Safety Effectiveness Indicators Project Workbook

CRC Construction Innovation
BUILDING OUR FUTURE

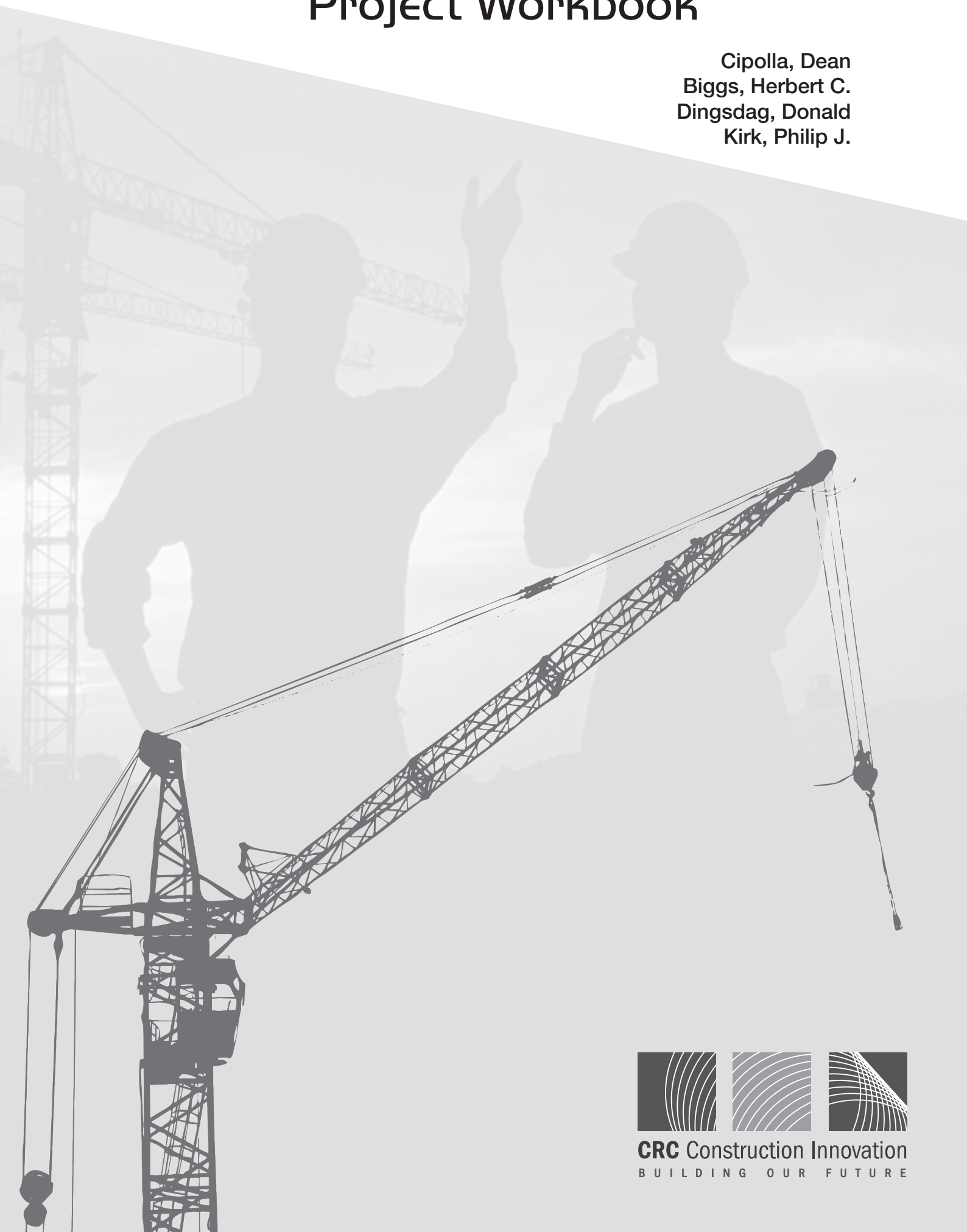
CRC Construction Innovation
BUILDING OUR FUTURE

Construction Innovation partners June 2008 - July 2009

Industry	Government	Research
Bovis Lend Lease	Queensland Government Department of Transport and Main Roads Department of Public Works Department of Employment, Economic Development and Innovation	The University of Newcastle Australia
John Holland	Building Commission	Curtin University of Technology
ARUP	Government of Western Australia Office of Strategic Projects	RMIT University
mirvac	Sydney Opera House	QUT
NEXUS POINT SOLUTIONS	BSA	
PB 100 Years	ABCB	
Leighton		
Thiess		
Woods Bagot		
Transfield Services		
RLB | Rider Levett Bucknall		

Safety Effectiveness Indicators Project Workbook

Cipolla, Dean
Biggs, Herbert C.
Dingsdag, Donald
Kirk, Philip J.



CRC Construction Innovation
BUILDING OUR FUTURE

Cooperative Research Centre for *Construction Innovation*
Level 9, L Block, QUT Gardens Point
2 George Street, Brisbane, Qld, 4000 Australia
Telephone: +61 7 3138 9291
Email: enquiries@construction-innovation.info
Web: www.construction-innovation.info

First published 2009 by the Cooperative Research Centre for *Construction Innovation*, for Icon.Net Pty Ltd.

For further information on *Construction Innovation* publications, please visit: www.construction-innovation.info

ISBN 978-0-9804262-2-9

This publication uses soy-based inks printed on Envirocare 100% Recycled Paper
(75% post-consumer waste, 25% pre-consumer waste).

Contents

Preface

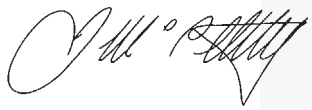
The Cooperative Research Centre for *Construction Innovation* is committed to leading the Australian property, design, construction and facility management industry in collaboration and innovation. We are dedicated to disseminating practical research outcomes to our industry — to improve business practice and enhance the competitiveness of our industry. Developing applied technology and management solutions, and delivering education and relevant industry information is what our CRC is all about.

Our *Business and Industry Development Program* identified safety as one of our key research areas. Improving safety in the workplace with an emphasis on cooperation at the individual workplace is critical to improving health and safety in our industry.

