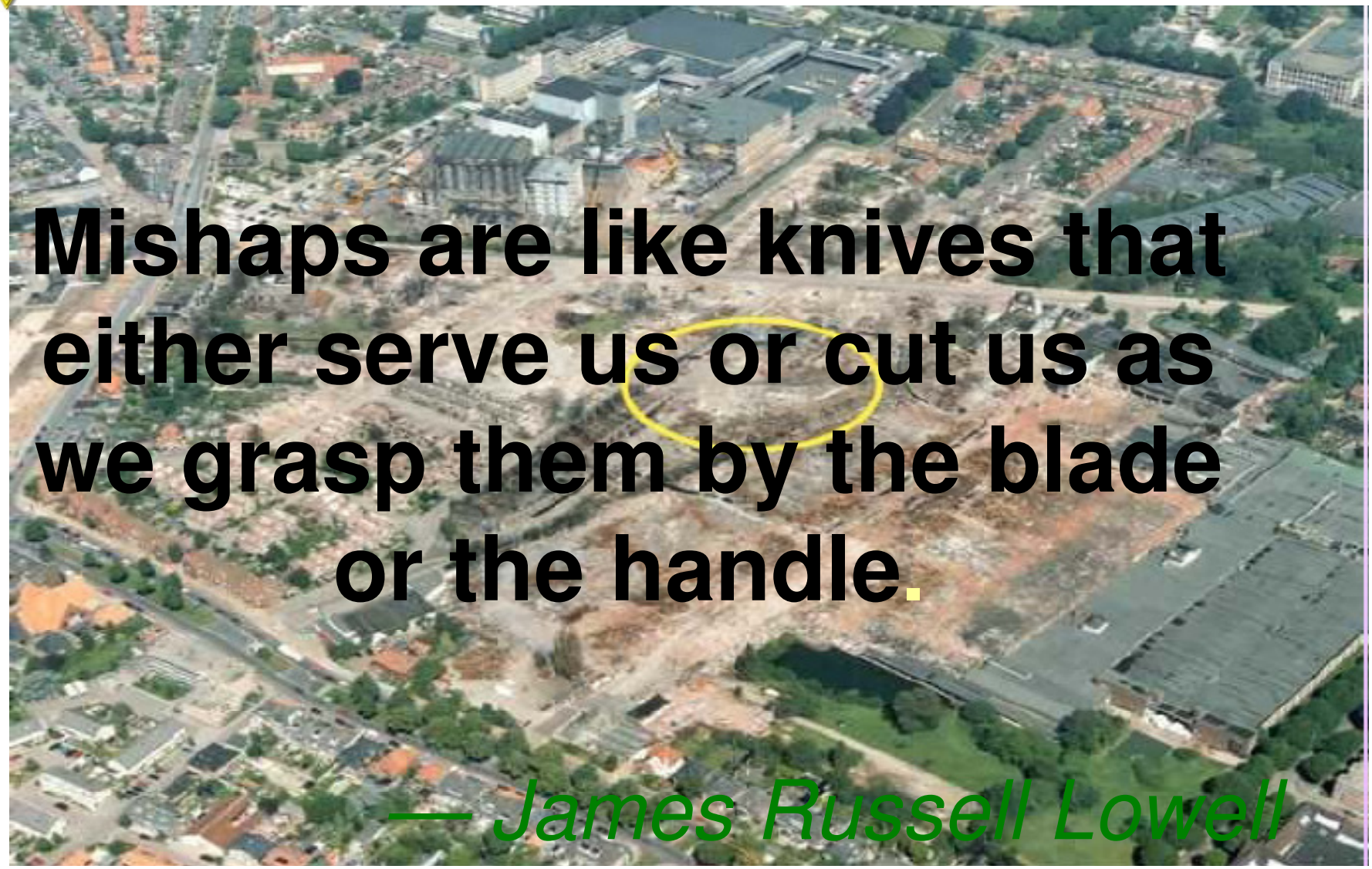
DIRECTORATE OF AIR FORCE SAFETY & HEALTH

IS THERE AN ELEPHANT IN THE ROOM

‘Or are your organisations safety performance indicators looking at the wrong thing’

Stephen Cooper FSIA
Safety Manager RNZAF



Why is it we keep repeating the same mistakes over and over again

Introduction

Organisational safety is reliant on some form of indication/measurement that the management systems put into place are working, exactly the same as other business and management functions

