and safety. **Labour and Industry, 4(1)**, 138-159.

Camp, R.R., Blanchard, P.N., & Huszczo, G.E. (1986). **Towards a more organisationally effective training strategy and practice**. New Jersey: Prentice Hall.

Cooper, D. (1995). Measurement of safety climate: A component analysis. **Paper presented at IOSH meeting**. 1st February, 1995, Pearson Park Hotel.

Duff, A.R., Robertson, I.T., Phillips, R.A., & Cooper, M.D. (1994). Improving safety by the modification of behaviour. **Construction Management and Economics, 12**, 67-78.

Egan, G. (1990). **The skilled helper: A systematic approach to effective helping**. 4th Edition. California: Brooks/Cole.

Geller, E.S. (1994). Ten principles for achieving total safety culture. **Professional Safety, September,** 18-24.

Harrison, D.A. & Liska, L.Z. (1994). Promoting regular exercise on organisational fitness programs: health related differences in motivational building blocks. **Personnel Psychology, 47**, 47-71.

Heiler, K. (1994). **Enterprise bargaining: Implications for Occupational Health and Safety**. Australian Centre for Industrial Relations Research and Teaching, Working Paper No. 34: Sydney, Australia.

Hermansson, G.L. (1993). Counsellors and organisational change: Egan's systems model as a tool in organisational consulting. **British Journal of Guidance and Counselling, 21(2)**, 133-144.

Jenner, R.A. (1994). Changing patterns of power, chaotic dynamics and the emergence of a post-modern organisational paradigm. **Journal of Organisational Change Management, 7(3)**, 8-21.

Kleiner, B.H., & Corrigan, W.A. (1989). Understanding organisational change. **Leadership and Organisational Development Journal, 10(3),** 25-31.

Knight, J. (1992). Dulux identifies OHS as critical to best practice. **HRMonthly, November**, 27-28.

Krause, T.R., Hidley, J.H., & Stanley, J.H. (1991). Measuring safety performance: The process approach. **Occupational Hazards, June**, 49-52.

Kunz, L. (1993). The human element at work: Focusing on behaviour can lead to a safer workplace. **Business Insurance, 27(42),** 19.

Meat Research Corporation (1992). **Work Related Issues Key Program, Preparation Report**. Meat Research Corporation: Sydney, Australia.

Mitchell, T., & Dennis, E. (1991). Closing the OH&S knowledge application gap an opportunity for clever enterprise. In V. Popovic & M. Walker, (Eds). **Ergonomics and Human Environments: Proceedings of the 27th annual conference**. 1st-4th December, 1991, Coolum.

Pidgeon, N.F. (1991). Safety culture and risk management in organisations. **Journal of Cross-Cultural Psychology, 22 (1),** 129-140.

Preston, R., & Topf, M. (1994). Safety discipline: A constructive approach. **Occupational Hazards, March,** 51-54.

Quinlan, A., & Bohle, P. (1991). **Managing OH&S in Australia**. Melbourne: Macmillan.

Reber, R.A., Wallin, J.A., & Duhon, D.L. (1993). Preventing occupational injuries through performance management. **Public Personnel Management, 22(2),** 301-311.

Schien, E.H. (1988). **Process consultation (Vol 1): Its role in organisation development**. Masachusetts: Addison-Wesley.

Sheen, D.A.B.(1992). Safety performance goals - the planning process. **Occupational Hazards, 54 (11),** 41-43.

Walker, M.B. (1991). Safe behaviour involvement: Increasing the use of safety related behaviour. In V. Popovic & M. Walker, (Eds). **Ergonomics and Human Environments: Proceedings of the 27th annual conference**. 1st-4th December, 1991, Coolum.

Wilpert, B. (1995). Organisational Behaviour. **Annual Review of Psychology, 46**, 59-90.

Worksafe Australia (1994). Best practice case study: Herbert Adams Bakeries. **Journal of Occupational Health and Safety - Australia and New Zealand, 10(3),** 275-278.

Worksafe Australia (1994). **Positive performance indicators for OHS: Beyond lost timje injuries, Part 1 - Issues**. Commonwealth Information Services, Australian Government Publishing Services.

Young, R., Campbell, S. & Batty, I. (1994) Improving health and safety compliance in the abattoir industry. **Journal of Occupational Health and Safety - Australia and New Zealand, 10(3),** 241-249.

Zagumny, M.J. (1992). A new view for organisation development evaluations. **Organization Development Journal, 10 (1),** 23-29.

APPENDIX 1

SITE PROFILE

The following questionnaire is the first part of a three phase study developed to identify factors effecting health and safety practices in the meat industry.

This information will assist your abattoir to identify factors impacting upon Occupational Health and Safety.

The following site profile will provide base-line data and background information about the abattoir which will be linked to the second phase measuring Occupational Health and Safety infrastructure and the third phase identifying the effectiveness of Occupational Health and Safety programs.

All information collected from your abattoir will be treated with the strictest confidence and only your abattoir will have access to this information.

Data from your abattoir will be aggregated with data from other abattoirs for a major report to be submitted to the Meat Research Corporation, however individual abattoirs will not be identified by the report.

All data from the study will be held at Griffith University. Your data will be held along with the other site data at Griffith University and will only be available to you.

Thank you for your time and commitment. It is important to answer all questions.

DR. DAVID BROWN
Head of School of
Organisational Behaviour

SITE PROFILE
(NOT INCLUDING SMALLGOODS OPERATION)

1. What is the name of your abattoir and the state in which it is located?

_____

2. Is the site located: (Please tick the appropriate box).

Country Centre	
Urban	

3. Years of Operation: (Please specify) _____

4. What is the nature of the ownership of this site? Please tick the appropriate boxes.

Single site	
Multi site	
Publicly owned	
Family Concern	
Multinational	

5. The number of employees currently employed as: (Please specify for each category).

	Male	Female
Full Time		
Part Time		
Casual		
Seasonal		
Total		

6. What is the annual staff turnover rate? Please tick the appropriate box for each year.

PERCENT	STAFF TURNOVER RATE		
	1993	1994	1995 (Jan. - May)
Less than 10 percent			
10-20 percent			
20-30 percent			
Greater than 30 percent			
Information not collated			

7. How many employees are currently working in administration? Please specify for each area.

AREA	NUMBER
Sales	
Office	
Marketing	
Other	

8. How many employees are currently working in production shifts? Please specify the number for each category of employees.

SHIFTS	NUMBER OF EMPLOYEES					
	Slaughter Floor (include offal processing)	Boning Room	Load out (chiller, freezer)	Maintenance /Engineering	By products	Industrial Cleaning
Day shift						
Afternoon shift						
Night shift						

9. (i) What is the percentage of the administrative workforce (for example: sales, office, marketing, and accounting) whose first language is not English? Please specify.