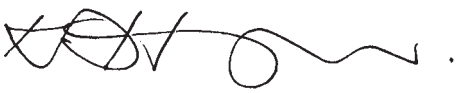
Safety Effectiveness Indicators Project Workbook builds on the work undertaken in the development of *A Construction Safety Competency Framework: Improving OH&S performance by creating and maintaining a safety culture* by establishing a set of measures which will provide the construction industry with a set of tools that describe best practice approaches to delivering Safety Management Tasks identified in *A Construction Safety Competency Framework*.

Safety Effectiveness Indicators Project Workbook is for use by all levels of construction staff, from senior and line managers to supervision and workforce. It is a tool for companies to measure safety on site, and has the flexibility to allow adaptation of the tool to suit their organisational requirements. The effective implementation of this tool should further pave the way for improving workplace safety in the industry.

We look forward to your converting the results of this applied research project into tangible outcomes and working together in leading the transformation of our industry to a new era of enhanced business practices, safety and innovation.



John McCarthy
Chair
CRC for *Construction Innovation*



Dr Keith Hampson
Chief Executive Officer
CRC for *Construction Innovation*

Acknowledgments

The CRC for *Construction Innovation* provided the major funding, industry research leadership and coordinated the development of *Safety Effectiveness Indicators Project Workbook.*

The *Construction Innovation* project team members are:

Project leader: Dean Cipolla — John Holland

Jim Pevitt — John Holland
Dean Bingham — Thiess
Greg Flynn — Leighton Contractors
Herbert Biggs — Queensland University of Technology
Don Dingsdag — University of Western Sydney
Philip Kirk — Queensland University of Technology
Matthew Gardiner — Office of the Federal Safety Commissioner

The project partners

The following project partners undertook the research, industry consultation and developed the content provided in the *Safety Effectiveness Indicators Project Workbook.*

Introduction

Background

The Safety Effectiveness Indicators (SEI) Project has used extensive research to determine what safety effectiveness measures can be developed by industry, for industry use to improve its safety performance. These indicators can measure how effectively the 13 safety management tasks[1] (SMTs) selected for this workbook are undertaken.

Currently, positive performance indicators (PPIs) are only able to measure the number of activities undertaken. They do not provide information on whether each activity is being undertaken effectively, and therefore do not provide data which can be used by industry to target areas of focus and improvement.

The initial workbook contained six SMTs, and was piloted on various construction sites during August 2008. The workbook was refined through feedback from the pilot, and 13 SMTs were used in a field trial during the months of October, November and December 2008. The project team also carried out 12 focus groups in Brisbane, Canberra, Sydney and Melbourne during April, May and June 2008, and developed an initial format of this workbook through these groups and team workshops.

Simplification of the language was a recurring theme, and we have attempted to do this throughout the project. The challenge has been to ensure we keep the descriptions short, to the point and relevant to all companies, without making them too specific. The majority of the construction industry participants also requested an alteration to the scale used, so a 'Yes'/'No'/'Not applicable' format is used in this workbook.

This workbook, based on industry feedback, is for use on site by various construction companies and contains 13 SMTs. However, you are invited to personalise the SEI tools to better suit your individual company and workplaces.

How to use this workbook

You should evaluate each SMT on site using the SEIs provided in this workbook. The SEIs are designed as multi-user scoring instruments for use by **any** person on site. There is a space for you to write your job title and evaluator role so your company can make sure the most appropriate person evaluates each SMT.

The most appropriate person to undertake the evaluation of how an SMT is carried out should have one of the following roles:

- independent observer — if you are observing the SMT
- leader/facilitator — if you are leading or facilitating the SMT
- participant — if you are taking part in the SMT and responding for yourself. If members of a group are responding, each person should fill out an SEI for the SMT.

Only one role is required to undertake the evaluation, but more than one can take part if so desired. However, please note each user can only act in ONE of these roles for each SEI.

1 It follows on from the Construction Safety Competency Project, which provides a framework for safety critical positions mapped to 39 SMTs. Please note that there is not a straight fit between the SMTs in the framework and the SMTs in this workbook, as some wording has changed.

Definitions

CRC	The Cooperative Research Centre (CRC) for *Construction Innovation* is a national research, development and implementation centre focused on the needs of the property, design, construction and facility management sectors.
Culture actions	Staff behaviours that together create a safety culture as part of the effective completion of relevant OH&S management tasks.
Descriptor	A description, or set of descriptions, of an element which provides the means to evaluate the SMT being carried out.
Element	A subcomponent of the overall SMT being evaluated.
Evaluator status	An independent observer, leader/facilitator or participant doing the evaluation.
Individual observer	A person not normally part of the crew undertaking the SMT (e.g. a person from another crew or team, line manager, subcontractor or client).
Leader/facilitator	A person leading or facilitating the conduct of an SMT.
Participant	A person participating in the SMT activity.
Potential evaluator	A suggested list of workplace roles or positions which might act as independent observers, leaders/facilitators or participants when completing SEI evaluation forms.
SMT	Safety management task — a definable activity, action or process such as carrying out project risk assessments, delivering OH&S training in the workplace or evaluating OH&S performance of subcontractors.
SMT description	An overall description of the purpose of the SMT.

Suggestions for implementation of an SEI program at a workplace

Instructions

The following instructions are provided to assist you with the implementation of the CRC SEI workbook and tools.

1. A central project or workplace coordinator should be appointed by the workplace manager. This person should become the workplace champion if anyone using the workbook requires assistance or clarification on any of the evaluation requirements.

   The coordinator should be the point of contact for evaluation and feedback returns.

2. The coordinator should become familiar with the instructions included in the SEI workbook and with the evaluation instructions.

3. Formal presentations to users of the workbook should be held before its implementation. These presentations should include:

   - an indication of why the project or workplace has chosen to use the SEI workbook
   - an overview of what the term SEI means and what it aims to achieve
   - an overview of what an SMT is, and specifically what SMTs have been selected
   - an overview of the contents of the SEI workbook:

     - instruction information for completing SMT evaluations
     - SMT evaluation forms (one for each SMT)
     - instruction to only carry out SEIs that are relevant to the SMTs used at the respective workplace
     - clarification that the SEIs evaluate the effectiveness of an activity and do not target individuals.

4. The coordinator should explain the content and layout of the SMT evaluation forms, noting that the layout for each SMT evaluation form is the same:

   - SMT # and SMT title
   - job title, workplace name and company
   - potential evaluator positions
   - date of assessment
   - evaluator's role (note that each evaluator will only perform one role, e.g. independent observer or leader/facilitator or participant, although there may be more than one evaluator, or more than one type of evaluator)
   - SEI description and explanation of why that particular SMT is used (explaining relevance to evaluators' positions and conduct in the SMTs chosen, noting that not all SMTs will be relevant to all people involved)
   - element name and descriptors
   - 'Yes'/'No'/'Not applicable' boxes
   - comments section (used to describe evaluators' observations).

