

Introduction

Inquiries into fatalities at the Beaconsfield, Renison and Cornwall mines between 2000 and 2006, identified inadequacies in the resourcing and staffing levels within the Office of the Chief Inspector of Mines (OCIM). Following a review of the findings of these inquests, Workplace Standards Tasmania actioned a number of recommendations aimed at addressing these inadequacies. At the time, it was also recommended that ongoing audits be conducted into the capacity of the OCIM to continue to perform its functions.

The first of these audits was conducted in 2010 by Professor Michael Quinlan PhD, FSIA of the School of Organisation and Management at the University of New South Wales. Professor Quinlan conducted similar audits in 2012 and 2014.

In September 2016, WorkSafe Tasmania (WST), as it is now known, finalised its *Terms of Reference* (TOR) for the next audit of the OCIM and on 19 October 2016 engaged Greg Rowan of Rowan & Associates Pty Ltd to conduct the 2016-17 audit. The TOR (included in this report as *Appendix I*) are principally focused on the practices, activities and procedures of the OCIM. As a consequence, the examination and reporting of the findings on these matters are process based.

It is, however, self-evident that the purpose of any regulatory body is the attainment of the objectives of the legislation for which it is accountable. In the case of the OCIM this is the *Mines Work Health and Safety (Supplementary Requirements) Act 2012* which states -

The object of this Act is to assist in securing the health and safety of mine workers, and other people exposed to risks to their health or safety arising from mining operations, through the implementation of health and safety measures, specific to mines and mining operations, that are in addition to the measures imposed under the Work Health and Safety Act 2012.

As such, the recommendations included in the report are framed with the specific strategic intent of improving the safety and health outcomes of all persons that may be impacted by mining operations. These recommendations are focused on -

- i. consolidating the progress that has been made towards repairing the inadequacies identified in previous reviews;
- ii. enhancing and maintaining the sustainability, capacity, capability and standing of the OCIM;
- iii. identifying specific work method control practices and processes to increase efficiencies and transparencies; and
- iv. identifying practical, tested and proven solutions for those matters requiring redress that were identified during the conduct of this audit, or that remain outstanding from previous audits.

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Disclaimer

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Acknowledgements

I would like to personally thank all those who participated in this audit and who gave freely and openly of their time and expertise. Without such open cooperation and professionalism, the conduct and reporting of such reviews can be challenging and the opportunities for shared learning and positive action planning can be compromised.

Conduct of the Audit

The audit was conducted through a series of site visits, structured interviews with key stakeholders and discussions with workers and other persons.

The site visits were conducted in conjunction with routine mine inspections to enable the practices and processes used by the inspectors in the conduct of their normal activities to be observed. As a former Senior Inspector of Mines, this provided the opportunity to assess the regulatory practices of the inspectors as they interacted with the management and workforce at the site.

Following the completion of the inspections, I attended the inspector's de-briefing with the Site Senior Officer (SSO) and others on the findings of the inspections. As a former Mine Manager and current holder of a First Class Mine Managers Certificate, this provided the opportunity to engage technically in the discussions of the hazards, risks and control strategies in place and to assess the technical interactions between the mine management and the inspectors.

Following the completion of these discussions, I invited the SSO and those others present, to participate in a structured interview seeking information and opinion on matters related to the Terms of Reference of this audit. All persons agreed to participate in these interviews and the full and honest disclosure provided is gratefully acknowledged.

In completing the audit a total of 45 interviews were conducted, 29 formal discussions were held with workers, tradesmen and others, 2 underground metalliferous, 1 underground coal mine, 1 open cut metalliferous mine, 7 quarries and 1 Major Hazard Facility (MHF)¹ were inspected.

All officers of the OCIM were interviewed and the three offices of the mines inspectorate in Burnie, Hobart and Launceston were attended.

Structured interviews were conducted with the Commissioner of Mine Safety, the Chief Inspector of Mines (Coal) and the Chief Inspector of Mines & Quarries in Queensland as well as the Chief Compliance Officer, the Director of Mine Safety Operations, the Chief Inspector of Mines, the Manager of the Audit and Investigation Unit and the Director of Mine Safety Performance in New South Wales.

Further structured interviews were held with worker representatives, industry groups and other key stakeholders. The list of interviews and site visits are included as *Appendix II* of this report.

¹ Interviews, observations and discussions were recorded in a notebook maintained for the purpose.

THE TASMANIAN MINING & RESOURCES INDUSTRY

The Tasmanian Mining & Resources Industry

The value of the Mining and Mineral Resources sector to the Tasmanian economy is substantial. It is Tasmania's largest export industry representing approximately 56% of Tasmania's total export income². In 2015–16, mineral products worth \$1.61Billion were exported. Together with an addition \$1.92Billion from non-exported quarrying products and coal mining, the sector had an estimated total value of \$3.53Billion.

In 2016, the industry paid approximately \$23Million in royalties and directly employed approximately 4,850 personnel across 16 large and 315 smaller mines and quarries.

In relative terms, Tasmania's second most valuable export industry is the food sector (dairy, fruit & vegetables, seafood and meat) with total products worth \$702Million exported in 2015-16.

Table 1 below provides a comparison of the indicative values of the Mining and Mineral Resources sectors in Queensland and New South Wales between 2010 and 2016.

State	Total Value p/a	Value in Exports p/a	% Overall State Exports	Direct Employed	No of Large Mines	No of Large Quarries	Royalties Paid p/a
Tas	\$ 2B	\$ 1.7B	57%	4850	16	113	\$ 22.9M
NSW	\$ 21B	\$ 17.1B	26%	38200	165	74	\$ 1.3B
Qld	\$ 30B	\$ 27.6B	59%	39797	132	84	\$ 2.1B

Table 1 Indicative Values of Minerals Resources Sectors by State

Historically, -

- in 2012-13 it accounted for \$1.66Billion or more than 50% of total mercantile exports³
- in 2014-15 mineral products worth \$1.49Billion were exported representing approximately 57% of Tasmania's export income⁴ and the total value of the Industry was \$2.01Billion (in addition to the exported value including quarry production and minerals mined but not exported, e.g. coal production)⁷
- as at September 2014 there were 554 mining leases, 149 exploration licenses, 30 retention licenses and two special exploration licenses active in Tasmania⁵

Major mining operations in Tasmania are conducted by Grange Resources, Minerals and Metals Group, Unity Mining, Copper Mines of Tasmania, Bluestone Mines, Tasmania Mines, Shree

² www.cg.tas.gov.au The mining and mineral processing industry of Tasmania. A guide for Investors. August 2016

³ http://www.mrt.tas.gov.au/portal/mining

⁴ www.cg.tas.gov.au The mining and mineral processing industry of Tasmania. A guide for Investors. August 2016

⁵ www.cg.tas.gov.au Tasmania Delivers INVEST13004_TD_Mining_Minerals_En_20150616_Web

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Minerals, Cornwall Coal, Sibelco Lime, Cement Australia and Circular Head Dolomite. The state is home to the Nyrstar zinc refinery and projects aimed at producing sheelite and tin.

Metallic minerals mined include copper, gold, silver, iron, tungsten, tin and zinc with future opportunities in nickel and aluminium. Non-metallic industrial minerals include ultra-high purity silica flour, limestone and dolomite. Non-metallic construction materials include building stone, aggregate, gravel and sand.

The coal mining sector consists of a single operator. Cornwall Coal is a wholly owned subsidiary of Cement Australia that operates an underground mine, a small open cut and a coal washing and processing plant. Its total production of approximately 400,000 tonnes/year is sold domestically, primarily to meet the requirements of Cement Australia's Railton operation.