☐ %

(ii) What is the percentage of the workforce (for example: line supervisors, tally workers, maintenance and load-out) whose first language is not English? Please specify.

☐ %

(iii)What percentage of the workforce has the following languages as a first language? Please specify the percentage. Is OH&S information provided in those languages? Please tick the appropriate boxes and specify any other languages where applicable.

LANGUAGE	PERCENTAGE OF WORKFORCE	YES	NO
Vietnamese			
Korean			
Chinese			
Italian			
Lebanese			
Other			

10. Is there a tally system?

Yes	
No	

Please give specific details. For example, is the system based on an award or on an enterprise agreement. (For convenience, relevant photocopied sections of awards or agreements would be equally useful to handwritten material). What is the specific formula for:
(i) the slaughter floor?

(ii) the boning room?

If you require more space please attach additional page(s).

11. How regularly are tally workers paid above tally? That is: above agreement conditions *not* overtime. Please tick one box.

Never	
Daily	
Once a week	
Once a fortnight	
Once a month	
Quarterly	
Other	

12. On what basis are non-tally production workers paid? For example, hourly rate. Please specify.

13. What are the average hours worked by employees per day for each section? Please tick the appropriate box for each section.

SECTION	HOURS WORKED				
	Less than 5	6-7	8-9	9-10	Greater than 10
Slaughter floor (include offal process)					
Boning room					
Load out					
Maintenance/Engineering					
By products					
Industrial Cleaning					

14. What are the average hours of operation for each section? Please tick the appropriate box for each section.

SECTION	HOURS WORKED				
	Less than 5	6-7	8-12	13-17	18-24
Slaughter floor (include offal process)					
Boning room					
Load out					
Maintenance/Engineering					
By products					
Industrial Cleaning					

15 (i). Is the plant operation seasonal?

Yes	
No	

(ii). If you have peak season and low season, please specify the number of months of operation for peak season and low season for each year.

SPECIES	YEAR	NUMBER OF MONTHS PEAK SEASON OF OPERATION	NUMBER OF MONTHS LOW SEASON OF OPERATION
Beef	1993		
	1994		
	1995 (Jan. - May)		
Lamb/ Mutton	1993		
	1994		
	1995 (Jan. - May)		
Calves	1993		
	1994		
	1995 (Jan. - May)		
Pig	1993		
	1994		
	1995 (Jan. - May)		
Other			

16. What is the volume processed per year? (volume expressed as: number of head). If you have peak season and low season please specify the volume processed for peak season and low season for each year.

		VOLUME PROCESSED		
SPECIES	YEAR	VOLUME FOR YEAR	PEAK SEASON OF OPERATION	LOW SEASON OF OPERATION
Beef	1993			
	1994			
	1995 (Jan. - May)			
Lamb/ Mutton	1993			
	1994			
	1995 (Jan. -May)			
Calves	1993			
	1994			
	1995 (Jan. - May)			
Pig	1993			
	1994			
	1995 (Jan. - May)			
Other				

17. What products are processed on the *slaughter floor* at this abattoir? Please specify the percentage processed in peak season and low season.

SPECIES	Slaughter Floor					
	1993		1994		1995 (Jan. - May)	
	PEAK SEASON	LOW SEASON	PEAK SEASON	LOW SEASON	PEAK SEASON	LOW SEASON
Beef %						
Lamb/Mutton %						
Calves %						
Pig %						
Other %						

18. What products are processed in the *boning room* at this abattoir? Please specify the percentage processed in peak season and low season.

SPECIES	Boning Room					
	1993		1994		1995 (Jan. - May)	
	PEAK SEASON	LOW SEASON	PEAK SEASON	LOW SEASON	PEAK SEASON	LOW SEASON
Beef %						
Lamb/Mutton %						
Calves %						
Pig %						
Other %						

19. How many chains are there on the *slaughter floor*? Please specify the number of chains for peak season and low season for each year.

	Slaughter Floor					
	1993		1994		1995 (Jan. - May)	
SPECIES	PEAK SEASON	LOW SEASON	PEAK SEASON	LOW SEASON	PEAK SEASON	LOW SEASON
Beef						
Lamb/Mutton						
Calves						
Pig						
Other						

20. How many chains are there in the *boning room*? Please specify the number of chains for peak season and low season for each year.

	Boning Room					
	1993		1994		1995 (Jan. - May)	
SPECIES	PEAK SEASON	LOW SEASON	PEAK SEASON	LOW SEASON	PEAK SEASON	LOW SEASON
Beef						
Lamb/Mutton						
Calves						
Pig						
Other						

21. Who or what determines the volume processed per day? Please specify.

_____

_____

_____

_____

22. Who or what determines the speed of processing, that is: the rate of the chain per day? Please specify.

_____

_____

_____

_____

23. What percentage of product is for domestic or export purposes? Please specify the percentage in each box.

Domestic ☐ **%** **Export** ☐ **%**

24. What union(s) are represented in the workplace for production and maintenance employees? Please specify the number of members in the box(es) and other union membership if applicable.

	Number of members
A.M.I.E.U.	
Storemen and packers	
Cold store and meat processor	
A.M.W.U. (Australian metal workers union)	
Australian Society of Engineers	
Other (please specify):	
None	

25. If plant and equipment has been updated, please specify what plant and equipment has been updated in last 5-10 years.

RECRUITMENT

26(i). What recruitment procedure(s) are used? Please tick the appropriate box(es) for each year and specify any other recruitment procedure(s) used for each year.

RECRUITMENT PROCEDURE	1993	1994	1995 (Jan. - May)
Referral by family member			
Referral by other worker			
Advertisements			
Individual contacting organisation at gate to gain an *interview* for employment			
Individual contacting organisation at gate to gain *immediate* employment			
Other			

(ii). Which of the above recruitment procedures are the predominant procedures?

27. Which selection procedure(s) have been used? Please tick the appropriate box(es) for each year and specify any other selection procedure(s) used for each year.

SELECTION PROCEDURE	1993	1994	1995 (Jan. - May)
Interview			
Literacy test			
Skills test			
Pre-employment medical			
Physical Fitness test			
Previous work experience			
Verbal work references ie: contacting previous employer			
Written work references			
Workers compensation check			
Other			

(ii). Which of the above selection procedures are the predominant procedures?