5. The coordinator should explain how each SMT is evaluated using the SEIs and instruction information contained within the workbook.

6. The coordinator should use an example that the people attending the presentation can readily relate to (e.g. toolbox talks) and go through the process of demonstrating how the SMT is evaluated and how the SEI tool is used and completed.

   Make clear with the toolbox talk example that an evaluation can be carried out by:

   - independent observer — someone not normally part of the toolbox talk crew (e.g. a person from another crew or team, line manager, subcontractor, client)
   - leader/facilitator — the person delivering the toolbox talk
   - participant — the crew or team, or anyone else participating in the toolbox talk.

   Note that, although the evaluation results are the opinion of the person conducting the evaluation (e.g. independent observer or leader/facilitator or participant), and therefore may be subjective, they are nevertheless valid, and should still be carried out professionally.

7. The coordinator should explain when the SEI should be completed and where the completed forms should be forwarded to.

8. The coordinator should ensure that all evaluators read the instructions on page 4 before undertaking an SEI evaluation, and emphasise that the evaluators should contact the coordinator if they require assistance or guidance.

9. The coordinator should ensure that enough evaluation forms are made available to evaluators.

10. The coordinator should monitor the progress of the evaluations, especially whether the evaluation forms are generally being completed correctly. Where 'No' or 'Not applicable' responses are given, these should be explained in the 'Comments' area of the SEI form so that an accurate interpretation of these responses can be made (e.g. a 'No' response could indicate that something is not being done that should be done, or that the action does not need to be done on that site).

11. For guidance on how to interpret the results, please see pages 6–7.

12. The coordinator should provide the project or workplace management team and senior management with a summary of the progress of the evaluations, trends that are being identified and what opportunities for improvement they identify.

Instructions for evaluating SMTs

Before you read the full instructions and complete the SEI for an SMT, it is important to remember that these tools measure the safety effectiveness of undertaking the SMT, **not** how poorly or well it is done by the people doing it. Each part of the evaluation also gives you the opportunity to indicate whether key elements of the SMT are being carried out effectively.

1. Before you begin an evaluation using any SEI, enter your job title, the date, your workplace name and company, and circle your evaluator status **(circle one status only)**. There are three types:

   - independent observer — if you are observing the SMT, but not participating in it
   - leader/facilitator — if you are leading or facilitating the SMT
   - participant — if you are taking part in the SMT and responding for yourself. If members of a group are responding, each person should fill out an SEI for the SMT.

2. Read the description for the SEI and, if you need any further information, read why that particular SMT is undertaken.

3. Go to each of the elements and read the descriptor comments and then tick which box applies to that comment — either 'Yes', 'No' or 'Not applicable'.

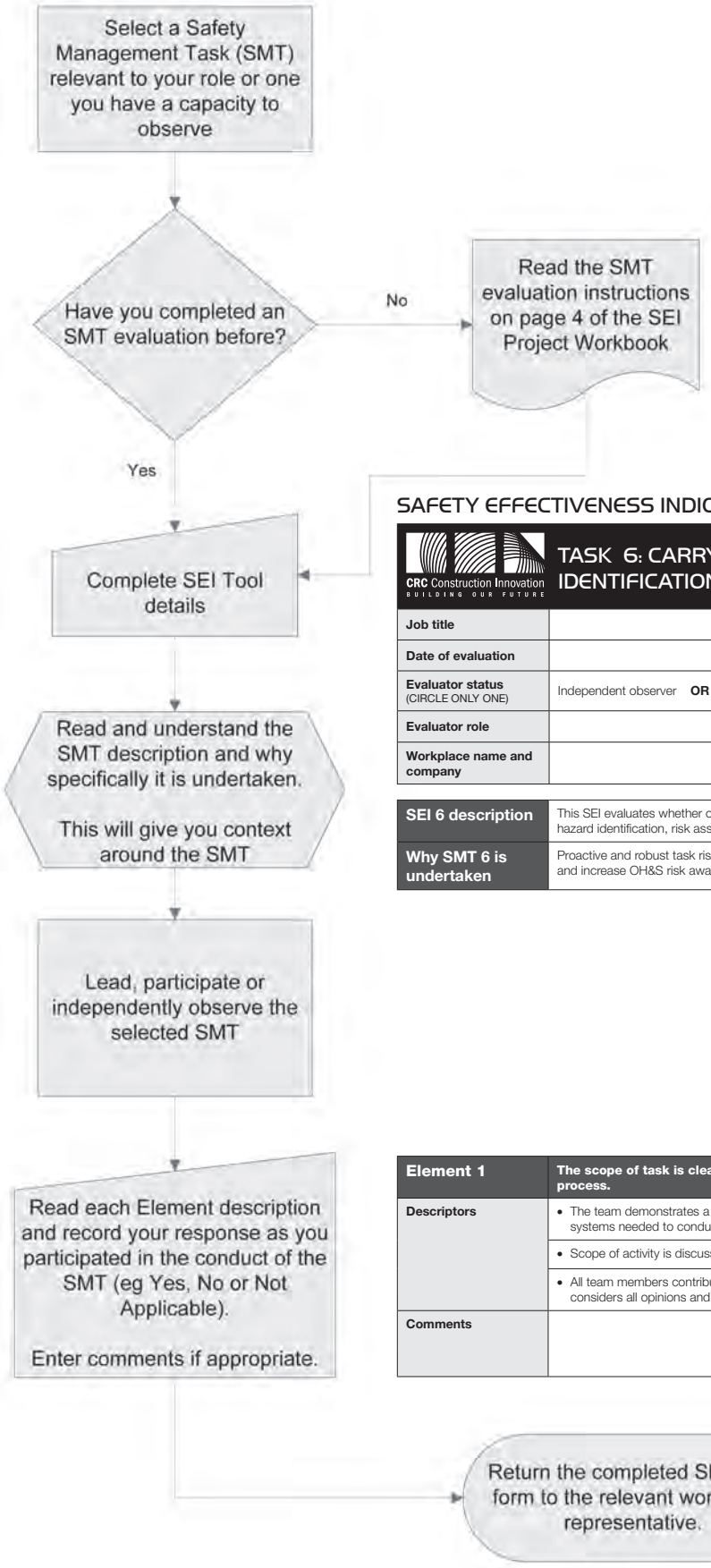
Element no	Element descriptor	
Descriptors	• Descriptor comment No 1	Yes ☐ No ☐ Not applicable ☐
	• Descriptor comment No 2	Yes ☐ No ☐ Not applicable ☐
Comments		

4. Make any comments about the element in the area provided directly below each descriptor. The comments should provide the reasons for your score. If you need more room, enter the extra comments on the other side of the page, noting which element you are writing about.