In this session we are going to explore how to identify the best safety related indicators for your organisation

The journey

Why we should have indicators and Measures

Define Safety Indicators and Measures

Define your business operations

Define your goals and objectives

Select appropriate indicators

Define process for measuring

Define crossovers

Develop Programme

Put into action

Why we should have Indicators and Measures

'You can't manage what you can't measure'

– Drucker

'If you don't know where you are going, any road will take you there'

-Lewis Carroll

-Alice in Wonderland

Why we should have Indicators and Measures

Performance Measurement should seek to answer such questions as:

Where are we now relative to our overall Aims and Objectives?
Where are we now in controlling hazards and risks?
How do we compare with others?
Why are we where we are?
Are we getting better or worse over time?
Is our management effective?
Is our management reliable?
Is our management proportionate to our hazards and risks?
Is our management efficient?
Is an effective management system across all parts of the organisation?
Is our culture supportive, particularly in the face of competing demands?

Define Indicators and Measurement

Lead Indicators measure the **effort** an organisation puts into preventing an (adverse) incident occurring

Lag Indicators measure the **result** from an (adverse) occurrence

In one of four criteria

- Personnel; aimed at the safety of personnel
- Process; aimed at the safety of a process
- Place; aimed at the effects of the environment on safety
- Plant ; aimed at plant and equipment

Define Indicators and Measurement

Quantitative measures

Those measures of performance that have been assigned a numerical value

Incidents 12, Meetings 4

Qualitative measures

Those measures of performance that have a categorization based on some form of judgement

Acceptable / unacceptable, safe / unsafe, good / bad

Types of Indicators
Lead (Effort Driven)

Training Education
Consultation
Communication
Hazards / Risks identified & assessed
Hazards / Risks controlled
Permits to work
Safety controls tested and maintained
Safety Indicators tested and Maintained
Building Inspections
Safety Concerns raised
Near miss reporting
Abnormal Operating conditions reported

Types of Indicators

Lag (Result Driven)

Total injuries
Lost time injuries
Lost Time Injury Frequency Rates
Time Lost
Severity Rates
Alarm operation
Machinery Cut-outs operating
Pressure relief Valves operating
Investigations undertaken

Types of Indicators
Near Miss (Hit)

How do you define a Near Miss or Near Hit?

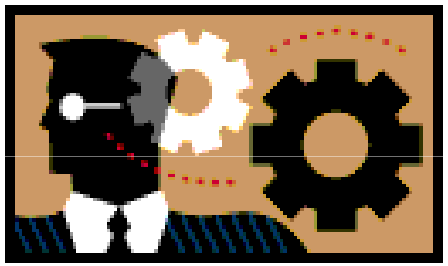
Has something occurred, A result, a Lag indicator

Does it indicate something that could happen an effort, a Lead indicator

Define your Business

Critically look at your organisations

- –People,
- –Plant,
- –Processes,
- –Place / Environment.



To identify how your business operates, through a thorough Hazard / Risk Identification and Assessment programme

Define your Business

From your Hazard Risk Identification and Assessment programme identify the critical areas of the business that need monitoring and/or measuring under the four basic criteria

People:

Plant:

Process:

Place:

Define your Goals and Objectives

- People **Safety, Health and Wellness**
- Plant **Tested, Maintained & Working properly**
- Process **Documented, Correct and Implemented fully**
- Place **Free from Hazards and Risks**

Select appropriate Lead and Lag indicators to your organisation

Lead

Training and Education
Consultation meetings
Hazard & Risk Identification, Assessment & Control
Audits and Assessment
Near Miss reporting
Inspections completed

Lag

Lost Time Injuries
Severity Rates
Operation of
- Pressure relief valves
- Alarms
- Machine cut outs

Investigations completed

Set Targets for Measured Effort and Results appropriate to organisation

Indicators should meet the **SMART** Criteria

Specific	To Organisation and Function
Measurable	Objective not Subjective (if possible)
Achievable	Based on assessments of past records
Realistic	Based on an evaluation of the organisation
Time based	Daily, Weekly, Monthly, Cycle measuring

Develop processes for measuring Effort and Result

Measuring performance is an ongoing activity, so in one sense the measurement process is continuous.