_____

_____

_____

28. If literacy is assessed, what percentage of the workforce has literacy problems?

☐ %

APPENDIX 2

OCCUPATIONAL HEALTH AND SAFETY INFRASTRUCTURE

EXECUTIVE MANAGER OF OCCUPATIONAL HEALTH AND SAFETY PRACTICES

The following questionnaire is the second part of the three phase study aimed at identifying factors affecting Occupational Health and Safety in the meat industry. The questionnaire will provide data regarding the occupational health and safety infrastructure at your abattoir. This data will aid your abattoir in providing supportive structures and processes for occupational health and safety.

The information you provide will remain *strictly confidential.* The data from your abattoir will be aggregated with data from other abattoirs. A major report will be submitted to the Meat Research Corporation, however individual abattoirs *will not* be identified in the report.

Thank you for your time and commitment. It is important to answer all questions.

DR. DAVID BROWN
Head of School of
Organisational Behaviour
Griffith University.

EXECUTIVE MANAGER OF OCCUPATIONAL HEALTH AND SAFETY PRACTICES

What is the name of your abattoir and the state in which it is located?

_____

1. Please specify your job title. _____

2. Are you familiar with the following standards? Please tick your familiarity with the following standards and specify the year that the following OH&S standards were introduced in your abattoir.

STANDARDS	FAMILIARITY				
	Very Familiar	Somewhat Familiar	Not Familiar	Not Applicable	Year
OH&S Act					
OH&S First Aid Code					
OH&S Workplaces Code					
OH&S Manual Handling Regulations & Code					
OH&S Machinery Regulations					
OH&S General Safety Regulations					
Health Hearing Conservation Regulations					
A.S. 2056 Safety in the Meat Industry					
A.S. 2336 Hand held knives in Meat Industry					
Storage and use of chemicals in the workplace					
Other (Please specify):					

3. Are you familiar with the following standards? Please tick your familiarity with the following standards and specify the year that the following OH&S standards were introduced in your abattoir.

	FAMILIARITY				
	Very Familiar	Somewhat Familiar	Not Familiar	Not Applicable	Year
Construction and equipment guidelines for export meat					
A.S. 1885-1976 Recording and measuring work injury experience					
A.S. 1885.1-1990 Australian Workplace injury and disease recording standard or National Standard NS 002-1990					
Statutory requirements (for your state) for the recording and notification of injury and incidence (Please name):					
Other (Please specify):					

4. How available are the following standards to you in the workplace? Please tick the appropriate boxes. Please specify the year they became available.

STANDARDS	AVAILABLE				
	Easily Available	Somewhat Available	Not Available	Not Applicable	Year
OH&S Act					
OH&S First Aid Code					
OH&S Workplaces Code					
OH&S Manual Handling Regulations & Code					
OH&S Machinery Regulations					
OH&S General Safety Regulations					
Health Hearing Conservation Regulations					
A.S. 2056 Safety in the Meat Industry					
A.S. 2336 Hand held knives in Meat Industry					
Storage and use of chemicals in the workplace					
Construction and equipment guidelines for export meat					
A.S. 1885-1976 Recording and measuring work injury experience					
A.S. 1885.1-1990 Australian Workplace injury and disease recording standard or National Standard NS 002-1990					
Statutory requirements (for your state) for the recording and notification of injury and incidence (Please name):					
Other (Please specify):					

5. What sources of occupational health and safety information for 1993, 1994 and 1995 were/are utilised? Please tick the appropriate box(es) for each source.

SOURCES	Never			Sometimes			Often		
	1993	1994	1995 (Jan. to May)	1993	1994	1995 (Jan. to May)	1993	1994	1995 (Jan. to May)
Media (For example: Newspapers/TV)									
Government Department (Please specify for your state):									
Industry Associations (Please specify):									
Trade publications									
Unions									
Sales representatives/ consultants									
OHS seminars/ workshops									
Australian Standards									
Other companies (Networking)									
Other (Please specify):									

6. Is there a written OH&S policy? Please tick yes or no.

Yes	
No	

7. When was the policy introduced? Please specify the year.

Year	

8. How well do you understand the OH&S policy? Please tick the appropriate box.

Very well	
Reasonably well	
Not very well	

9. Are OH&S matters (statistics, prevention and control) discussed as a regular item of management planning/operational meetings? Please tick the appropriate box for each year.

	1993	1994	1995 (Jan. to May)
Often			
Regularly			
Sometimes			
Infrequently			
Never			

10. When were OH&S matters first introduced as regular items of management planning/operational meetings? Please specify the year.

Year ☐

11. Are any professional OH&S staff or consultants retained by the Company? Please specify the number for each staff or consultant. When were they first retained? Please specify the year.

	F/T	P/T	Call in or contract	Year
Safety Officer				
Doctor				
Nurse (SEN)				
Nurse (SRN)				
Ergonomist				
Audiologist				
Hygienist				
Risk Manager				
Safety specialist				
Other (Please specify):				
None				

12. Is there a budget for OHS programmes?

Yes	
No	

13. What is the budget for OH&S programmes? Please specify.

14. How much has been spent on OHS programmes? For example: training, new plant. Please specify for each year.

1990	
1991	
1992	
1993	
1994	
1995 (Jan. to May)	

15. How adequate is the budget in terms of supporting OH&S functions? Please tick the appropriate box.

Very Adequate	
Adequate	
Inadequate	
Very inadequate	

16. If the budget is *inadequate*, how much more ($) is required to make it *adequate*?

17. How frequently are safety audits conducted in this plant? Please tick the appropriate box for 1993, 1994 and 1995.

FREQUENCY	1993	1994	1995 (Jan. to May)
Monthly			
Quarterly			
Twice a year			
Annually			
Never			
Other (Please specify):			

18. If audits are conducted, who conducts them. Please specify professional title(s), and title of team if applicable for each year.

WORK CLASSIFICATION		
1993	1994	1995 (Jan. to May)

19. How frequently are medical examinations on the workforce (that is: health surveys) conducted in this plant? Please tick the appropriate box for each year.

FREQUENCY	1993	1994	1995 (Jan. to May)
Monthly			
Quarterly			
Twice a year			
Annually			
Only for pre-employment purposes			
Never			
Other (Please specify):			

20. If medicals or health surveys are conducted, who conducts them? Please specify the title(s) of the person(s).

21. How frequently is the environment monitored for toxic substances or gases? Please tick the appropriate box for each year.

FREQUENCY	1993	1994	1995 (Jan. to May)
Monthly			
Quarterly			
Twice a year			
Annually			
Never			
Other (Please specify):			

22. Who, on behalf of *management* is nominated to co-ordinate health and safety activity in the workplace? Please specify the title of the person. Also specify other responsibilities/duties. Who does this person report to?

Title:

_____

_____

Responsibilities/Duties:

_____

_____

Report to:

_____

23. When was this person nominated? Please indicate the year.

Year ☐

24. Who, on behalf of *employees* is nominated or elected to co-ordinate health and safety activity in the workplace? Please specify the title of the person(s). Also specify other responsibilities/duties. Who does this person(s) report to?