5. If you have not filled out an SEI before, or have any comments on the tool itself, please talk with your workplace manager or workplace SEI champion.

6. Return all forms to your supervisor, manager or SEI champion. Please note that some of the SEIs are designed to be used in more than one sitting.

Conducting an evaluation – process flowchart



SAFETY EFFECTIVENESS INDICATOR FOR SAFETY MANAGEMENT

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 6: CARRY OUT WORKPLACE AND TASK HAZARD IDENTIFICATION, RISK ASSESSMENTS AND CONTROLS

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 6 description	This SEI evaluates whether or not the three elements of SMT 6 effectively generate workplace and task hazard identification, risk assessments and controls.
Why SMT 6 is undertaken	Proactive and robust task risk assessment activities ensure hazard and risk reduction and legal compliance, and increase OH&S risk awareness on site.

Element 1	**The scope of task is clearly defined and all team members are involved in the assessment process.**	
Descriptors	• The team demonstrates a clear understanding of the tools and systems needed to conduct an accurate task risk assessment.	Yes ☐ No ☐ Not applicable ☐
	• Scope of activity is discussed, understood and defined.	Yes ☐ No ☐ Not applicable ☐
	• All team members contribute to open and frank discussion which considers all opinions and ideas.	Yes ☐ No ☐ Not applicable ☐
Comments		

Interpreting the results

Interpreting

Each SEI will be used over different time frames — daily, weekly, monthly or longer — over the lifetime of a project. For example, SMT 13 (Plan and deliver toolbox talks) can be used weekly at every toolbox talk, while SMT 1 (Carry out project risk assessments) may only be used occasionally over the project's life. The variation in time frames will mean that the SEIs will vary in the results they give a project and the timeframes needed to gain useful results.

Evaluators will tick either 'Yes', 'No', or 'Not applicable'. All completed forms for each SEI should then be reviewed to get a total of 'Yes', 'No' and 'Not applicable' responses. It is very important to get comments back when an evaluator marks 'No' or 'Not applicable'. Marking 'No' could mean that the action was not done, but should have been done, or it could be that the action was not done as it does not need to be done on that site. If it should have been done and was not, this is an obvious improvement that people can make to their on-site safety. However, if the element did not need to be done, the site may take this 'No' to indicate that the safety action is poor, when in fact it is just not needed. Reading and interpreting comments can lead to further important discussion on sites to understand why certain actions are not done, or not required within an activity.

Once it is established which safety elements should be done, but are not being done, then over time the site can work to ensure these are carried out effectively, and understood by all site personnel. As each SEI is reviewed over time, a site should notice an increase in the number of 'Yes' responses.

Use of culture actions

Another approach that can be used with SEIs is to categorise each element or each descriptor. This process would align the element descriptors to one of the following nine identified culture actions, as found in *A Construction Safety Competency Framework* (further information can be found in that book):

- communicate company values
- demonstrate leadership
- clarify required and expected behaviours
- personalise safety outcomes
- develop positive safety attitudes
- engage and own safety responsibilities and accountabilities
- increase hazard/risk awareness and preventive behaviours
- improve understanding and effective implementation of safety management systems
- monitor, review and reflect on personal effectiveness.

Each element and descriptor across the 13 SEIs will fall under one of these culture actions.

To use this approach, total up the 'Yes' and 'No' responses across all SEIs and determine which culture actions are receiving 'No' responses.

For example, if there are 12 descriptors that relate to 'demonstrate leadership' and 50 per cent of the responses from the workplace being assessed are 'No', it indicates that there appears to be a lack of demonstrated leadership against these SMT element descriptors. This should be addressed with strategies to improve overall performance in this area.