▣ MINING OPERATIONS	○ MINERAL PROCESSING	
1 Copper Mines of Tasmania*: Copper, gold, silver	13 Grange Resources: Iron ore pellets	
2 Unity Mining: Gold	14 Tasmanian Advanced Minerals: Silica flour	
3 Minerals and Metals Group: Zinc, lead, gold, silver, copper	17 Cement Australia: Cement	
4 Bluestone Mines: Tin, copper	18 BCD Resources: Gold	
7 Tasmanian Advanced Minerals: Silica flour	19 Pacific Aluminium: Primary aluminium alloys, paste, powder	
8 Grange Resources: Iron ore	19 TEMCO: Ferromanganese Silico- manganese, sinter	
9 Shree Minerals*: Iron ore	23 Nyrstar Smelter: Zinc metals, alloys, cadmium, sulphuric acid	
10 Circular Head Dolomite: Dolomite	▲ MINES UNDER DEVELOPMENT	
12 Naracoopa Mineral Sands: Heavy mineral sands	5 Avebury Nickel Mine: Nickel	
15 Tasmania Mines: Magnetite, tungsten	6 Venture Minerals: Tin, tungsten, iron ore	
16 Sibelco Lime Tasmania: Limestone	11 King Island Scheelite: Tungsten	
20 Cornwall Coal: Coal	22 Hard Rock Coal Mining: Coal	
21 Webb Mining: Gold	24 Australian Bauxite: Aluminium	

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As noted by Quinlan⁷ in his 2014 audit of the OCIM-

An adequately resourced inspectorate is essential to providing effective regulatory oversight of mine safety. Inadequate resourcing has been a contributory factor in a number of fatal incidents, including the Pike River mine disaster and a number of mine fatalities in Tasmania. Indeed, it is 'pattern' flaw that has been found repeatedly by investigations into serious mine incidents.

Table 2 details the numbers of inspectors working within the OCIM over the period 2009-2016.

Year	2009	2010	2011	2012	2013	2014	2015	2016
No. of Mining inspectors	4	4	4.5	3.5	3.5	3.5	4.5	5.5
No. of MHF inspectors	1	1	1.5	1.5	1.5	1.5	1.5	1.5
Total	5	5	6	5	5	5	6	7

Table 2 Number of inspectors within OCIM

Again, as noted by Quinlan⁸ in his 2014 audit report-

Notwithstanding the closure of mining operations at Beaconsfield the current establishment of five inspectors is inadequate and as recommended by previous audits an additional inspector needs to be appointed with primary responsibility for quarrying.

Notwithstanding the findings and recommendations later in this report, I extend my full endorsement of Prof. Quinlan's recommendation that there be 6 full time Mines inspectors working in the OCIM.

There are currently 1.5 personnel within the OCIM assigned accountabilities for Tasmania's Major Hazard Facilities (MHFs). It is my view that such arrangements impose unnecessary financial inefficiencies on the OCIM and clouds the number of persons engaged in conducting activities as Mines inspectors. Taking into consideration the administrative and managerial resources required to support the regulation of MHFs, it could be argued that there are nominally only 5 inspectors working full time on regulating the mining and quarrying industries in Tasmania.

It is my understanding that a separate audit is underway into the effectiveness of the current approach to the regulation of MHFs. Without prejudicing the outcomes of that audit, it is my opinion that a clear separation is required between the personnel, their accountabilities, legislative frameworks and financial support between the regulation of mines, quarries and MHFs.

Table 3 details the Budgeted vs. Actual Expenditure for the OCIM (year-on-year) over the period 2009-17. On average, 90% of the Budgeted and 85% of the Actual annual financial resources of the OCIM has been expensed on salaries.

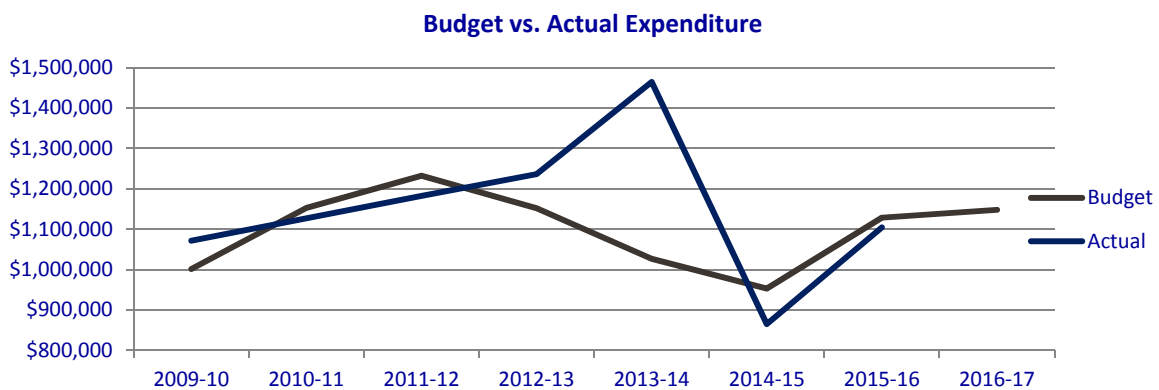
⁷ Quinlan, Michael. *Third Audit of the Mine Safety Unit and Office of Chief Inspector of Mines, WorkSafe Tasmania*. 2014, page 51

⁸ Quinlan, Michael. *Third Audit of the Mine Safety Unit and Office of Chief Inspector of Mines, WorkSafe Tasmania*. 2014, page 51

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Year	Expense	Budget	Actual Expenditure	% of Budget	% of Actual
2009-10	Salaries	\$828,851	\$867,460	83%	81%
	Non-Salaries	\$172,212	\$203,871	17%	19%
	TOTAL	\$1,001,063	\$1,071,331		
2010-11	Salaries	\$988,338	\$912,157	86%	81%
	Non-Salaries	\$164,314	\$214,561	14%	19%
	TOTAL	\$1,152,652	\$1,126,718		
2011-12	Salaries	\$1,059,077	\$981,632	86%	83%
	Non-Salaries	\$173,045	\$200,755	14%	17%
	TOTAL	\$1,232,122	\$1,182,237		
2012-13	Salaries	\$1,071,381	\$1,153,646	93%	93%
	Non-Salaries	\$80,477	\$82,573	7%	7%
	TOTAL	\$1,151,858	\$1,236,219		
2013-14	Salaries	\$979,308	\$1,273,077	95%	87%
	Non-Salaries	\$47,139	\$191,277	5%	13%
	TOTAL	\$1,026,447	\$1,464,354		
2014-15	Salaries	\$896,298	\$682,853	94%	79%
	Non-Salaries	\$56,360	\$181,990	6%	21%
	TOTAL	\$952,658	\$864,843		
2015-16	Salaries	\$1,029,995	\$965,146	91%	87%
	Non-Salaries	\$98,360	\$139,128	9%	13%
	TOTAL	\$1,128,355	\$1,104,274		
2016- Jan17	Salaries	\$1,036,664	\$623,737	90%	85%
	Non-Salaries	\$111,178	\$107,314	10%	15%
	TOTAL	\$1,147,842	\$731,051		
			Average	90%	85%
			Average	10%	15%

Table 3 OCIM Annual Budget vs. Actual Expenditure



Notwithstanding some anomalies in the mid-years, the actual expenditures on salaries from 2009 through to 2016 has remained relatively unchanged at \$1.1Million whereas the total number of inspectors (including MHFs) has increased from 5 to 7 (mines inspectors from 4 to 5). This has

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resulted in the salary component of the budget increasing from 81% to 87% and the non-salary component decreasing from 19% to 13%. The non-salary component includes such items as -

- training and professional development;
- travel and accommodation expenses (local and interstate);
- seminars and conferences; and
- technical and other consultancy fees.

If an erosion of the capability and capacity of the inspectorate is to be avoided, the funding available for attracting and retaining staff will require a predictable and sustainable base. The packages on offer, however, can include mechanisms other than remuneration that can prove attractive to skilled and qualified people. One such mechanism is a leading Professional Development scheme where people are encouraged to acquire new skills (particularly those being applied to Operational Risk Management and Critical Control Analysis), upgrade their current knowledge and broaden their experiences by working in other jurisdictions and learning from the practices and capabilities of their peers. This is further discussed in the section of this report dealing with *Training and Capability*.