Title:

_____

_____

Responsibilities/Duties:

_____

_____

Report to:

_____

25. When was this person(s) nominated? Please indicate the year.

Year ☐

Year ☐

Year ☐

26. What procedure(s) for resolving health and safety issues have been agreed upon? Please tick the appropriate box(es). When were they agreed upon? Please specify the year they were agreed upon in the box provided.

PROCEDURES	AGREED PROCEDURE(S)	YEAR
Prohibition notices		
Improvement notices		
Assessments of workplace		
Communication and consultation between employers and employees		
Utilisation of safety procedures or equipment		
Information dissemination systems (For example: training)		
OH&S committees		
Procedures for reporting OH&S issues to supervisors		
None		
Other (Please specify):		

27. How would you describe management attitudes to yourself performing OH&S functions and duties over the three years: 1993, 1994 and 1995 (Jan. to May). Please tick the appropriate box for each year.

ATTITUDE	1993	1994	1995 (Jan. to May)
(a) Encouraging			
(b) Co-operative			
(c) Reserved/guarded			
(d) Unhelpful			
(e) Argumentative/confrontationist			
(f) Refuses to acknowledge			
Other (Please specify):			

28. Please tick the *five* most important health and safety problems or issues faced by employees in the establishment? Please record your responses in the boxes provided. When did these become a health and safety problem or issue? Please specify the year they became a problem. If the problem has been ongoing please specify the time period (For example: 1990-1995).

	Five most important problems	YEAR
Poor housekeeping		
Low Amenities standards		
Lack of safety signs		
Lack of machinery guarding		
Tally system		
Work speed		
High frequency handling		
Forward Reaches		
Awkward Grips		
Stooping below mid-thigh height		
Twisted postures		
Work station design/Layout of workplaces		
Handling of heavy/Awkward/Bulky Loads		
Poorly designed protective equipment		
Lack of commitment to health and safety improvements by management		
Unwillingness by workers to accept new safety equipment		
RSI		

More options continue over the page. Please consult these before answering the question.

29. (Continued) Please tick the *five* most important health and safety problems or issues faced by employees in the establishment? Please record your responses in the boxes provided. When did these become a health and safety problem or issue? Please specify the year they became a problem. If the problem has been ongoing please specify the time period (For example: 1990-1995).

	Five most important problems	Year
Extreme temperatures		
Excessive noise		
Lack of training (Please specify what type of training is needed)		
Recruitment procedures		
Competency of worker on the task		
Other (Please specify):		
None		

APPENDIX 3

OCCUPATIONAL HEALTH AND SAFETY INFRASTRUCTURE

CHAIRPERSON OF THE HEALTH AND SAFETY COMMITTEE

The following questionnaire is the second part of the three phase study aimed at identifying factors affecting Occupational Health and Safety in the meat industry. The questionnaire will provide data regarding the occupational health and safety infrastructure at your abattoir. This data will aid your abattoir in providing supportive structures and processes for occupational health and safety.

The information you provide will remain *strictly confidential*. The data from your abattoir will be aggregated with data from other abattoirs. A major report will be submitted to the Meat Research Corporation, however individual abattoirs *will not* be identified in the report.

Thank you for your time and commitment. It is important to answer all questions.

DR. DAVID BROWN
Head of School of
Organisational Behaviour
Griffith University.

HEALTH AND SAFETY COMMITTEE

What is the name of your abattoir and the state in which it is located?

_____

1. Please specify your job title. _____

2. When was the committee established? Please specify the year the committee was established.

Year ☐

3. How often does it meet? Please tick the appropriate box.

Weekly	
Monthly	
Quarterly	
Twice a year	
Other (Please specify):	

4. Has this changed over the last three years? How?

_____

_____

_____

_____

5. Who sits on the committee? Please specify the titles of the committee members.

_____

_____

_____

_____

6. Does the committee facilitate co-operation between the employer and the employee on safety measures? Please tick the appropriate box for each year.

FREQUENCY	1993	1994	1995 (Jan. to May)
Always			
Sometimes			
Rarely			
Never			

7. Does the employer facilitate or support your role on OHS matters? Please tick the appropriate box for each year.

FREQUENCY	1993	1994	1995 (Jan. to May)
Always			
Sometimes			
Rarely			
Never			

8. The following is a list of functions that may apply to your OH&S safety committee. Please rate how important each of these roles are to your committee. 1 = not at all important - 5 = extremely important.

	Not at all important	Not particularly important	Important	Very important	Extremely important
	1	2	3	4	5
Formulating OH&S organisational policies					
Formulating OH&S organisational procedures					
Formulating OH&S organisational practices					
Monitoring implementation					
Reviewing OH&S performance					
Developing new policies and practices					
Co-ordinating dissemination of information re: hazards					
Facilitate consultation					
Facilitate co-operation					
Maintain up-to-date knowledge on relevant Occupational Health and Safety matters					
Recommend health and safety programs, measures and procedures					
Recommend changes in workplace following an accident or dangerous occurrence					
Maintain accessibility of health and safety information					
Recommend health and safety training					

More functions are provided on the next page.

8. (Continued from pervious page) The following are a list of functions that may apply to your OH&S safety committee. Please rate how important each of these roles are to your committee. 1 = not at all important - 5 = extremely important.

	Not at all important	Not particularly important	Important	Very important	Extremely important
	1	2	3	4	5
Provision of OH&S training to workers					
Facilitate the Accident Investigation Process					
Undertake other functions as agreed with the employer					
What are these other functions?					

8 (ii). If the function is a role of the OH&S committee, please specify the year when each role became a function of the OH&S committee?

	YEAR
Formulating OH&S organisational policies	
Formulating OH&S organisational procedures	
Formulating OH&S organisational practices	
Monitoring implementation	
Reviewing OH&S performance	
Developing new policies and practices	
Co-ordinating dissemination of information re: hazards	
Facilitate consultation	

8 (ii). (Continued) If the function is a role of the OH&S committee; please specify the year when each role became a function of the OH&S committee?

	YEAR
Facilitate co-operation	
Maintain up-to-date knowledge on relevant Occupational Health and Safety matters	
Recommend health and safety programs, measures and procedures	
Recommend changes in workplace following an accident or dangerous occurrence	
Maintain accessibility of health and safety information	
Recommend health and safety training	
Provision of OH&S training to workers	
Facilitate the Accident Investigation Process	
Undertake other functions as agreed with the employer	
What are these other functions?	