But like any other activity measurement should be both efficient and effective, so the frequency with which it takes place needs to be planned appropriately.

Define Crossovers (where lag become lead)

Where a Lag Indicators (Result) in one category can be used as a Lead Indicator (Effort) in another category

Example;

Where a tank Overfill Alarm (Plant; **Result**) is used to identify a fault in the tank filling procedures (**Effort**; Process)

Develop Programme

Programme is put together to ensure the right people get the right information at the right time. In a readable format

THALES AUSTRALIA

Site Monthly Safety Performance Summary

OHS-ADI-FM-001
Issue 3 26/09/2002

Site	ADI EO Services (Consolidated)
Month	Jun-07
Number of Workplaces/Sites	17

Employee Exposure	Thales Australia		Contractors		Total	
Average Number of Employees	193		121		314	
Hours Worked	30068		18153		48221	
Input Exposure (Lead Indicators)						
OH&S Consultation Meetings Held (including Tool box talks)	9		0		9	
Inspections & Audits completed	8		0		8	
Hazards Identified, Assessed / Controlled	4	4	0		4	4
Number of Near Misses Reported	8		1		9	
Corrective Actions opened / completed (Safety related)	3	3	0		3	3
Outcome Exposure (Lag Indicators)	**FAI**	**MTI**	**FAI**	**MTI**	**FAI**	**MTI**
Non Lost Time Injuries	0	0	0	0	0	0
Lost Time Injuries (LTI)	0		1		1	
Total Injuries (LTI + MTI)	0		1		1	
Days Lost (**NEW** LTI's Days lost this month)	0		11		11	
Days Lost (**OLD** LTI's Days lost this month)	0		0		0	
Days Lost (**Total** LTI's Days lost this month)	0		11		11	
Injury Severity Rate	0		11		11	
Vehicle Incidents	0		0		0	
Effects of Exposure						
LTI Frequency Rate (LTIFR)	0.00		55.09		20.74	
MTI Frequency Rate (MTIFR)	0.00		0.00		0.00	
Average Time Lost Duration Rate (DR)	0		11		11	
Number of Workers Comp Claims	0		0		0	

Safety Manager's Comments (Lead Indicators): Milestones, Achievements, Recognitions Audits/Inspections, Training completed, New Initiatives/Goals for next month

COMCARE required Health & Safety Representatives being elected and trained at facilities, (elected Mark Sephton, Stirling((trained John Fitzpatrick, Mangalore) .

Consultation meetings held with outside agencies & contractors on an as required basis (Twofold Bay, Police & Forestry) (Stirling, HMAS Stirling OH&S Committee) (Point Wilson, Toll Stevedores)

Safety Manager attended ICAM Lead Investigators course, RS&C Coordinators & slected HSRs to be trained later in year

Lost Time Injury, Glen Morris, Casual Contract staff at Jennings facility , Back Injury with 11 days off work.

Major Hazard Facility notification sent to Defence for on forwarding to COMCARE
Dangerous Goods Notification for Class 1 Explosives sent to Defence for on forwarding to COMCARE

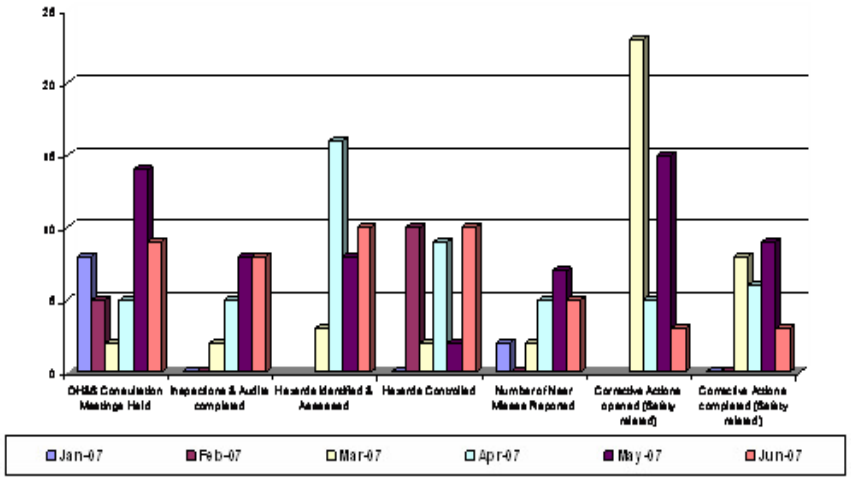
Safety Manager's Signature:	S Cooper	Date:	