State	Directly Employed	No of Large Mines [‡]	Total Small Mines & Quarries	No of Mine inspectors	Budget p/a \$'000	Direct Employed per Mine Inspector	Large Mines per Mine Inspector
Tas	4850	16	315	5.5	1100	882	2.9
NSW	38200	165	2590	72	34000 #	531	2.3
Qld	39797	132	1241	52	40000 *	765	2.5

excludes Coal Mine Services unit

‡ definitions of "large" varies between states

* includes Health Surveillance unit

Table 4 Indicative Variables per Mines Inspector by State

In comparison to other jurisdictions, Table 4 provides some indicative variables by state. Within the limitations of the data⁹, it can be seen that, per mines inspector, the OCIM in Tasmania services an equivalent number of large mines, more direct employees and more large quarries than the jurisdictions Queensland or New South Wales with less budgeted expenditure.

The Tasmanian Government, in common with other local, state and federal authorities, is facing sustained pressure to cut costs and drive efficiencies still increase funding to areas of critical concern to the community – water and power security for example.

⁹ precise data across jurisdictions is, in some cases, difficult to access, incomplete, ambiguous and subject to differing definitions, inclusions and exclusions. In these instances, it has only been possible to provide indicative data

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Faced with these same competing interests, the regulators in both Queensland and New South Wales introduced a levy on the industry to fully fund the activities of the mines inspectorate.

In Queensland, the *Mining and Other Legislation (Safety and Health Fee) Amendment Act 2008* received assent on 8 September 2008 to establish the **Safety and Health Levy**¹⁰ which funds the entirety of the safety and health services provided by the Queensland Government to the mining, quarrying, explosives and fireworks industries. The levy is reviewed annually and is based on the number of workers in the industry and the budgeted cost of its services. The number of workers is calculated from a census form provided by industry. The levy and census requirements apply to all operations regulated by the *Coal Mining Safety and Health Act 1999*, the *Mining and Quarrying Safety and Health Act 1999* and the *Explosives Act 1999*. Fees and reporting requirements vary according to the number of workers or contractors at the operation (refer Table 5 below).

Mining and Quarrying Industries	5 Workers or less	6 to 10 Workers	11 Workers or more
Levy fee	exempt	\$ 107.10	\$ 850.00

Table 5 Queensland Safety and Health Levy

In New South Wales the *Mine Safety (Cost Recovery) Act 2005* established the Mine and Petroleum Site Safety Fund, commonly referred to as the **Mine Safety Levy**¹¹. The levy was introduced as one of the 31 Recommendations of the Wran Review into the safety of the New South Wales mining industry. It is charged by the NSW Government to pay for health and safety regulation of the state's mining workplaces.

The levy applies to employers in the mining industry who have obligations under the mine safety legislation for the health and safety of workers. The levy is collected by the workers compensation insurers of mining industry employers and transferred to NSW Trade & Investment. The levy is calculated as a percentage of

24		Mineral Council
26	...no objections to a levy that funds the inspectorate...	Mineral Council OHS
84	...levy negotiated through the Mine Safety Advisory Council...	NSW Regulator
93		QLD Regulator
112	...we must be able to buy experience and practical people from industry...	QLD Regulator

worker's wages. When determining the Mine Safety Levy, the department considers the planned mine safety program and related budget for the relevant period, any funds to be carried forward

¹⁰ visit <https://www.business.qld.gov.au/industries/mining-energy-water/resources/safety-health/mining/levy-census>

¹¹ visit <http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/safety-and-health/about-us/mine-safety-levy>

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from the current financial year and the residual balance of the mine safety fund. In 2015-16, employers contributed \$33.8million towards the fund.

The introduction a similar style to fund the operations of the OCIM was canvassed with a range of stakeholders during this audit. There was a programmatic recognition that if the regulator is to attract and retain qualified and experienced personnel, it would have to meet the market in attracting such people.

There were no vehement objections raised to the concept, however, it was recognised that the introduction of such a levy would require the development of a formal business case, consultation with the industry and mechanisms to avoid imposing undue financial burdens onto small operations.

It is not within the remit of this audit to reiterate the substantive arguments for and against the introduction of a mine safety levy, or to evaluate it against drawing a defined percentage of the royalties already paid by the industry. Such matters have been extensively canvassed by the *2004 Wran Review into the NSW Mining Industry* and the *2008 Queensland Ombudsman Review of the Queensland Mines Inspectorate*. It is relevant to this audit to note that these jurisdictions have now enjoyed the certainty and predictability of a secure and sustainable funding base for the regulation of their mining and resources industries for 9 and 12 years respectfully, paid for entirely by the industries they regulate.

140		Workers Comp Tas
141	...it is a very efficient model...	NSW Regulator

The invoicing and collection of the levy through a system similar to that used in New South Wales would appear to be the most efficient. Comparable mechanisms are currently in place for the collection of the asbestos levy¹² and would not require the introduction of new census regulation or impose additional regulatory burden on stakeholders.

It is my opinion, that the introduction of a levy to fund the activities of the OCIM is the single most effective method to provide an adequate, predictable and sustainable financial resource to maximise the impact of its activity. As such -

RECOMMENDATION 1 *That a Safety and Occupational Health Levy be introduced as a matter of priority to fund the entirety of the activities of the OCIM. Such a levy to be calculated in consideration of the planned activities of the OCIM and struck against all mining and quarrying operations with safety and health obligations under the Mines Work Health and Safety (Supplementary Requirements) Act 2012. Consideration is to be afforded to smaller mines and quarries with less than a prescribed number of workers.*

¹² Asbestos Compensation Commissioner *Asbestos Compensation in Tasmania – A Guide*. Tasmanian Government. 2011, page 15

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1. (b) options for better aligning financial resources with industry activity

There is no doubt that the mining and quarrying industries are cyclical. In the short-term, smaller mines and quarries are often worked under campaigns of intense activity driven by short-term markets, local demand or even weather conditions. In the longer term, market forces, commodity prices and the costs of capital all influence the risk appetites of potential investors and the production and employment levels in current operations. Aligning the financial resources of the OCIM, which in effect means the number of mines inspectors, to match these vagaries in the industry is problematic.

It is relevant to note that declining industry activity in terms of productivity and employment does not necessarily result in a decreased operational risk profile - or in the number of interventions required by the regulator. As mines develop deeper, more challenging resources and work to tighter margins, the risks to safety and occupational health is often increased.

In terms of industry trends, definitive data has been difficult to source. Table 6 provides indicative totals of the numbers of persons employed in the mining and minerals processing sectors in Tasmania from 2003, through the Global Financial Crisis of 2008, the middle of the mining “boom” in 2014 and towards the end of the current down-turn in 20116.

2003 04	2006 07	2009 10	2010 11	20014 15	2015 16
3548	3334	3411	3628	6300	4850

Table 6 Total Employment Tasmanian Mining and Mineral Processing

These figures show that, despite the cyclical nature of the mining and processing industries, there are currently more people employed in these industries than in 2010 - the year of the first of these audits in which it was recommended -

That an additional inspector be appointed to the Office of Chief Inspector of Mines with primary responsibility for quarries ... The increase in the establishment to six inspectors is consistent with recommendations made by the independent investigation into the death of Larry Knight ... at the Beaconsfield Gold Mine on Anzac Day 2006¹³.

As such, options for aligning the financial resources with industry activity should focus on the effective and efficient prioritisation of the activities of the inspectorate and ensuring the numbers of mines inspectors in the OCIM remains at six.