9. What proportion of the OHS committee members are *formally* trained (For example: certificate courses, TAFE courses, industry association courses) in the following? Please tick the appropriate boxes. When was the training introduced? Please specify the year it was introduced.

	All	3/4	1/2	1/4	NONE	YEAR	Only Informally Trained
OH&S Act							
OH&S First Aid Code							
OH&S Workplaces Codes of Practice							
OH&S Manual Handling Regulations and Code							
OH&S Machinery Regulations							
OH&S Guard safety Regulations							
Health hearing conservation regulations							
A.S. 2056 safety in the meat industry							
A.S. 2336 hand held knives in the meat industry							
Statutory requirements (for your state) for the recording and notification of injury and incidence. (Please name):							
A.S. 1995-1976 Recording and measuring work injury experience							
A.S. 1885.1-1990 Australian Workplace injury and disease recording standard or National Standard NS 002-1990							
Construction and equipment guidelines for export meat							

9. (Continued from the previous page) What proportion of the OHS committee members are *formally* trained (For example: certificate courses, TAFE courses, industry association courses) in the following? Please tick the appropriate boxes. When was the training introduced? Please specify the year it was introduced.

	All	3/4	1/2	1/4	NONE	YEAR	Only Informally Trained
Storage and use of hazardous substances							
Correct use of safety equipment							
Basic research skills							
Other (Please specify):							

10. How often are employees or health and safety representatives consulted on proposed minor and major changes to the workplace and equipment? Please tick the appropriate box for minor and major changes and each year.

	1993		1994		1995 (Jan. to May)	
	Minor Change	Major Change	Minor Change	Major Change	Minor Change	Major Change
Always						
Sometimes						
Never						

11. How many issues have arisen which have required resolutions through implementation of legislation? For example: supervisors ensuring that employees wear PPE (Personal Protective Equipment). Please specify for each year.

YEAR	NUMBER OF ISSUES
1993	
1994	
1995 (Jan. to May)	

12. How many P.I.N's (provisional improvement notices) for OHS have been issued? Please specify.

1993	
1994	
1995 (Jan. to May)	

13. How many work cessations (ie: industrial stoppages) relating to OHS issues have occurred? Please specify the number of cessations for each year.

1993	
1994	
1995 (Jan. to May)	

14. How often have you required an inspector's attendance for OH&S matters?

1993	
1994	
1995 (Jan. to May)	

15. What OHS issues have been the subject of work cessation? Please specify for each year.

1993:

1994:

1995 (Jan. to May):

16. Has this changed in the last three years from previous times? Please specify.

17. The following are a list of barriers to the implementation of OH&S. Please list in order of significance, from 1= Very significant to 11 = Not very significant, the factor(s) (if any) that prevent the Health and Safety Representative(s) from performing their functions and duties effectively? (or employees addressing health and safety issues with their employer?)

BARRIERS	RANK ORDER		
	1993	1994	1995 (Jan. to May)
Inadequate training and information			
Inability to easily leave the line			
Group/peer pressure			
Lack of OH&S committee			
Infrequent meetings			
Insufficient commitment from employees			
Lack of agreement by unions			
Cost			
Time			
Engineering/Maintenance resources			
Insufficient commitment from employers			
Other (Please specify):			
None			

18. Please specify the *five* most important health and safety problems or issues faced by employees in the establishment? Please record your responses in the boxes provided. When did these become a health and safety problem or issue? Please specify the year they became a problem. If the problem has been ongoing please specify the time period. (For example: 1990-1995).

	Five most important problems	Year
Poor housekeeping		
Low Amenities standards		
Lack of safety signs		
Lack of machinery guarding		
Tally system		
Work speed		
High frequency handling		
Forward Reaches		
Awkward Grips		
Stooping below mid-thigh height		
Twisted postures		
Work station design/Layout of workplaces		
Handling of heavy/Awkward/Bulky Loads		
Poorly designed protective equipment		
Lack of commitment to health and safety improvements by management		
Unwillingness by workers to accept new safety equipment		
RSI		

More options continue over the page. Please consult these before answering the question.

18. (Continued) Please specify the *five* most important health and safety problems or issues faced by employees in the establishment? Please record your responses in the boxes provided. When did these become a health and safety problem or issue? Please specify the year they became a problem. If the problem has been ongoing, please specify the time period. (For example, 1990-1995).

	Five most important problems	Year
Extreme temperatures		
Excessive noise		
Lack of training (Please specify what type of training is needed):		
Recruitment procedures		
Competency of worker on the task		
Other (Please specify):		
None		

19. Are you familiar with the following standards? Please tick your familiarity with the following standards and specify the year that the following OH&S standards were introduced in your abattoir.

STANDARDS	FAMILIARITY				
	Very Familiar	Somewhat Familiar	Not Familiar	Not Applicable	Year
OH&S Act					
OH&S First Aid Code					
OH&S Workplaces Code					
OH&S Manual Handling Regulations & Code					
OH&S Machinery Regulations					
OH&S General Safety Regulations					
Health Hearing Conservation Regulations					
A.S. 2056 Safety in the Meat Industry					
A.S. 2336 Hand held knives in Meat Industry					
Storage and use of chemicals in the workplace					
Other (Please specify):					

20. Are you familiar with the following standards? Please tick your familiarity with the following standards and specify the year that the following OH&S standards were introduced in your abattoir.

	FAMILIARITY				
	Very Familiar	Somewhat Familiar	Not Familiar	Not Applicable	Year
Construction and equipment guidelines for export meat					
A.S. 1885-1976 Recording and measuring work injury experience					
A.S. 1885.1-1990 Australian Workplace injury and disease recording standard or National Standard NS 002-1990					
Statutory requirements (for your state) for the recording and notification of injury and disease (Please name):					
Other (Please specify):					

21. How available are the following standards to you in the workplace? Please tick the appropriate boxes. Please specify the year they became available.

STANDARDS	AVAILABLE				
	Easily Available	Somewhat Available	Not Available	Not Applicable	Year
OH&S Act					
OH&S First Aid Code					
OH&S Workplaces Code					
OH&S Manual Handling Regulations & Code					
OH&S Machinery Regulations					
OH&S General Safety Regulations					
Health Hearing Conservation Regulations					
A.S. 2056 Safety in the Meat Industry					
A.S. 2336 Hand held knives in Meat Industry					
Storage and use of chemicals in the workplace					
Construction and equipment guidelines for export meat					
A.S. 1885-1976 Recording and measuring work injury experience					
A.S. 1885.1-1990 Australian Workplace injury and disease recording standard or National Standard NS 002-1990					
Statutory requirements (for your state) for the recording and notification of injury and incidence (Please name):					
Other (Please specify):					

22. How would you describe management attitudes to yourself performing OH&S functions and duties over the three years: 1993, 1994 and 1995 (Jan. to May). Please tick the appropriate box for each year.