Culture actions matrix

SMT and element descriptions				Culture actions								
SMT No.	SMT title	Element no.	Element descriptions	Communicate company values	Demonstrate leadership	Clarify required and expected behaviours	Personalise safety outcome	Develop positive safety attitudes	Engage and own safety responsibilities and accountabilities	Increase hazard/risk awareness and preventive behaviours	Improve understanding and effective implementation of safety management systems	Monitor, review and reflect on personal effectiveness
1	CARRY OUT PROJECT RISK ASSESSMENTS	1	The project team has a clear understanding of tools and systems needed to conduct an accurate project risk assessment					✓				
		2	Project risk assessments are undertaken with input from key people						✓			
		3	The results of project risk assessments are used effectively in planning activities and widely communicated								✓	
		4	Processes for monitoring and review of project risk assessment are considered									✓
6	CARRY OUT WORKPLACE AND TASK HAZARD IDENTIFICATION, RISK ASSESSMENTS AND CONTROLS	1	The scope of task is clearly defined and all team members are involved in the assessment process			✓						
		2	Hazard identification and risk assessments are systematically applied								✓	
		3	Processes for monitoring and review of task risk assessment are considered									✓
13	PLAN AND DELIVER TOOLBOX TALKS	1	Facilitator/leader encourages and gets participation, listens, and provides opportunities for input from all participants				✓					
		2	Facilitator/leader organises actions arising from toolbox talks and allocates responsibilities		✓							
		3	Facilitator/leader records relevant toolbox meeting discussion, awareness points, actions and action owners						✓			
16	CONSULT ON AND RESOLVE ISSUES	1	The project team has a clear understanding of safety issues with potential for conflict and which require resolution	✓								
		2	Effective application of issue resolution processes and problem solving strategies			✓						
		3	Issue resolution outcomes are effectively communicated with relevant people						✓			
		4	Process for monitoring and review of agreed resolutions is established									✓
18	CHALLENGE UNSAFE BEHAVIOUR AND ATTITUDE AT ANY LEVEL WHEN ENCOUNTERED	1	Identify reasons for ‘at risk’ behaviours			✓						
		2	Discuss ‘at risk’ behaviour/attitude with individual and identify positive attitude/behaviour activators				✓					
		3	Identify, negotiate buy-in to get the required behaviour/attitude					✓				
20	RECOGNISE AND REWARD PEOPLE WHO HAVE POSITIVELY IMPACTED ON OH&S	1	Reward and recognition are integral aspects of safety management programs	✓								
		2	An open approach to reward and recognition for all people on site					✓				
21	DELIVER OH&S TRAINING ON SITE	1	The workplace identifies training and key outcomes required to provide increased knowledge and understanding of OH&S	✓								
		2	The workplace has and communicates a training matrix that identifies who requires training, to what level and how often			✓						
		3	OH&S training delivery is effectively implemented		✓							
		4	OH&S training effectiveness is monitored, assessed and reviewed								✓	
22	CARRY OUT FORMAL INCIDENT INVESTIGATIONS	1	Incident investigation processes involve all relevant people						✓			
		2	The incident investigation processes are robust and accurately determine the causal factors of failed or omitted controls			✓						
		3	Incident investigation establishes findings and recommendations and communicates these to the workplace and senior management								✓	
24	CARRY OUT FORMAL INSPECTIONS OF WORKPLACE AND WORK TASKS	1	Site or work task inspections are planned and structured to identify hazards							✓		
		2	The safety inspection process uses suitable inspection tools for the site or work tasks being inspected, and actively interacts with relevant people					✓				
		3	Inspection findings are presented positively and clearly and identify opportunities for improvements that are measured and communicated								✓	
25	RESEARCH AND PREPARE REPORTS ON OH&S ISSUES, PERFORMANCE AND IMPROVEMENT STRATEGIES	1	OH&S information is systematically gathered and analysed to identify improvement actions						✓			
		2	The project clearly and concisely documents OH&S performance and improvement findings								✓	
		3	OH&S reports outlining analysis of findings are communicated to relevant people			✓						
26	MONITOR SUBCONTRACTOR ACTIVITIES	1	Subcontractor safety expectations are clearly defined and communicated			✓						
		2	Use evaluation tools and mechanisms to determine and monitor the effectiveness of subcontractor activities						✓			
		3	Work with subcontractors to identify activities that present opportunity for safety improvement							✓		
		4	Ensure identified improvement strategies are implemented, monitored and effective								✓	
28	EVALUATE OH&S PERFORMANCE OF SUBCONTRACTORS	1	The project team has a clear understanding of tools and systems available to determine the safety performance of subcontractors			✓						
		2	Use evaluation tools and mechanisms to determine subcontractor safety performance						✓			
		3	Provide clear and concise feedback to the subcontractors on their safety performance evaluation outcomes								✓	
36	WORK WITH PEOPLE TO SOLVE SAFETY PROBLEMS	1	Collaborative and proactive approach to identifying hazards and issues	✓								
		2	Seek input from all relevant people						✓			
		3	Collaboratively develop and implement solutions							✓		

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 1: CARRY OUT PROJECT RISK ASSESSMENTS

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 1 description	This SEI evaluates whether or not the four elements of SMT 1 effectively perform project risk assessments.
Why SMT 1 is undertaken	Integrated and robust project risk assessment activities before start up ensure hazard and risk reduction and legal compliance, and increase OH&S risk awareness. Control actions require detailed planning by all involved before risk exposure occurs.

Element 1	**The project team has a clear understanding of tools and systems available to undertake a project risk assessment.**	
Descriptor	• The project team demonstrates a clear understanding of the tools and systems needed to conduct an accurate project risk assessment.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**Project risk assessments are undertaken with input from key people.**	
Descriptor	• Appropriate people participate in the risk assessment process, and open and frank discussions take place considering all opinions and ideas.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**The results of project risk assessments are used effectively in planning activities and widely communicated.**	
Descriptors	• The project team demonstrates that project risk assessments have impact on their planning activities.	Yes ☐ No ☐ Not applicable ☐
	• Risk assessment results are understood and agreed, and responsibilities are allocated.	Yes ☐ No ☐ Not applicable ☐
	• Supported by management, employees, contractors and other key people.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 4	**Processes for monitoring and review of project risk assessment are considered.**	
Descriptor	• Monitoring and review activities for risk assessment outcomes are discussed, planned, specified and allocated.	Yes ☐ No ☐ Not applicable ☐
Comments		

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 6: CARRY OUT WORKPLACE AND TASK HAZARD IDENTIFICATION, RISK ASSESSMENTS AND CONTROLS

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 6 description	This SEI evaluates whether or not the three elements of SMT 6 effectively generate workplace and task hazard identification, risk assessments and controls.
Why SMT 6 is undertaken	Proactive and robust task risk assessment activities ensure hazard and risk reduction and legal compliance, and increase OH&S risk awareness on site.

Element 1	**The scope of task is clearly defined and all team members are involved in the assessment process.**	
Descriptors	• The team demonstrates a clear understanding of the tools and systems needed to conduct an accurate task risk assessment.	Yes ☐ No ☐ Not applicable ☐
	• Scope of activity is discussed, understood and defined.	Yes ☐ No ☐ Not applicable ☐
	• All team members contribute to open and frank discussion which considers all opinions and ideas.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**Hazard identification, risk assessment and controls are systematically applied.**	
Descriptors	• Hazards involved with each task element are identified.	Yes ☐ No ☐ Not applicable ☐
	• The level of risk associated with each hazard is identified.	Yes ☐ No ☐ Not applicable ☐
	• Controls are allocated in accordance with the hierarchy of control.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**Processes for monitoring and review of task risk assessment are considered.**	
Descriptor	• Monitoring and review activities for task risk assessment application are discussed, planned, specified and allocated.	Yes ☐ No ☐ Not applicable ☐
Comments		

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 13: PLAN AND DELIVER TOOLBOX TALKS

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 13 description	This SEI measures how to plan and hold a successful, value adding toolbox talk that achieves involvement and awareness.
Why SMT 13 is undertaken	Toolbox talks are held as one way of ensuring effective consultation, exchange of ideas and information between work crews and their supervisors leading to increased awareness of safety issues, hazards and safety actions on site.