Consistent with other jurisdictions and its own practices, the development and application of risk-based work programmes based on the hazard profiles and activities at the mines, quarries and Major Hazard Facilities (MHF) in each district is the appropriate methodology for aligning

¹³ Quinlan, Michael. *First Audit of the Mine Safety Unit and Office of Chief Inspector of Mines, WorkSafe Tasmania*. 2010, page 31

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resources to industry activity. The type and number of these activities are examined in detail in the section of this report dealing with *inspectorate Activities*.

In order to provide transparency and accountability to the process, the OCIM should develop detailed **OCIM Strategic** and **Operational Plans**. These plans should have clear linkages to the broader **WorkSafe Tasmania Strategic Plan** and **Business Plan** and must report directly to those objectives.

The plans should detail the OCIM's *Functions* and *Objectives* as well as its key *Focus* and *High Priority Target* issues. It should detail its scheduled planned activities, the resources allocated to these activities, the specific *Impact* each activity is targeting and the defined *Risk Indicator* by which such impact will be measured. More than just performance indicators, these impacts and indicator registers will provide the basis by which the OCIM can measure progress towards achieving the objectives of the Act and its own strategic and tactical goals.

The plan should be publically available and, in common with other jurisdictions, the OCIM should produce an annual performance report describing the activities undertaken by the OCIM during the period, the safety and health outcomes of the industry and the progress of the OCIM towards achieving its objectives.

These annual reports will provide –

- i. benchmarking data on the safety and health performance on the industry;
- ii. critical data on the effectiveness and efficiency of the OCIM activities in advancing this performance;
- iii. support to the value-adding proposition of the Safety and Occupational Health levy; and
- iv. open communication to all stakeholders on the scope and nature of the pro-active and reactive activities of the inspectorate, particularly in times of falling industry activity.

Jurisdictions in both Queensland and New South Wales develop key strategic and operational plans and report publically on both the performance of the industry and the performance of the inspectorate. As such -

RECOMMENDATION 2 *The Office of Chief Inspector of Mines develop and publish detailed Strategic and Operational Plans, clearly linked to the broader WorkSafe Tasmania Strategic Plan. Such plans to contain detailed goals and high priority target areas together with specific impact and risk indicators against which performance can be measured. Further, the Office of Chief Inspector of Mines shall prepare an annual report on the safety and health performance of the industry, the performance of the OCIM against these plans and detailing the activities undertaken during the period. These plans and annual reports are to be made publically accessible.*

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- 1. (c) the remuneration qualifications and experience for staff of the OCIM
- 1. (d) arrangements for out-of-hours attendance by OCIM staff at major/fatal events
- 1. (e) improvements to Statement of Duties and the use of existing award structures for the OCIM

The current office bearers within the OCIM are detailed in Table 7 together with their qualifications and remuneration classification.

Position	Award	Classification	Location	Holds	Incumbent	Appointed to Current Position
Chief Inspector of Mines	Senior Executive Service	SES	Hobart		Fred Sears	16-Apr-07
Lead Safety Analyst- Major Hazard Facilities	Tasmanian State Service Award	Professional Stream Band	Launceston	* B.App. Sc (Chemistry) * Post Grad. Radiation Safety Officer	Ian Graham	2-Aug-02
Senior Inspector of Mines	Tasmanian State Service Award	Profession Stream Band	Hobart	* Grad.Dip. Fire Engineering * Grad.Dip. Building Surveying	Mark Smith	18-Dec-03
Principal Mining Engineer	Senior Executive Service	SES	Burnie	* B.Eng (Mining) * 1st Class Mine Manager Certificate	Andrew Tunstall	23-Apr-08
Inspector	Tasmanian State Service Award	General Stream Band	Hobart	* Cert IV Government Fraud Control Investigations	Craig Sault	24-Jan-11
Senior Inspector of Mines	Tasmanian State Service Award	General Stream Band	Burnie	* Master Degree Occupational and Environmental Safety & Health * Dip. Quality Auditing	Yvonne Veenendaal	13-Apr-15
Senior Inspector of Mines	Tasmanian State Service Award	Professional Stream Band	Burnie		Willard Zirima	15-Mar-16

Table 7 Current Office Holders

With the notable exception of coal mining experience and qualifications, I believe the range of qualifications, skills and experience currently within the OCIM is adequate to enable it to conduct its activities. The lack of coal mining expertise has been the subject of this and previous audits and is considered in further detail the section of this report dealing with *Professional Alignment, Training and Capability*.

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In terms of remuneration, there are ongoing anomalies within the office that are causing unnecessary tensions and that are at odds with the expressed values of WST¹⁴. These inconsistencies must be addressed in the interests of the long-term sustainability of the office.

As detailed in Table 7, of the personnel within the OCIM –

- 1 is an SES Contract;
- 1 is a Contracted Position;
- 3 are classified as Professional Stream (different Bands); and
- 2 are classified as General Stream (different Bands).

Additionally, there are differing arrangements in place for personnel to attend call-outs and ensuring after-hour access to offices with emergency and investigation kits, vehicles (fitted with two-way radios). There are disparities in remuneration between the senior ranks and there are anomalies in the designation of some people as *General Stream* while others in the same role are designated as *Professional Stream*. Some of these matters are impacting on morale, while others can reasonably be seen as impacting the ability of officers to perform their duties in the event of an emergency after-hours call-out.

It is to be noted that these issues are not unique to the OCIM in Tasmania. Both the Queensland and New South Wales mines inspectorates underwent significant structural changes following detailed reviews into their operations, including but not limited to the -

- 1 1996 Qld. Mining Wardens Inquiry Report on an Accident at Moura No 2 Underground Mine on 7 August 1994;
- 2 1997 NSW Mine Safety Review commissioned by the State Government;
- 3 2005 NSW Mine Safety Review by The Hon Neville Wran AC QC; and
- 4 2008 Regulation of Mine Safety in Queensland. A Review of the Queensland Mines Inspectorate by the Queensland Ombudsman.

Resolution of these matters in the two jurisdictions was achieved through different means; however, both established a simplified, transparent and equitable structure reflective of the realities of salary and conditions available within the industry - and indeed to mine inspectors in other jurisdictions.

The Queensland solution was to engage all personnel from the Chief Inspector to the Inspection Officers on individual contracts under Section 122 of the Queensland Public Service Act 2008. These Section 122 contracts are used to provide public service agencies with the flexibility to attract and/or retain officers with critical skills for specific business needs. They are written to reflect the remuneration and conditions required to attract the appropriate personnel and include all necessary clauses to remove any questions about call-out provisions, vehicle access and matters of professional development. The Executive Director and Commissioner of Mine Safety

¹⁴ WorkSafe Tasmania. *Strategic Plan 2013-18, Values*. May 2016, page 4

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and Health are not appointed as inspectors under the legislation and remain members of the Senior Executive Service.

The New South Wales solution was to engage all personnel, other than the Executive Officers of the Department, under the specific *Department of Industry Mine Safety Officers Award*. This award includes defined provisions for call-outs

78	...we should be working across boundaries...	NSW Regulator
89	...all inspectors are under specific award Dept. of Industry Mine Safety Officers Award...	NSW Regulator
97	...all inspectors are on...contracts...to make up the remuneration in order to attract people from industry...	QLD Regulator

and emergency response that places all field officers into a call-out roster at which time they are provided with open access to whatever physical resources they may, including vehicles. The remuneration scales within this award also reflect the conditions available within the industry and call-out allowances are included. The Chief Compliance Officer, Director Mine Safety Operations, Chief Inspector of Mines, Manager of Regulatory Audit and Investigation Unit and the Director Mine Safety Performance remain members of the Senior Executive Service.

It is my view that the use of Section 122 contracts, or the equivalent within the Tasmanian Public Service Act, provides a more flexible solution with less time and resources required for transition.