ATTITUDE	1993	1994	1995 (Jan. to May)
(a) Encouraging			
(b) Co-operative			
(c) Reserved/guarded			
(d) Unhelpful			
(e) Argumentative/confrontationist			
(f) Refuses to acknowledge			
Other (Please specify):			

APPENDIX 4

OCCUPATIONAL HEALTH AND SAFETY PROJECT PROGRAMMES

The following questionnaire is the final part of the three phase study developed to identify factors affecting Occupational Health and Safety in the meat industry.

The following questionnaire has been developed to determine what factors have contributed to the project programmes at your abattoir. These factors will help the researchers to relate Occupational Health and Safety programmes to your work practices.

This information will assist your abattoir to identify factors that impact upon Occupational Health and Safety. This information will assist you in the strategic planning and design of Occupational Health and Safety programmes aimed at reducing work injury.

All information collected from your abattoir will be treated with the *strictest confidence* and only your abattoir will have access to this information.

Your data will be held at Griffith University and will only be available to you.

Data from your abattoir will be aggregated with data from other abattoirs for a major report to be submitted to the Meat Research Corporation, however individual abattoirs will not be identified by the report.

Thank-you for your time and commitment. It is important to answer all questions.

PLEASE RETURN ALL QUESTIONNAIRES IN THE ENCLOSED ENVELOPE TO:

Ms. Jodee Drew (cc: OPRU)
Griffith University
School of Organisational Behaviour and
Human Resource Management
Faculty of Commerce and Administration
Nathan Campus Kessels Road Brisbane 4111

DR. DAVID BROWN
Head of School of
Organisational Behaviour
Griffith University.

OCCUPATIONAL HEALTH AND SAFETY PROJECT PROGRAMMES

THE MEMBERS OF THE BEST PRACTICE PROJECT TEAM

Each member of the Best Practice Project Team is to complete a separate questionnaire. We enclose ten questionnaires for this purpose. We hope that this number will be sufficient. Thank-you for your cooperation.

DR. DAVID BROWN
Head of School of
Organisational Behaviour
Griffith University.

BEST PRACTICE
PROJECT TEAM MEMBER

1. What is the name of your abattoir and the state in which it is located?

_____

2. Please specify your job title._____

3. When was the Best Practice Team first established? Please specify the year it was established.

Year: _____

4. How often does the team meet? Please tick the appropriate box.

Weekly ☐

Monthly ☐

Quarterly ☐

Twice a year ☐

Other (Please specify) _____ ☐

_____

_____

_____

_____

5. (i) Please tick your work role(s)/area(s) and specify how many hours per week on average you contribute to the project both informally (for example, organising events) and formally (for example: attending meetings).

	WORK ROLE/ AREA	AVERAGE HOURS PER WEEK
Executive Management		
Management		
Foremen/Supervisor		
OH&S committee (Please specify your job title). _____		
OH&S representative		
OH&S officer		
Boning Room Employee		
Slaughter Room Employee (including offal process)		
Maintenance/Engineering Employee		
Load out Employee		
By Products Employee		
Industrial Cleaning Employee		
Other (Please specify) _____ _____		

6. Does the team assist co-operation between the employer or CEO and the employee on safety measures? Please tick the appropriate box.

Always	☐
Sometimes	☐
Rarely	☐
Never	☐

7. Does your employer or CEO assist or support your role in OH&S matters? Please tick the appropriate box for each year.

Always	☐
Sometimes	☐
Rarely	☐
Never	☐

8. Please tick the specific outcomes targeted in your **Best Practice Project Proposal.**

	YES	NO
increase in accident reporting	☐	☐
increase the use of personal protective equipment	☐	☐
reduction in sprain and strain injuries	☐	☐
reduction in cuts	☐	☐
job rotation to reduce sprain and strain injuries	☐	☐
training in manual handling	☐	☐
job redesign to reduce sprain and strain injuries	☐	☐
improve the company safety record	☐	☐
develop ergonomically sound work processes	☐	☐
develop ergonomically sound work equipment	☐	☐
None	☐	☐
Other (Please specify): _____	☐	☐

_____

In this section of the questionnaire we would like to know what aspects of OCCUPATIONAL HEALTH AND SAFETY KNOWLEDGE have changed since the Best Practice Project began. Please read the statement below and for each of the following questions tick in the corresponding boxes whether these aspects have "Greatly Deteriorated", "Slightly Deteriorated", "Not Improved", "Slightly Improved" or "Greatly Improved". It is important to respond to the questions according to the way things are working NOW.

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...employee knowledge of safe knife handling techniques has...?	☐	☐	☐	☐	☐
...employee knowledge of safe manual handling techniques has...?	☐	☐	☐	☐	☐
...the employees' skills in OH&S procedures and practices has...?	☐	☐	☐	☐	☐
...employee knowledge of OH&S issues/problems has...?	☐	☐	☐	☐	☐
...the employees' understanding of the importance of OH&S procedures and practices has...?	☐	☐	☐	☐	☐
...the employees' understanding of the importance of risk identification has...?	☐	☐	☐	☐	☐
...the employees' understanding of the importance of risk assessment has...?	☐	☐	☐	☐	☐
...the employees' understanding of the importance of risk control has...?	☐	☐	☐	☐	☐

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...the employees' understanding of the importance of OH&S problems/issues has...?	❑	❑	❑	❑	❑
...the dissemination of safety information to employees has...?	❑	❑	❑	❑	❑
...the employees' knowledge of how accidents are caused has...?	❑	❑	❑	❑	❑
...foreman or supervisor knowledge of how accidents are caused has...?	❑	❑	❑	❑	❑
...the employees' knowledge of job rotation as a means of avoiding repetitive strain injury has...?	❑	❑	❑	❑	❑
...foremen or supervisors knowledge of risk identification has...?	❑	❑	❑	❑	❑
...foremen or supervisors knowledge of risk assessment has...?	❑	❑	❑	❑	❑
...foremen or supervisors knowledge of risk control has...?	❑	❑	❑	❑	❑

In this section of the questionnaire we would like to know what aspects of COMMUNICATION have changed since the Best Practice Project began.