Element 1	**Facilitator/leader encourages and gets participation, listens, and provides opportunities for input from all participants.**	
Descriptors	• Participants are actively encouraged to participate and to provide input.	Yes ☐ No ☐ Not applicable ☐
	• Facilitator is open to feedback, encouraging discussion that increases the level of risk awareness relevant to the team and site.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**Facilitator/leader organises actions arising from toolbox talk and allocates responsibilities.**	
Descriptors	• Action owners are consulted by facilitator/leader before task allocation.	Yes ☐ No ☐ Not applicable ☐
	• Facilitator/leader confirms understanding of individual responsibilities, milestones and timeframes, and any other action owners involved.	Yes ☐ No ☐ Not applicable ☐
	• Action owners recognise and support the need for change and the outcomes wanted from the actions.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**Facilitator/leader records relevant toolbox meeting discussion, awareness points, actions and action owners.**	
Descriptors	• Toolbox talk is accurately documented and distribution process agreed.	Yes ☐ No ☐ Not applicable ☐
	• Awareness strategies, opportunities and any improvements or requests raised or identified are accurately captured.	Yes ☐ No ☐ Not applicable ☐
	• Agreed action owners, activities and time frames are recorded and allocated.	Yes ☐ No ☐ Not applicable ☐
Comments		

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 16: CONSULT ON AND RESOLVE ISSUES

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 16 description	This SEI measures the implementation of the processes that ensure effective OH&S issue resolution takes place.
Why SMT 16 is undertaken	To engage people on site in effective consultation to fix OH&S issues is essential. Poor conflict resolution can impact negatively on project budget, timelines and safety performance.

Element 1	**The project team has a clear understanding of safety issues with potential for conflict and which require resolution.**	
Descriptor	• The project team demonstrates clear understanding and support for established processes that effectively achieve OH&S issue resolution.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**Effective application of issue resolution processes and problem solving strategies.**	
Descriptors	• Project team members are actively encouraged to identify and raise issues and concerns.	Yes ☐ No ☐ Not applicable ☐
	• Active engagement in meaningful discussion with relevant appropriate focus on issue and its resolution.	Yes ☐ No ☐ Not applicable ☐
	• Agreed outcomes developed and recorded to address the issues identified.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**Issue resolution outcomes are effectively communicated with relevant people.**	
Descriptors	• All relevant people affected by the issue have a clear understanding of the outcomes of the resolution process, including:	
	– individual ownership of roles	Yes ☐ No ☐ Not applicable ☐
	– responsibilities to implement the agreed actions.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 4	**Process for monitoring and review of agreed resolutions is established.**	
Descriptor	• Monitoring and review of agreed resolutions are discussed, planned, specified and allocated.	Yes ☐ No ☐ Not applicable ☐
Comments		

SAFETY EFFECTIVENESS INDICATOR FOR SAFETY MANAGEMENT

TASK 18: CHALLENGE UNSAFE BEHAVIOUR /ATTITUDE AT ANY LEVEL WHEN ENCOUNTERED

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 18 description	This SEI measures the effectiveness of the approach taken to challenge and to change unsafe behaviours and attitudes.
Why SMT 18 is undertaken	Systems alone do not make safe workplaces. One important element is the behaviour and attitude of all people on site. This SMT addresses unwanted behaviours and attitudes that can lead to the erosion of safety culture and safety performance.

Element 1	**Identify reasons for 'at risk' behaviours.**	
Descriptors	• Discussions focus on education and an opportunity for improvement in safety performance.	Yes ☐ No ☐ Not applicable ☐
	• Evidence of a systematic approach that identifies 'unsafe' behaviours.	Yes ☐ No ☐ Not applicable ☐
	• Consistent and visible leadership by management in OH&S behaviours and actions.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**Discuss 'at risk' behaviour/attitude with individual and identify positive attitude/behaviour activators.**	
Descriptors	• Positive, proactive discussion between people that identifies the positive aspects of an activity as well as recognising 'unsafe' behaviours or unsafe work.	Yes ☐ No ☐ Not applicable ☐
	• Discussions with 'at risk' people is documented.	Yes ☐ No ☐ Not applicable ☐
	• Findings reported on site making sure that individuals are not identified.	Yes ☐ No ☐ Not applicable ☐
	• On-site communication of actions that fixed previous unsafe items.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**Identify, negotiate buy-in to get the required behaviour/attitude.**	
Descriptors	• Feedback is consistent, positive, fact-driven and relevant.	Yes ☐ No ☐ Not applicable ☐
	• Evidence of acceptance of responsibility for unsafe act/behaviour and required changes.	Yes ☐ No ☐ Not applicable ☐
	• Taking ownership of future actions.	Yes ☐ No ☐ Not applicable ☐
	• Constructive discussions occur to find future 'roadblocks' to meeting safety requirements.	Yes ☐ No ☐ Not applicable ☐
	• Processes in place to communicate learnings for corrective or preventative action.	Yes ☐ No ☐ Not applicable ☐
Comments		

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 20: RECOGNISE AND REWARD PEOPLE WHO HAVE POSITIVELY IMPACTED ON OH&S

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 20 description	This SEI measures project processes which acknowledge and promote safety innovation and excellence.
Why SMT 20 is undertaken	A robust and effective rewards and recognition process creates safety innovation and a positive safety culture. People should clearly understand what safety innovation and excellence are and constantly strive to achieve them. Well developed and transparent awards and recognition activities add to the overall safety culture.

Element 1	**Reward and recognition are integral aspects of safety management programs.**	
Descriptors	• There are well established and transparent processes in place to reward and recognise excellence in safety behaviour, performance, initiative and innovation.	Yes ☐ No ☐ Not applicable ☐
	• Rewards are equitable across all workplace participants.	Yes ☐ No ☐ Not applicable ☐
	• Rewards promote reporting of issues, concerns, incidents, safe behaviours and risk awareness.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**An open approach to reward and recognition for all people on site.**	
Descriptors	• People understand the importance of rewards and recognition programs.	Yes ☐ No ☐ Not applicable ☐
	• People contribute to this process.	Yes ☐ No ☐ Not applicable ☐
	• Senior management publicly recognises the behaviours, examples and importance of ‘safety champions’.	Yes ☐ No ☐ Not applicable ☐
Comments		

SAFETY EFFECTIVENESS INDICATOR FOR SAFETY MANAGEMENT

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 21: DELIVER OH&S TRAINING ON SITE

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 21 description	This SEI measures the effectiveness of the identification, development and implementation of OH&S training on site.
Why SMT 21 is undertaken	Identifying, developing and implementing effective safety training ensures that people are aware of individual competencies required, and that their responsibilities are documented, communicated and understood. Building the knowledge, skills and behaviours of individuals provides clarity and raises awareness of safety risks and provides the necessary controls.