In consideration of the above matters -

RECOMMENDATION 3 *All officers of the OCIM be transitioned to individual contracts whereby the remuneration, terms of engagement and other allowances (out-of-hours attendance, provision of vehicles, career paths and professional development) are simplified, transparent, equitable and reflective of salary and conditions available within the industry and to the mine inspectorates in other jurisdictions.*

It is incumbent upon the officers of the OCIM to appreciate that the remuneration and conditions that are reflective of those available within the industry may well be higher than those of other officer holders within WST. As such, they must expect to be held to the highest performance standards and uphold the highest levels of professionalism and conduct. As a part of the greater community that is WorkSafe Tasmania, they must not hold any sense of entitlement and must, at all times, act to support, uphold and comply with the policies practices and procedures of WST .

Terms of Reference 2

2. REVIEW STRUCTURAL SUPPORT OF THE OCIM

(a) the optimisation of current physical resources to administer the legislation applicable to the OCIM

The most crucial structural support required by the OCIM is the legislation itself.

At the time of this audit, the legislation applicable to the OCIM includes –

- Work Health and Safety Act 2012;
- Work Health and Safety Regulations 2012;
- Mines Work Health and Safety (Supplementary Requirements) Act 2012; and
- Mines Work Health and Safety (Supplementary Requirements) Regulations 2012.

As part of the National WHS Harmonisation programme, in the years leading up to the introduction of these Acts and Regulations in Tasmania in 2013, Safe Work Australia worked with the National Mine Safety Framework (NMSF) to develop what came to be known as *Chapter 10: WHS Mines Regulations*. It was intended that these Mines Regulations would be included in the larger WHS Regulations in each state. However, when these draft model Mines Regulations were finalised, the necessary majority agreement of state and territory Ministers was not achieved – and hence Chapter 10 was not included in the model harmonised Work Health and Safety Regulations.

In September 2014, the draft model Mines Regulations were circulated to states and territories to consider them for implementation. South Australia and the Northern Territory have adopted mining regulations based on the draft model Mines Regulations. The NSW has mining regulations include the draft model Mines Regulations and other additional requirements. Victoria, Queensland, Western Australia retained their existing regulations for mine safety.

Tasmania also retained its existing regulation and has not, as yet, included the draft model Mines Regulations into its Mines Work Health and Safety (Supplementary Requirements) Regulations 2012.

This has resulted in significant gaps in the Tasmanian mining legislation that are not present in the legislation of other jurisdictions, an outcome at odds with the original intent of the harmonisation programme.

To address this matter, in April 2014, the Minister directed the *Mine Safety Steering Committee* to conduct a review of the Mines Work Health and Safety (Supplementary Requirements) Act 2012 and the Mines Work Health and Safety (Supplementary Requirements) Regulations 2012 with the objective of closing this gap.

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It is worthy of note that Chapter 10 does not include any coal mining specific provisions, without which issues such as spontaneous combustion, respirable dust, fires and explosions, outbursts and inundations together with the provision of gas monitoring, ventilation, self-escape, emergency response and strata control (to name but a few) remain unregulated.

As such, a sub-committee has been established to review the regulatory requirements specific to coal mining. The Chief Inspector of Mines and the WST Director Policy have been heavily involved in these reviews and the development of these key pieces of legislation.

These are substantial tasks requiring significant allocations of time and resources. Having been personally immersed in the process of developing regulations, moving it through the parliamentary drafting office, the parliament itself and through the communication and transition stages, it is not unreasonable to suggest that an extensive administrative workload on the OCIM will be in place for at least the next 3years. The OCIM Strategic and Operational Plans should recognise that time spent on these critical tasks will diminish the available time the Chief Inspector can devote to field-based activities, including the conduct of investigations, and to the coaching and mentoring of the inspectorate. As such -

RECOMMENDATION 4 *Provision should be included in the OCIM budget to provide some full-time administrative support to the OCIM and to engage short-term external personnel to cover unanticipated short-falls in the availability of the key OCIM personnel when required.*

Mine Record and Enforcement Management

To support the regulatory activities of the OCIM, an effective and intuitive electronic *Mine Record Entry Management System* can save time and effort in recording, tracing, monitoring and reporting of Incidents, Action Close-Outs, Compliance History, Enforcement Actions and Inspector Activities.

144	...2 days field visits will take 2 1/2 days to do the MREs and associated documents...	Mine Inspector
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The OCIM uses a Records and Document Control system known as TRIM to capture, manage and provide access to records and information. While TRIM is designed for use in -

- i. records management;
- ii. document management;
- iii. e-mail management;
- iv. workflow/action tracking;
- v. image management; and
- vi. web publishing;

it has limitations in searching, tracking, reporting and displaying of real-time dash-boards and is subject to variations of input by users. I understand these issues are being reviewed by FYB Pty Ltd, a privately owned company that provides information technology services.

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In the meantime, an offer has been put by the Director of Mine Safety Operations in New South Wales to provide the OCIM with secure access to its system known as *ACES (Activities Compliance Enforcement System)*.

A brief overview of the capabilities of this system was provided during my time in their offices as part of this audit. I believe it would be worthwhile for an appropriate member of the OCIM to attend the offices of NSW Regulator and interrogate the functionality of this system. It is designed specifically for the purpose of supporting the activities of the mining and quarrying regulator and could, without prejudice, find application in the boarder Industry Safety inspectorate.

Data, Information and Intelligence recoding analysis and reporting

Throughout this audit, the difficulty in accessing any meaningful data on the safety and health performance on the industry has been confounding. The little data that is required to be reported to the OCIM (numbers of Lost Time Injuries and Total Hours Worked) is effectively meaningless and in some cases, the requirement to report is ignored.

It is perhaps the largest gap in the current tools available to the OCIM for targeting its activities and measuring its impacts.

The biggest impediment to implementing such a targeted inspection policy lies in the serious inadequacy of the available statistics and other performance indicators. It is only if the inspectorate can confidently identify those with the highest injury and disease rates or risk that it can selectively target "worst" mine sites and enterprises. However, as numerous commentators and reports have pointed out, neither lost time injury frequency rate (Hopkins 1995, 33-35), nor the various workers compensation statistics, provide more than the crudest indication of actual injury rates ...not be a helpful predictor of the likelihood of low frequency high consequence events such as the Moura or Gretley disasters. Only with adequate data collection and interpretation, can a targeted inspection program realise optimal results.¹⁵

Both jurisdictions in Queensland and New South Wales have legislative requirements for the industry to report defined high potential incidents (whether persons were injured or not), the number, nature and mechanism for all type of injuries (Medical Treatment, First Aid, Lost Time, Permanent Disability, Occupational Health and, of course, Fatalities). This information is crucial to the identification and understanding of emerging issues across the industry, for benchmarking the performance of the industry and in monitoring the impacts of the activities of the OCIM.

The type and frequency of the reporting of this information is embedded into the legislation and any failure to report accurate and timely information is regarded as a serious breach of the legislation with significant consequences.

¹⁵ Gunningham, Neil. Sinclair, Darren. *Factors Impinging on the Effectiveness of the Mines Inspectorate*. National Research Centre for OHS Regulation. Working Paper 54. June 2007.

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The information collected is subject to detailed descriptive statistical analysis and the results are published annually. These annual reports provide comprehensive benchmarking data and are an invaluable source of data and information. A greater application of the tools of inferential statistics could provide useful information on colorations, causation and assist in identifying key leading indicators.

In recognition of the administrative burden regular reporting can impose, and the equally inefficient workload of collecting, transcribing and recording paper based reports, both jurisdictions have web-based facilities for submitting this information. As such -

8	...value in providing benchmarking data on all injuries...from all industries...	SSO Mine
10	...there is great value in focusing on Lead Indicators and being pro-active with it...	SSO Mine
14	...value in providing benchmarking...	SSO Mine
55	...we don't keep good statistical data, or any data really..we still get forms faxed in and still not electronically entered...	Inspector
63	...we would see great value in bench-marking data...	MHF
77	...centralised in July 2015, couldn't trend, couldn't make decisions that are proportionate...trend data that focusses activities...	NSW Regulator
82	...focus efforts through risk profiling, hazard loads, type of operation, number of visits required...	NSW Regulator
86	...have an intelligence unit that collects and analyses data, statistical analysis...	NSW Regulator
96	...we use the HPI data...develop risk profiles that lead into operating plans...	QLD Regulator

RECOMMENDATION 5 *That amendments to the current legislation be introduced mandating the reporting of defined high potential incidents and all injury statistics on a monthly basis. This reporting to be done through a web-based portal designed for the purpose. This information must be appropriately analysed and an annual report be compiled detailing the results of this analysis.*

Minister Advisory Committee

Both jurisdictions have in place a key advisory group charged with providing advice on safety and health issues to the Minister.