DIRECTORATE OF AIR FORCE SAFETY & HEALTH

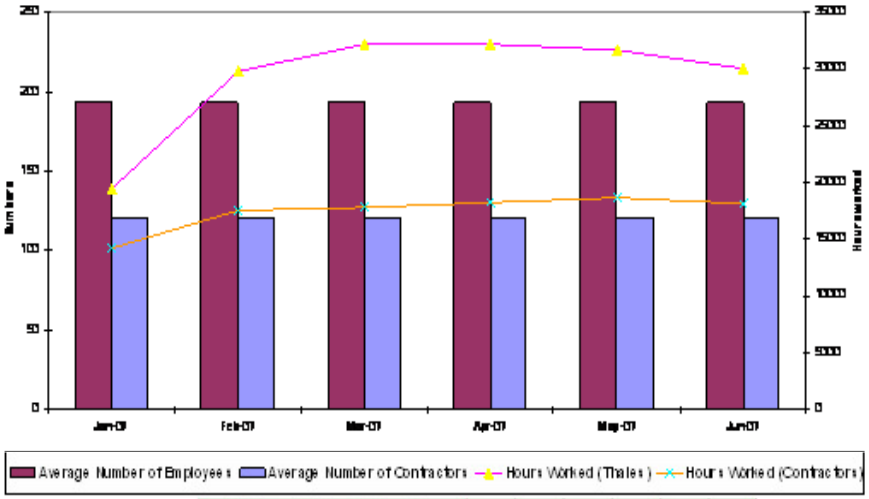
Employee / Contractor Information	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07
Average Number of Employees	193	193	193	193	193	193
Average Number of Contractors	121	121	121	121	121	121
Hours Worked (Thales)	19439	29818	32142	32143	31631	30068
Hours Worked (Contractors)	14227	17543	17808	18211	18630	18153
Total Hours Worked	33666	47361	50264	50668	50575	48535
Kilometers Driven (Cloud)	100934	179537	218467	251731	275518	238921
OH&S Lead Indicators	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07
OH&S Consultation Meetings Held	8	5	2	5	14	9
Inspections & Audits completed	0	0	2	5	8	8
Hazards identified & Assessed			3	16	8	4
Hazards Controlled	0	10	2	9	2	4
Number of Near Misses Reported	2	0	2	5	7	8
Corrective Actions opened (Safety related)			23	5	15	3
Corrective Actions completed (Safety related)	0	0	8	6	9	3
OH&S Lag indicators	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07
First Aid Injuries	0	1	3	1	6	0
Medical Treatment Injuries	1	2	0	0	2	0
Lost Time Injuries (LTI)	0	0	0	0	1	1
Total Injuries (LTI + MTI)	1	2	0	0	3	1
Number of Workers Comp Claims	0	0	0	1	2	0
Days Lost (Total LTI's Days lost this month)	0	0	0	0	3	11
Injury Severity Rate	0	0	0	0	9	11
Calculations	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07
Days Lost (NEW LTI's Days lost this month)	0	0	0	0	3	11
Days Lost (OLD LTI's Days lost this month)	0	0	0	0	0	0
LTI Frequency Rate (LTIFR)	0.00	0.00	0.00	0.00	53.68	55.09
MTI Frequency Rate (MTIFR)	29.70	42.23	0.00	0.00	39.55	0.00
Average Time Lost Duration Rate (DR)	0	0	0	0	0	0