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...communication between senior management and employees has...?	❑	❑	❑	❑	❑

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:

(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...communication between foremen or supervisors and employees has...?	☐	☐	☐	☐	☐
...senior management feedback on OH&S problems/issues to foreman or supervisors has...?	☐	☐	☐	☐	☐
...feedback from the employees to the Best Practice Team has..?	☐	☐	☐	☐	☐
...feedback from the Best Practice Team to the employees has..?	☐	☐	☐	☐	☐
...feedback from the Best Practice Team to foremen or supervisors has..?	☐	☐	☐	☐	☐
...communication between work groups and senior management has...?	☐	☐	☐	☐	☐
...the development of well prepared safety manuals has...?	☐	☐	☐	☐	☐
...the quality of senior management feedback to employees regarding OH&S issues/problems has...?	☐	☐	☐	☐	☐
...networking with other abattoirs for OH&S purposes has...?	☐	☐	☐	☐	☐
...the foremen or supervisors communication skills have...?	☐	☐	☐	☐	☐
...the employees' feedback on OH&S problems/issues to foreman or supervisors has...?	☐	☐	☐	☐	☐
...communication between foremen or supervisors and employees has...?	☐	☐	☐	☐	☐

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...communication between foremen or supervisors and senior management has...?	❑	❑	❑	❑	❑

In this section of the questionnaire we would like to know what aspects of COMMITMENT have changed since the Best Practice Project began.

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...the employees' involvement in developing safety manuals has...?	❑	❑	❑	❑	❑
...the employees' commitment to OH&S training has...?	❑	❑	❑	❑	❑
...the CEO's commitment to OH&S training has...?	❑	❑	❑	❑	❑
...senior management commitment to OH&S training has...?	❑	❑	❑	❑	❑
...the CEO's commitment to allocating employee time to training has...?	❑	❑	❑	❑	❑
...senior management commitment to allocating employee time to training has...?	❑	❑	❑	❑	❑
...the CEO's commitment to providing financial resources for OH&S issues/problems has...?	❑	❑	❑	❑	❑
...senior management commitment to providing financial resources for OH&S issues/problems has...?	❑	❑	❑	❑	❑

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...foremen or supervisors willingness to report injuries has...?	☐	☐	☐	☐	☐
...the employees' willingness to report injuries has...?	☐	☐	☐	☐	☐
...employee participation in hazard recording has...?	☐	☐	☐	☐	☐
...foremen or supervisors participation in hazard recording has...?	☐	☐	☐	☐	☐
...the employees' commitment to risk identification has...?	☐	☐	☐	☐	☐
...the employees' commitment to risk assessment has...?	☐	☐	☐	☐	☐
...the employees' commitment to risk control has...?	☐	☐	☐	☐	☐
...foremen or supervisors commitment to risk identification has...?	☐	☐	☐	☐	☐
...foremen or supervisors commitment to risk assessment has...?	☐	☐	☐	☐	☐
...foremen or supervisors commitment to risk control has...?	☐	☐	☐	☐	☐
...senior management commitment to health and safety goal setting exercises has...?	☐	☐	☐	☐	☐
..the employees' commitment to health and safety goal setting exercises has...?	☐	☐	☐	☐	☐

In this section of the questionnaire we would like to know what aspects of TRAINING have changed since the Best Practice Project began.

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...employee OH&S training has...?	❑	❑	❑	❑	❑
...employee job training has...?	❑	❑	❑	❑	❑
...the frequency of training for OH&S purposes has...?	❑	❑	❑	❑	❑
...time allocated to employee on the job training has...?	❑	❑	❑	❑	❑
...total time allocated to all employee training has...?	❑	❑	❑	❑	❑
...training facilities for OH&S training has...?	❑	❑	❑	❑	❑
...foremen or supervisor training in the use of problem-solving techniques for OH&S has...?	❑	❑	❑	❑	❑
...the employees' training in the use of problem-solving techniques for OH&S has...?	❑	❑	❑	❑	❑
...employee training in risk control has...?	❑	❑	❑	❑	❑
...employee training in risk identification has...?	❑	❑	❑	❑	❑
...employee training in risk assessment has...?	❑	❑	❑	❑	❑
...employee training in OH&S procedures and practices has...?	❑	❑	❑	❑	❑

In this section of the questionnaire we would like to know what aspects of WORK DESIGN have changed since the Best Practice Project began.

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...employee feedback on OH&S work practices has...?	☐	☐	☐	☐	☐
...time allocated to investigating OH&S issues/problems has...?	☐	☐	☐	☐	☐
...the workplace OH&S statistical data base has...?	☐	☐	☐	☐	☐
...employee involvement in risk identification has...?	☐	☐	☐	☐	☐
...employee involvement in risk assessment has...?	☐	☐	☐	☐	☐
...the company's strategies for risk control have...?	☐	☐	☐	☐	☐
...job redesign targeting work processes for OH&S purposes has..?	☐	☐	☐	☐	☐
...job redesign targeting machinery and equipment for OH&S purposes has..?	☐	☐	☐	☐	☐
...job rotation for OH&S purposes has...?	☐	☐	☐	☐	☐
...the employees' compliance with the OH&S Act has...?	☐	☐	☐	☐	☐
...foremen or supervisor compliance with the OH&S Act has...?	☐	☐	☐	☐	☐

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...health and safety goal setting exercises have..?	❑	❑	❑	❑	❑
...employee involvement in decision-making for OH&S purposes has...?	❑	❑	❑	❑	❑
...employee use of new safety equipment has...?	❑	❑	❑	❑	❑

In this section of the questionnaire we would like to know what aspects of REHABILITATION have changed since the Best Practice Project began.

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...workplace rehabilitation policies and procedures have...?	❑	❑	❑	❑	❑
...the employees' support for individuals undergoing rehabilitation has...?	❑	❑	❑	❑	❑
...foremen or supervisors support for individuals undergoing rehabilitation has...?	❑	❑	❑	❑	❑
...senior management's support for individuals undergoing rehabilitation has...?	❑	❑	❑	❑	❑
...the employees' understanding of the importance of rehabilitation has...?	❑	❑	❑	❑	❑
...foremen or supervisors understanding of the importance of rehabilitation has...?	❑	❑	❑	❑	❑

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...senior management understanding of the importance of rehabilitation has...?	☐	☐	☐	☐	☐
...OH&S training in rehabilitation programmes have...?	☐	☐	☐	☐	☐
...job training in rehabilitation programmes has...?	☐	☐	☐	☐	☐
...the tailoring of rehabilitation programmes to meet individual needs has...?	☐	☐	☐	☐	☐

In this section of the questionnaire we would like to know what aspects of SAFE WORK PRACTICES have changed since the Best Practice Project began.