In Queensland, the Ministers Advisory Committee (MAC) is a tri-partite body establishing to allow the mining industry, workers representatives and the regulator to participate in developing strategies for improving safety and health. Chaired by the Commissioner for Mine Safety and Health, its purpose is to give advice and make recommendations to the Minister about promoting and protecting the safety and health of persons at mines.

It periodically reviews the effectiveness of the Act and Regulations, the effectiveness of the control of risk to any person from mining operations, establishes the competencies qualifying a person to

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perform tasks or duties under the legislation and considers the risk management performance of the industry.

The NSW Mine Safety Advisory Council (MSAC) provides the NSW Minister for Resources and Energy with advice on critical work, health and safety issues. The Minister refers these matters to MSAC for consideration and requests advice on appropriate ways to foster improved WHS performance in the mining and extractives industry. It reviews and analyses safety performance, sets strategic directions, provides advice and develops policy recommendations. It includes a secretariat within the structure of NSW Department of Industry that makes resources available, when appropriate through the department, on MSAC's recommendation to explore issues and commission research.

MSAC includes an independent chairman and senior officials from the CFMEU (Mining and Energy Division), Australian Workers Union, NSW Minerals Council, Cement Concrete and Aggregates Australia and the NSW Department of Industry Resources Regulator. Two independent experts in work health and safety have also been members of MSAC since the 2006.

It would be appropriate and consistent for the Minister responsible for mining and quarrying in Tasmania to be offered this same avenue of advice from the key stakeholders in Tasmania's most valuable export industry. As such -

RECOMMENDATION 6 *That there be established under the legislation, a permanent Advisory Committee reporting to the Minister on the safety and health performance of the industry and charged with providing timely advice and making recommendations about improving and protecting the safety and health of persons in the mining industry*

2. (b) the optimal organisation structure and strategic alignment of the OCIM

The current organisational structure of the OCIM is appropriate to its functions and purpose. Its position within the broader WST is aligned with the Purpose, Values and Strategic Objectives of WST and there exist synergies in maintaining close relationships with the WST *Industry Safety inspectorate* as well as *Policy and Compensation and Support Services*.

The current locations of the mines inspectorate offices in Hobart and Burnie are appropriate to the location of the major mining and quarrying operations.

The current deployment of personnel across these two locations is appropriate with the mix of skills, qualifications and experience suitably spread across the two locations.

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2. (c) professional alignment and support for staff of the OCIM

Regulatory Capture

The matter of regulatory capture was first raised as a matter of concern by trade union organisations during external reviews of the mining inspectorates in Queensland, New South Wales and Western Australia.¹⁶

At issue is a mines inspector becoming too close to the senior personnel of the mines they are charged with regulating.

The implication is that the inspectorate has been "captured" by the regulated industry and functions in a manner that is unduly sympathetic to their interests. For example, in the view of some trade unions: the inspectorate too frequently gives advance notice of proposed inspections, conducts too few "surprise" inspections and fails to consult with site safety representatives and local check inspectors on a regular basis.¹⁷

It is inevitable, given the relatively small size of the Tasmanian industry, that inspectors will have regular contact with the same operations, may have worked with the same personnel currently in charge of those operations and indeed, may have been employed in senior positions at these same operations.

1	...they are good...easy to approach and talk to...they always ask our opinions when they are here...	WHS Rep Mine
4	...believe there could be a risk of capture, but I haven't seen any evidence of it...	SSO Mine
11	...haven't seen any evidence of it...	SSO Mine
35	...no complaint about professionalism....always gets a response from (them) ...any evidence of regulator capture....haven't seen anything and haven't given it any thought...	CFMEU Tas.

It is essential in maintaining the confidence of the community, the workforce and all tiers of government that there be barriers and protections built into the operations of the OCIM to prevent any potential, or even the perception, of regulatory capture. To this end -

RECOMMENDATION 7 ***That the following measures be included in the development and execution of the OCIM Strategic and Operational Plans-***

- 1. All on-site activities be structured and conducted using defined audit tools, templates and involve interactions with different personnel whose names shall be recorded and reported***
- 2. A defined percentage of all planned activities at sites are to be "unannounced"***

¹⁶ ACIL Tasman. *Review of Mine Safety in NSW*, A Report to the Minister for Mineral Resources and Fisheries. Sydney. 1997.
 Qld Ombudsman. *Regulation of Mine Safety in Queensland. A Review of the Queensland Mines Inspectorate.* 2008.
 Laing, Robert. *Review of the Mines Safety and Inspection Act 1994: Final Report.* Perth. 2003.

¹⁷ Gunninham, Neil, 2007, *WP 54 - Factors impinging on the effectiveness of the mines inspectorate* , National Research Centre for OHS Regulation, Canberra

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3. *A defined percentage of all planned activities at site are to be on “back-shifts” including week-ends*
4. *Any investigation into significant incidents should include an inspector not normally attendant at the site*
5. *Any fatal investigation should be led by an inspector not normally attendant at the site. This may involve engaging an inspector from a different jurisdiction*
6. *All decisions on taking enforcement actions shall be taken by someone independent from the investigating officer/s*
7. *Local site workers representatives should be consulted whenever an inspector attends any site*

In conducting the audit, the question of inspectorate capture was raised with workers, SSOs, union representatives and industry groups. There were no matters raised, no suspicions aired and no evidence that inspectorate capture was an issue. Further, at all site inspections conducted during this audit, all inspectors made it their business to seek out and hold confidential conversations with the worker representatives on shift.

The other aspect of regulator capture – the capture of the agency itself, concerns the location of the OCIM in the government agency that is responsible for the economic performance of the industry it regulates.

Mineral Resources Tasmania lies within the Department of State Growth. The OCIM is part of WorkSafe Tasmania within the Department of Justice. As such, there exists no potential for any regulatory capture to occur.

Major Hazard Facilities

The inclusion of *Major Hazard Facilities* as a part of the OCIM would appear to be out of alignment with its strategic and operational objectives. The regulation of MHFs does not fall under the mining legislation administered by the OCIM but rather under *Chapters 7 and 9 of the Work Health and Safety Act 2012* and its *Regulations 2012*.

There is limited expertise and knowledge within the mines inspectorate on the use of the

MHF Operator	Facility Location	Main Activity
BCD Resources NL	Beaconsfield	Gold Processing Plant
BOC Limited	Westbury	LNG manufacturing
-	Savage River	Ammonium Nitrate Emulsion manufacturing
Norske Skog Paper Mills (Australia) Limited	Boyer	Paper Mill
Nyrstar Hobart Pty Ltd	Lutana	Zinc smelter
Orica Australia Pty Ltd	Heybridge	Explosives magazine
	Devonport	LPG storage & distribution
Origin Energy LPG Limited	Selfs Point	LPG storage & distribution

Table 8 Major Hazard Facilities

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Safety Case methodology required for the licensing of MHFs or the application of the *Land Use Planning and Approvals Act 1993* (the Act) that provide for a single planning scheme for Tasmania, known as the One Planning Provisions.