Element 1	**The workplace identifies training and key outcomes required to provide increased knowledge and understanding of OH&S.**	
Descriptor	• The site has a well documented, relevant and communicated process for identifying who requires training, what the key objectives are based on legal requirements, and the risk management tools and safety training requirements that are linked to workplace activities.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**The workplace has and communicates a training matrix that identifies who requires training, to what level and how often.**	
Descriptors	• A well documented, relevant and communicated safety training plan is in place.	Yes ☐ No ☐ Not applicable ☐
	• The safety training plan identifies who is required to undergo task specific training, when it is required and who is responsible for delivery.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**OH&S training delivery is effectively implemented.**	
Descriptors	• Safety training is structured, relevant and clearly follows identified training objectives.	Yes ☐ No ☐ Not applicable ☐
	• Training packages are structured and aligned with adult learning principles.	Yes ☐ No ☐ Not applicable ☐
	• People delivering OH&S training understand the training principles required.	Yes ☐ No ☐ Not applicable ☐
	• People delivering OH&S training are qualified to deliver safety training.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 4	**OH&S training effectiveness is monitored, assessed and reviewed.**	
Descriptors	• The workplace has specific tools for measuring, reviewing and improving safety training.	Yes ☐ No ☐ Not applicable ☐
	• The results of these processes generate continuous improvement in safety performance.	Yes ☐ No ☐ Not applicable ☐
	• Feedback on training effectiveness is communicated to relevant people on site and in head office.	Yes ☐ No ☐ Not applicable ☐
Comments		

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 22: CARRY OUT FORMAL INCIDENT INVESTIGATIONS

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 22 description	This SEI measures the incident investigation process and the effectiveness of findings to prevent future incidents.
Why SMT 22 is undertaken	Incident investigations provide the opportunity to identify incident causes and take actions to control them. Findings need to involve key people to accurately identify failed or overlooked control measures. Lessons learnt from investigations need to be communicated, implemented, monitored and owned to determine their effectiveness.

Element 1	**The incident investigation involves all relevant people.**	
Descriptor	• The incident investigation involves all relevant people, including key individuals with a detailed knowledge of incident investigation methods and processes.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**The incident investigation processes are robust and accurately determine the causal factors of failed or omitted controls.**	
Descriptors	• The incident investigation: – accurately identifies the incident circumstances – documents incident causal factors and failed controls – ensures the process does not blame individuals.	Yes ☐ No ☐ Not applicable ☐ Yes ☐ No ☐ Not applicable ☐ Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**Incident investigation establishes findings and recommendations and communicates these to the workplace and senior management.**	
Descriptors	• Incident investigation findings establish clearly identified recommendations designed to prevent incidents from occurring again.	Yes ☐ No ☐ Not applicable ☐
	• Findings and recommendations are: – recorded and allocated – communicated to all relevant workplace participants.	Yes ☐ No ☐ Not applicable ☐ Yes ☐ No ☐ Not applicable ☐
Comments		

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 24: CARRY OUT FORMAL INSPECTIONS OF WORK-PLACE AND WORK TASKS

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 24 description	This SEI measures the effectiveness of workplace safety inspections and the inspection of planned or unplanned work tasks to enable improvement strategies to be developed.
Why SMT 24 is undertaken	Robust and fully integrated safety inspection processes provide the means by which site activities and work tasks can be measured and improvement strategies are implemented.

Element 1	**Site or work task inspections are planned and structured to identify hazards.**	
Descriptors	• The inspection process is formally structured and key people have a clear understanding of the process.	Yes ☐ No ☐ Not applicable ☐
	• Inspections identify hazards for routine work and planned high risk tasks.	Yes ☐ No ☐ Not applicable ☐
	• Inspections are conducted by a range of trained relevant site people.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**The safety inspection process uses suitable inspection tools for the site or work tasks being inspected, and actively interacts with relevant people.**	
Descriptors	• Inspection activities are robust and reflect key site requirements and work tasks.	Yes ☐ No ☐ Not applicable ☐
	• The inspection process includes a range of techniques and actively communicates with people to identify potential hazards beyond obvious visual inspection.	Yes ☐ No ☐ Not applicable ☐
	• Everyone understands and supports the reasons and intent of the safety inspections.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**Inspection findings are presented positively and clearly and identify opportunities for improvements that are measured and communicated.**	
Descriptors	• Inspection results clearly document the site and work task deficiencies.	Yes ☐ No ☐ Not applicable ☐
	• The findings identify improvement strategies to be developed, owned and supported.	Yes ☐ No ☐ Not applicable ☐
	• A robust issue tracking process is conducted and the owners record improvement trends made as a result of the inspection process.	Yes ☐ No ☐ Not applicable ☐
Comments		

TASK 25: RESEARCH AND PREPARE REPORTS ON OH&S ISSUES, PERFORMANCE AND IMPROVEMENT STRATEGIES

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 25 description	This SEI measures the effectiveness of OH&S reports and mechanisms which aim to improve project OH&S performance.
Why SMT 25 is undertaken	Initiating the analysis and communication of OH&S performance information enables projects to proactively identify deficiencies and improvement strategies. Developing clear and concise OH&S reports demonstrates commitment and leadership by management. This in turn engages and empowers people to improve safety performance.

Element 1	**OH&S information is systematically gathered and analysed to identify improvement actions.**	
Descriptors	• The project adopts a robust process of analysing all relevant OH&S information from which improvements can be made.	Yes ☐ No ☐ Not applicable ☐
	• The analysis of OH&S information is relevant, regular and is conducted by management in consultation with relevant people (e.g. HSRs and Safety Committee) in order to demonstrate consistent and visible leadership.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**The project clearly and concisely documents OH&S performance and improvement findings.**	
Descriptors	• OH&S reports are clearly arranged and include information which the project can use to improve safety performance.	Yes ☐ No ☐ Not applicable ☐
	• The information is relevant and includes realistic and measurable improvement strategies, including accountabilities.	Yes ☐ No ☐ Not applicable ☐
	• Recommendations are presented to and reviewed by all relevant forums (e.g. Safety Committee).	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**OH&S reports outlining analysis of findings are communicated to relevant people.**	
Descriptors	• The process of sharing OH&S report information is relevant, structured and consistent.	Yes ☐ No ☐ Not applicable ☐
	• OH&S reports are handed out at forums and the results are communicated and discussed with all people, including senior management.	Yes ☐ No ☐ Not applicable ☐
	• Strategies are communicated or developed as a result of consultation processes.	Yes ☐ No ☐ Not applicable ☐
Comments		