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...housekeeping standards have...?	☐	☐	☐	☐	☐
...amenity standards have...?	☐	☐	☐	☐	☐
...the use of safety signs have...?	☐	☐	☐	☐	☐
...the employees' manual handling techniques have...?	☐	☐	☐	☐	☐
...employee training in manual handling techniques has...?	☐	☐	☐	☐	☐
...the employees' knife sharpening techniques have...?	☐	☐	☐	☐	☐

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:

(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...the employees' knife handling techniques have...?	☐	☐	☐	☐	☐
...the use of job rotation for OH&S purposes has...?	☐	☐	☐	☐	☐
...the employees' use of personal protective clothing and equipment has...?	☐	☐	☐	☐	☐
...the design of personal protective clothing and equipment has...?	☐	☐	☐	☐	☐
...injury management and prevention has...?	☐	☐	☐	☐	☐
...hazard inspections have...?	☐	☐	☐	☐	☐
...accident investigations have...?	☐	☐	☐	☐	☐
...employee use of safety equipment (for example: machinery guarding) has...?	☐	☐	☐	☐	☐
...ergonomic work processes have...?	☐	☐	☐	☐	☐
...the use of ergonomic work equipment has...?	☐	☐	☐	☐	☐
...the rate of employee injury reporting has...?	☐	☐	☐	☐	☐
...the rate of foremen and supervisors injury reporting has...?	☐	☐	☐	☐	☐
...the analysis of injury/illness statistics has...?	☐	☐	☐	☐	☐

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...OH&S induction training has...?	❑	❑	❑	❑	❑
...environmental control measures (for example: noise, extreme temperatures) have...?	❑	❑	❑	❑	❑

In this section of the questionnaire we would like to know what aspects of **TEAM WORK** in the **BEST PRACTICE PROJECT TEAM (BPT)** have changed since the Best Practice Project began.

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...the accessible location of BPT meetings has...?	❑	❑	❑	❑	❑
...the regular attendance of members at BPT meetings has...?	❑	❑	❑	❑	❑
...effective communication between BPT members has...?	❑	❑	❑	❑	❑
...effective communication between BPT members and foreman or supervisors has...?	❑	❑	❑	❑	❑
...effective communication between BPT members and senior management has...?	❑	❑	❑	❑	❑
...effective communication between BPT members and employees has...?	❑	❑	❑	❑	❑
...the BPT members' commitment to risk identification has...?	❑	❑	❑	❑	❑

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...the BPT members' commitment to risk assessment has...?	☐	☐	☐	☐	☐
...the BPT members' commitment to controlling workplace risks has...?	☐	☐	☐	☐	☐
...the BPT members' use of problem-solving techniques has...?	☐	☐	☐	☐	☐
...the BPT members' decision-making skills have...?	☐	☐	☐	☐	☐
...formal OH&S training of BPT members has...?	☐	☐	☐	☐	☐
...informal OH&S training of BPT members has...?	☐	☐	☐	☐	☐
...formal job training of BPT members has...?	☐	☐	☐	☐	☐
...informal job training of BPT members has...?	☐	☐	☐	☐	☐

Please answer the following questions if your abattoir has **WORK GROUPS**. If you do not have work groups please go to the consultant section on page 19. In this section of the questionnaire we would like to know what aspects of **GROUP WORK, in WORK GROUPS OTHER THAN the Best Practice Project Team,** have changed since the Best Practice Project began.

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question and answer the question according to WORK GROUPS OTHER THAN the Best Practice Project Team.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...the team work skills of individuals within work groups has...?	❑	❑	❑	❑	❑
...the work group members development of problem-solving skills has...?	❑	❑	❑	❑	❑
...the work group members development of decision-making skills has...?	❑	❑	❑	❑	❑
...the work group members development of job related skills has...?	❑	❑	❑	❑	❑
...effective communication among work group members has...?	❑	❑	❑	❑	❑
...the development of specific performance goals within work groups has...?	❑	❑	❑	❑	❑
...the employees' commitment to their work group performance goals has...?	❑	❑	❑	❑	❑
...equal involvement of work group members in decision-making has...?	❑	❑	❑	❑	❑
...the members' mutual responsibility for their work group outcomes has...?	❑	❑	❑	❑	❑

SINCE THE BEGINNING OF THE BEST PRACTICE PROJECT:
(Please tick ONE box only for each question and answer the question according to WORK GROUPS OTHER THAN the Best Practice Project Team.)

	Greatly Deteriorated	Slightly Deteriorated	Not Improved	Slightly Improved	Greatly Improved
...work group members willingness to mentor OH&S skills for new members has...?	❑	❑	❑	❑	❑
...work group leaders commitment to team goals has...?	❑	❑	❑	❑	❑
...work group leaders encouragement of members' OH&S skill use has...?	❑	❑	❑	❑	❑
...formal training of work group members in team work skills has...?	❑	❑	❑	❑	❑
...informal training of work group members in team work skills has...?	❑	❑	❑	❑	❑

In this section we would like to know in what areas EXTERNAL CONSULTANTS have assisted the Best Practice Project Team (BPT) since the Best Practice Project began. For each statement below please tick yes if consultants have been used and where appropriate senior management, foremen or supervisors, employees or the BPT to indicate the group that the consultant targeted.

		GROUP TARGETED			
	Yes	Senior Management	Foremen or Supervisors	Employees	BPT
OH&S training,	❑	❑	❑	❑	❑
training in risk identification,	❑	❑	❑	❑	❑
training in risk assessment techniques,	❑	❑	❑	❑	❑
training in risk control strategies,	❑	❑	❑	❑	❑

For each statement below please tick yes if consultants have been used and where appropriate senior management, foremen or supervisors, employees or the BPT to indicate the group that the consultant targeted.

		GROUP TARGETED			
	Yes	Senior Management	Foremen or Supervisors	Employees	BPT
training in OH&S standards and principles,	❑	❑	❑	❑	❑
training in brainstorming,	❑	❑	❑	❑	❑
training in process mapping,	❑	❑	❑	❑	❑
training in pareto charts,	❑	❑	❑	❑	❑
training in cause-and-effect diagrams (Random Method),	❑	❑	❑	❑	❑
training in cause-and-effect diagrams (Systematic and Process Analysis),	❑	❑	❑	❑	❑
training in check sheets (data gathering),	❑	❑	❑	❑	❑
training the Best Practice Project Team in team building skills,	❑	❑	❑	❑	❑
providing recommendations for the Best Practice Project,	❑	❑	❑	❑	❑
providing assistance with the Best Practice Project evaluation,	❑	❑	❑	❑	❑

For each statement below please tick yes if consultants have been used and where appropriate senior management, foremen or supervisors, employees or the BPT to indicate the group that the consultant targeted.

		GROUP TARGETED			
	Yes	Senior Management	Foremen or Supervisors	Employees	BPT
providing assistance with the Best Practice Project report,	☐	☐	☐	☐	☐
Other (Please specify) _____					
_____	☐	☐	☐	☐	☐
_____					
_____					

Thank-you for your co-operation with completing the questionnaire.