The personnel within the MHF unit suggest and support the establishment a *Chemical Hazard Management* unit under the Director of Industrial Safety within WST. The transitioning of MHF out of the OCIM and into Industrial Safety (alongside *Accreditation and Dangerous Goods* and the *FarmSafe* unit) would simplify the legislative imperatives of the OCIM and clarify the numbers and accountabilities of all persons working in the OCIM. As such –

RECOMMENDATION 8 *That a Chemical Hazardous Management unit be established under the Director of Industry Safety within WST and those persons currently working on the regulation of MHFs within the OCIM be transitioned to this unit.*

2. (d) training needs and capability gaps impacting the achievement of the OCIM objectives

As detailed in Table 7, the current mix of qualifications and skills includes three mining related degree qualifications, a master degree in occupational safety and health, post-graduation qualifications in science, fire engineering, radiation safety, building surveying and quality auditing. Not included in the table are numerous other training certificates and competencies in risk management, investigations and other skills. Additionally, two officers hold Mine Manager Certificates of Competency.

Five of these officers have extensive practical experience in mining operations, including geo-technical engineering with two officers holding extensive and complimentary experience in other high-risk industries.

45	...not sure about technical competencies of inspectors...we need some way to ensure they (inspectors) can do the job...they need to be mining engineer and have been a mine manager...	SSO Mine
118	...Inspectors are under-valued...numbers are OK...improving the mix...think they've got it about right...	AWU Tas

One officer has extensive experience in senior positions within the Tasmanian Public Sector.

There remains, however, an absence of personnel qualified or experienced in coal mining, particularly underground coal mining. This issue was raised in the first of these audits¹⁸ and remains unresolved. Reiterating the finding from that audit -

... the lack of expertise with regard to coal mining represents a gap that should be addressed. The most cost efficient means of doing this would be to arrange for a short-term (e.g. two week) periodic visit (say every 12 months to two years) by an experienced coal mine inspector to provide training and advice to two local mines inspectors along with an opportunity for these inspectors to visit coal mines in other jurisdictions...

¹⁸ Quinlan, Michael. *First Audit of the Mine Safety Unit and Office of Chief Inspector of Mines, WorkSafe Tasmania*. 2010, page 31

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Transitioning the MHF unit to the Director of Industrial Safety within WST as described in Recommendation 8, provides the opportunity to engage an inspector with the appropriate coal mining expertise.

In terms of defining the skills, competencies and experience required to become a Mines Inspector, I am of the view that the mines inspectorate must have a level of technical knowledge sufficient for it to engage meaningfully in discussions with senior mining personnel and technical experts in the field.

I draw this conclusion on the basis of many years as a practicing mine manager, senior executive, senior inspector and acting chief inspector of coal mines. The inspectorate must have an understanding of the complex interactions of the hazards present within a constantly changing, inconsistent and faulted mining environment. They must possess the specialised knowledge needed to effectively participate in, and where necessary to contest, the technical aspects of identifying potential release mechanisms and the implementation of practical, tested and effective control strategies.

The introduction of risk based, performance orientated legislation has ensured the failed practice of relying on compliance with prescriptive legislation to ensure the safety and health of workers will not be the way of the future. Risk based analysis and effective control management demands a level of technical expertise as well as practiced expertise in the application and use of different risk and control methodologies.

The skills and expertise of experienced and practical inspectors must be complimented by the industry specific experience and technical competence of specialists.

I cannot overemphasise the point that specialist hazards present specialist risks and require specialist understanding to identify and control. Only a skilled and experienced inspectorate can provide that layer of protection and assurance expected by the workers and demanded by the community.

...by its inaction, WST permitted Cornwall Coal's mining operations to proceed unchecked and without review when its risk management processes were deficient and exposed the workforce including Mr Hayes, to unreasonable risk. As such, Mr Hayes was denied that level of protection to which he was entitled from a properly functioning safety regulator.¹⁹

It must never be that the inspectorate does not take appropriate action because they do not understand the hazards and risks inherent to the industry they are charged with regulating. It must never be that another person is injured because of a lack of technical expertise to test and challenge any proposed or current control strategy.

¹⁹ Chandler, Rodney. *Record of investigation into death. TASC311*. Findings, Recommendations and Comments following an inquest held in Launceston on 28, 29, 30 September, 1, 2 & 5 October and 3 November 2009. Published August 2010.

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It is neither feasible nor practical for all members of the inspectorate to hold technical qualifications across all disciplines. However, an appropriate mix of skills and expertise should exist within the combined capabilities of the OCIM. All inspectors should have training and practical expertise in risk management, incident investigation, systems auditing and the application of legislation itself. Where there may be gaps, provision must be made for people to attain the relevant experience or acquire the requisite skills. Where the gaps are due to short-term unavailability or unavailable due to competing priorities, work-loads or other circumstances, provision must be made to enable those gaps to be filled by the short-term engagement of external personnel. In all cases, officers of the OCIM must be provided the opportunities to update and maintain their current competencies.

As discussed in previous audit reports, there remains an urgent need to broaden the expertise of the OCIM in underground coal mining practices. Whether by formal training programmes, an inspectorate exchange programme or the regular engagement of coal mining inspectors from other jurisdictions to attend and conduct mentoring and coaching, the absence of coal mining expertise must be addressed as it provides a significant exposure to the regulator and to the coal mine workers who are not being afforded that layer of protection provided by a suitably trained and experienced regulator.

Apart from some requirements on the Senior Site Officer, the current legislation does not provide any prescribed qualifications, certification or experience required of any person operating or holding a position in any mine or quarry. Nor does it prescribe any qualification or experience required to be an Inspector. For consideration during the development of the above skill matrix and professional development scheme, *Appendix VI* details the qualifications, experience and core competencies required of Mines inspectors in Queensland. Similar requirements are in place in New South Wales. In consideration of these matters -

RECOMMENDATION 9 *A skill matrix be developed for all defined positions within the OCIM detailing the Mandatory Qualifications, Core Competencies and Practical Experience required to hold such a position. The Statement of Duties for each position must also reflect these requirements.*

RECOMMENDATION 10 *A documented Professional Development and Skills Training & Maintenance Scheme be developed to underpin the attainment and maintenance of these skills. A formal Peer Exchange Programme set up with the mine inspectorates in other jurisdictions should form a component of the scheme. Such an exchange programme should initially target bridging the gap in coal mining expertise, providing practical experience in risk and critical control management and participation in targeted system audits. It is envisaged that such a scheme would assist in the attraction and retention of personnel.*

Terms of Reference 3

3. REVIEW INSPECTORATE ACTIVITIES

(a) the effectiveness and capability of inspectorate activities

An active presence in the field, coupled with a program of workshop presentations and a presence at key industry forums, are the most visible ways of providing and demonstrating an engaged regulatory oversight of the industry.

Effectiveness

The determination of the “effectiveness” of these activities on safety and health outcomes is more challenging. There is no common industry or jurisdictional definition, methodology or criteria for measuring “effectiveness”. Determining whether an activity, or lack of activity, had a material impact on the occurrence, or avoidance, of an unwanted event is challenging and any such assessment will always be subjective.

103	<i>...measure effectiveness...less compliance actions taken over time...trending results against compliance actions...met the objectives of the Act...</i>	QLD Regulator
104	<i>...we haven't got an effectiveness index...</i>	NSW Regulator

Not surprisingly, many of the stakeholders hold different views on how to gauge effectiveness. It is my view that measuring progress towards objectives provides a reasonable measure of the effectiveness of the activities designed to achieve those objectives. As discussed in the section of this report dealing with *Data, Information and Intelligence*, there is currently a very limited capability for any such measurements to be made. The adoption of Recommendations 2 and 5 should see this limitation lessened.

Capability

In analysing the capability of the inspectorate during the conduct of this audit, I held structured interviews with all of the officers of the OCIM and, with the exception of one, I had the opportunity to accompany each as they conducted site inspections and held meetings with Senior Site Officers and others as part of their normal duties.