DIRECTORATE OF AIR FORCE SAFETY & HEALTH

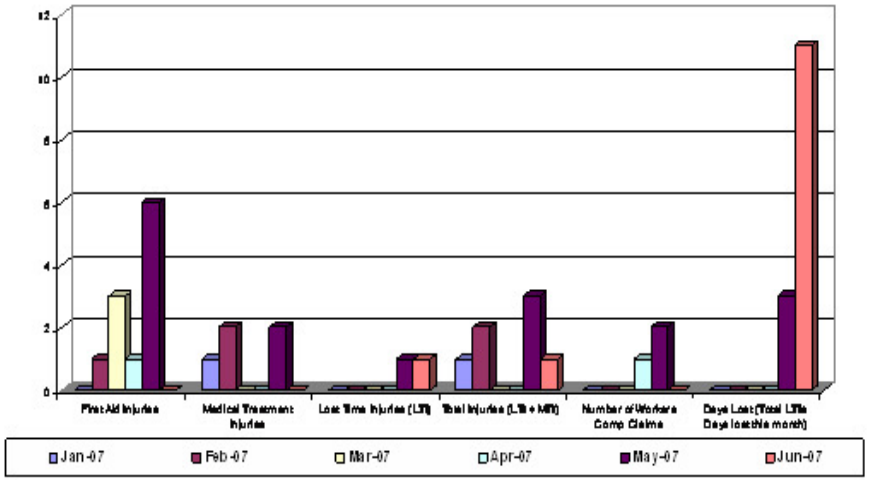
OH&S Lead Indicators



Employee / Contractor Information



OH&S Lag Indicators



Employee / Contractor Information	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07
Average Number of Employees	193	193	193	193	193	193
Average Number of Contractors	121	121	121	121	121	121
Hours Worked (Thales)	19439	29818	32142	32143	31631	30068
Hours Worked (Contractors)	14227	17543	17808	18211	18630	18153
Total Hours Worked	33666	47361	50264	50668	50575	48535
Kilometers Driven (Cloud)	100934	179537	218467	251731	275518	238921
OH&S Lead Indicators	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07
OH&S Consultation Meetings Held	8	5	2	5	14	9
Inspections & Audits completed	0	0	2	5	8	8
Hazards Identified & Assessed			3	16	8	4
Hazards Controlled	0	10	2	9	2	4
Number of Near Misses Reported	2	0	2	5	7	8
Corrective Actions opened (Safety related)			23	5	15	3
Corrective Actions completed (Safety related)	0	0	8	6	9	3
OH&S Lag Indicators	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07
First Aid Injuries	0	1	3	1	6	0
Medical Treatment Injuries	1	2	0	0	2	0
Lost Time Injuries (LTI)	0	0	0	0	1	1
Total Injuries (LTI + MTI)	1	2	0	0	3	1
Number of Workers Comp Claims	0	0	0	1	2	0
Days Lost (Total LTIs Days lost this month)	0	0	0	0	3	11
Injury Severity Rate	0	0	0	0	9	11

Monthly OH&S Metrics - Thales & Contractors

Reporting Period:	Mar-07	
	Function	
A. Average number of employees:	Full time company employees	**193**
	Sub-contractor employees	**121**
B. Average hours worked for:	Full time company employees	**29818**
	Sub-contractor employees	**47362**
C. Hazards:	Number of Hazards opened during month	**3**
	Number of Hazards closed during the month	**2**
	Number of Hazards remaining open during the month	**1**
D Corrective Actions	Number of Corrective Actions opened in the Month	**23**
	Total Number of Corrective Actions Open	**15**
	Number of Corrective Actions overdue for closure	**0**
D. OH&S Committee Meetings	Number of Planned for Month	**2**
	Actual number conducted for Month	**2**
E. Workplace Inspections:	Number Planned for Month	**15**
	Actual Number Conducted for Month	**19****
F. Incident/ Accident Summary:	Total Number of Works Incidents"	**5**
	Total Number Dangerous Occurrences.	**0**
Refer to 'Comment' for definition of terms	Number of Statutory Reportable Incidents.	**0**
	Number of Lost Time Incidents (LTI)	**0**
	Number of days lost due to LTI's	**0**
	Number of Medical Treatment Incidents (MTI)	**0**
	Number of First Aid Injury (FAI)	**2**
	Number of Property Damage Incidents	**0**
	Number of Motor Vehcice Incidents	**2**
	Number of Near Misses	**1**

Put into Action

References

Thinking about Process Safety Indicators
Andrew Hopkins

How Health and Safety Makes Good Sense
Department of Labour

Guidance on Safety Performance Indicators
OECD

A Guide to Measuring Health and Safety Performance
Health & Safety Executive

Control Measures and Performance Indicators under the Occupational Health and Safety (Major Hazard Facilities) Regulations
Worksafe Victoria

Positive Performance Indicators for OHS
Worksafe Australia