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 26: MONITOR SUBCONTRACTOR ACTIVITIES

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 26 description	This SEI measures the effectiveness of monitoring subcontractors' activities and the effectiveness of safety improvement strategies.
Why SMT 26 is undertaken	The monitoring and feedback of subcontractor activities assists with the development of safety initiatives. The ongoing monitoring and evaluation of subcontractors' activities ensures that they engage in safe work and take ownership of improving safety

Element 1	**Subcontractor safety expectations are clearly defined and communicated.**	
Descriptors	• Subcontractor leadership is able to clearly define hazards and controls relevant to the contracted scope of work.	Yes ☐ No ☐ Not applicable ☐
	• Subcontractor has an established capacity to safely undertake the contracted scope of work.	Yes ☐ No ☐ Not applicable ☐
	• Subcontractors and their employees clearly demonstrate that they understand and follow the safety obligations of project defined requirements.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**Use evaluation tools and mechanisms to determine and monitor the effectiveness of subcontractor activities.**	
Descriptor	• Well defined tools are available and implemented to identify, monitor and evaluate the effectiveness of subcontractors' safety actions and behaviours.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**Work with subcontractors to identify activities that present opportunity for safety improvement.**	
Descriptors	• The project shares safety performance information with the subcontractor for the purpose of communicating and improving safety behaviours.	Yes ☐ No ☐ Not applicable ☐
	• The project demonstrates a willingness to provide, receive and consider positive and negative feedback to improve subcontractor safety understanding, actions and behaviours.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 4	**Ensure identified improvement strategies are implemented, monitored and effective.**	
Descriptors	• The project actively identifies, implements and monitors strategies to continuously improve subcontractor safety understanding, actions and behaviours.	Yes ☐ No ☐ Not applicable ☐
	• There is evidence of people with a safety responsibility taking an active interest in the outcomes of improvement strategies.	Yes ☐ No ☐ Not applicable ☐
Comments		

CRC Construction Innovation
BUILDING OUR FUTURE

TASK 28: EVALUATE OH&S PERFORMANCE OF SUBCONTRACTORS

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 28 description	This SEI determines the effectiveness of evaluating subcontractor performance.
Why SMT 28 is undertaken	Performance monitoring tools and systems are needed to provide subcontractors with information to improve unsatisfactory safety performance. The tools need to be easy to use so they conveniently and accurately determine safety performance of the subcontractor against defined benchmarks.

Element 1	**The project team has a clear understanding of tools and systems available to determine the safety performance of subcontractors.**	
Descriptors	• Subcontractor performance evaluation tools are developed and communicated to all relevant people.	Yes ☐ No ☐ Not applicable ☐
	• The project team demonstrates a clear understanding of the tools and mechanisms needed to conduct ongoing subcontractor performance monitoring.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**Use evaluation tools and mechanisms to determine subcontractor safety performance.**	
Descriptor	• Robust and relevant tools and mechanisms are consistently applied to evaluate subcontractors' safety performance. These processes evaluate all key safety requirements of subcontractors' performance in order to assess the development of safety improvement programs.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**Provide clear and concise feedback to subcontractors on their safety performance evaluation outcomes.**	
Descriptors	• Well established performance measurement results provide subcontractors with clear information on their safety performance.	Yes ☐ No ☐ Not applicable ☐
	• Subcontractors clearly know where safety performance improvements can be implemented and why improvement is required.	Yes ☐ No ☐ Not applicable ☐
Comments		

SAFETY EFFECTIVENESS INDICATOR FOR SAFETY MANAGEMENT

TASK 36: WORK WITH PEOPLE TO SOLVE SAFETY PROBLEMS

Job title	
Date of evaluation	
Evaluator status (CIRCLE ONLY ONE)	Independent observer **OR** Leader/facilitator **OR** Participant
Evaluator role	
Workplace name and company	

SEI 36 description	Display and use of an effective process that actively involves all relevant people in problem solving.
Why SMT 36 is undertaken	To ensure interactive workforce engagement and collaboration in interventions before risk exposure occurs.

Element 1	**Collaborative and proactive approach to identifying hazards and issues.**	
Descriptors	• • Consultation process is understood and applied.	Yes ☐ No ☐ Not applicable ☐
	• Inspections identify hazards for routine work and planned high risk tasks.	Yes ☐ No ☐ Not applicable ☐
	• Inspections are conducted by a range of trained relevant site people.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 2	**Seek input from all relevant people.**	
Descriptors	• Input is encouraged, constructive, clear and non-biased.	Yes ☐ No ☐ Not applicable ☐
	• Issues are elevated to the appropriate levels for input from anyone, or all affected.	Yes ☐ No ☐ Not applicable ☐
Comments		

Element 3	**Collaboratively develop and implement solutions.**	
Descriptors	• Interactive stakeholder engagement and collaboration in interventions or solutions before risk exposure occurs.	Yes ☐ No ☐ Not applicable ☐
	• Issues are resolved with shared consensus.	Yes ☐ No ☐ Not applicable ☐
	• Solutions communicated to those impacted.	Yes ☐ No ☐ Not applicable ☐
Comments		

Safety Effectiveness Indicators Project Workbook builds on the work undertaken in the development of *A Construction Safety Competency Framework: Improving OH&S performance by creating and maintaining a safety culture* by establishing a set of measures which will provide the construction industry with a set of tools that describe best practice approaches to delivering Safety Management Tasks identified in A Construction Safety Competency Framework.

Safety Effectiveness Indicators Project Workbook is for use by all levels of construction staff, from senior and line managers to supervision and workforce. It is a tool for companies to measure safety on site, and has the flexibility to allow adaptation of the tool to suit their organisational requirements. The effective implementation of this tool should further pave the way for improving workplace safety in the industry.

A CD insert provides copies of and extracts from *Safety Effectiveness Indicators Project Workbook* to help organisations customise its content.

For copies of this industry publication go to www.construction-innovation.info or contact:

Cooperative Research Centre for *Construction Innovation*
Level 9, L Block, QUT Gardens Point
2 George Street, Brisbane, Qld, 4000 Australia
Telephone: +61 7 3138 1393
Email: enquiries@construction-innovation.info
Web: www.construction-innovation.info

CRC Construction Innovation
BUILDING OUR FUTURE

CRC AUSTRALIA

ISBN 978-0-9804262-2-9

July 2009