6	<i>...looking for risk and process system experts...</i>	SSO Mine
7	<i>...value in providing input and critique into investigations...</i>	SSO Mine
9	<i>...being the contact point...sharing information...people with experience on how others are managing risks...networks and contacts that might be able to help...</i>	SSO Mine
16	<i>...technical expertise is valued at the "big-end of town"... focus on risk management and investigations at the "smaller-end of town"...</i>	SSO Mine
17	<i>...they are good...we don't hide anything from [them]...</i>	WHS Rep Mine
19	<i>...can see the benefit now...good relationship now...not always the case...they are here to try and help...have made a good difference...</i>	SSO Quarry

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Whilst this audit has no role as a performance review, during the conduct of their duties I found all of the officers to be professional, well structured, organised and dedicated to improving the safety and health outcomes of their stakeholders. All were well regarded by the people they interacted with at site and all were open, frank and respectful to those they encountered.

All site visits were conducted in a planned manner under an agenda of topics including -

- i. changes in management structures or positions;
- ii. changes in mining environment;
- iii. incidents or injuries;
- iv. future operating plans; and
- v. the status of any current actions included in the Mine Record.

As discussed under the section of this report dealing with *Inspectorate Activities*, the development of a library of structured templates for conducted planned and targeted activities and audits would provide a consistent and comprehensive approach to, and reporting of, field activities. It is also recommended that a percentage of site activities be conducted as unannounced inspections and include inspections on back-shifts and week-ends to gain a full appreciation of how operations are normally conducted.

At all sites the inspectors requested to speak with the workers Safety Representatives, requests that were readily agreed to and arranged. During separate discussions held with the Workers Representatives, all expressed confidence with the capabilities and approaches of the inspectors and all expressed their views that there were no blockages or barriers in place to prevent them from raising any concerns they may have with the inspectorate.

Activities

In determining an active field presence, consideration must be given to the –

- 1 number of pro-active field activities the regulator should undertake per site, including the number of follow-up and close-out activities that will be required;
- 2 number of unplanned and reactive field activities, again including the number of follow-up and close-out activities that should be provided for; and
- 3 administrative load and office based activities required to support these field based activities.

In consideration of these points, Table 9 details the number of major operations currently being inspected within the three jurisdictions under review.

State	No of Large Mines	No of Large Quarries [⌘]	No of Mine inspectors	Ratio Major Operations per Mine Inspector
Tas	16	113	5.5	23.5
NSW	165	74	72	3.3
Qld	132	84	52	4.2

Table 9 Major Operations per Mines Inspector by State

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In Tasmania, there are currently approximately 315 operating Level 1²⁰ and Level 2²¹ quarries. They range in size and complexity from operations that require only Local Government approval and may consist of a single person operation working on an ad-hoc basis, through to operations that may employ over 100 people, produce up to 1million tonnes of product per annum and operate across a 700ha quarry lease, such as may be in Leslie Vale.

As discussed in the section of this report dealing with *Training Needs and Capability*, the current number, qualifications and industry experience of the inspectorate are broadly adequate to provide it with the capability to perform its functions.

It must be acknowledged that a significant amount of work and energy has gone into repairing the inadequacies within the OCIM identified during previous inquiries and Professor Quinlan's subsequent audits. Substantial progress has made towards implementing many of the recommendations made and these efforts are becoming increasingly embedded in the way OCIM conducts its activities – that is not to say the work is completed with a number of recommendations remaining outstanding. To provide a single source of information, *Appendix V* of this report compiles the Terms of Reference, Findings and Recommendations made in the previous three OCIM audits.

While the efforts and resources assigned to the implementation of these recommendations are to be applauded, it is incumbent on the leadership of the OCIM and WST to complete the work initiated by these reviews and to not allow reform fatigue, entropy, changes in personnel or time to erode progress and the completion of the task.

3. (b) the effectiveness and capability of reactive and pro-active activities

Pro-active field activities

In determining the number of site activities to be assigned to each operation, the OCIM currently gives consideration to a range of factors, including the -

- 1 hazards present and the risk profiles at the site;
- 2 numbers of persons employed at, or exposed to, the site operations;
- 3 quality of the current Safety Management Systems in place at the site;
- 4 history of incidents and complains at the site; and
- 5 status of any enforcement actions issued to the site.

A semi-quantitative analysis of these factors assigns a “risk rating score” to each site that is then used to determine the number of site inspections to be performed annually at that site. This method also provides for other criteria to be used in determining the number of site visits to be conducted. For example, it may be deemed necessary (based on incident findings, industry trends

²⁰ Level 1 Quarries produce less than 5,000m³ per annum of product or 1000m³ per annum of crushed rock

²¹ Level 2 Quarries produce more than 5,000m³ per annum of product or 1000m³ per annum of crushed rock

TERMS OF REFERENCE 3

or other imperatives) to conduct a specific process (risk management, for example) or system audit (machinery guarding, for example) at all sites irrespective of their risk ranking.

There also exists the imperative that all sites, including quarries, must be visited at least once within a defined time-frame. The fact that quarries have been largely ignored in the past, raises the issue that as the inspectorate attends more quarries for the first time, there is likely to be required a number of follow-up visits – perhaps as many as four. This work effort, while worthwhile, should not be at the expense of maintaining critical oversight of the high risk, high impact operations.

The Major Hazard Facility annual work plan is developed primarily around the requirement for each facility to renew its license every 5 years. A structured schedule is developed on reviewing and assessing the Safety Case submitted by each site in support of its renewal application, combined with a schedule of structured system audits at all facilities.

While a balanced schedule of site based activities should include inspections, audits and reviews, it is equally important to plan the allocation of sufficient time and resources to conduct the necessary follow-up activities. Such activities will include –

- 1 evaluating the adequacy of the risk analysis processes and the effectiveness of the control strategies in place following an actual or high potential incident;
- 2 reviewing the adequacy of site compliance with any previously issued enforcement actions;
- 3 conducting effective investigations into matters observed during the site inspection; and
- 4 return visits to site to check on actual implementation of agreed corrective and/or preventative actions.

For comparison, Table 10 describes the numbers and types of activities conducted by the inspectorate in Queensland, Table 11 details the number and types of enforcement actions undertaken by the NSW Regulator in 2015-16 and Table 12 details the activities undertaken by the Tasmanian OCIM inspectors in 2016.

Activity	2011 12	2012 13	2013 14	2014 15	2015 16	Av per Inspector
Inspections	1387	1451	1487	1431	1598	23.3
Inspections - unannounced	136	127	135	102	162	2.1
Inspections - weekend or backshift	8	13	12	10	17	0.2
Inspections - unannounced weekend or backshift	12	11	7	2	4	0.1
Audits - subject	48	14	36	35	32	Multiple
Audits - compliance audits	7	19	13	27	3	Multiple

Table 10 Queensland inspectorate Activities

TERMS OF REFERENCE 3

Reactive field activities

In determining the number of reactive site activities to be provided for, consideration should be given to -

- 1 the historical performance of the industry sector in terms on the number of incidents and complaints received;
- 2 the history of the number and duration of investigations undertaken;
- 3 the level of industry activity (increasing or decreasing) forecast for the planning period; and
- 4 projected changes to the hazard densities, risk profiles or operational circumstances of sites.

An allocation for resources being temporarily assigned to unanticipated and reactive activities (complaints, incident investigations, emergency call-outs) should also be included in the operational plan. The time required for undertaking enforcement actions can be considerable and adequate provision should be made for such contingencies in the development of the annual operating plans – including where necessary, engaging short-term external experts.

Type of Action	Number
Concern/improvement notices	1239
Prohibition notices	136
Investigations	49
Prosecutions commenced	4

Table 11 NSW Enforcement Actions 2015-16

Activities	Mines	Quarries	Processors	MHFs	Total	Av per Inspector
Visits	138	207	67	16	428	61.1
Record Book Entries	50	124	17	9	200	28.6
Audits	17	35	7	14	73	10.4
Investigations - major	13 for 112 days	2 for 32 days	0	0	15 taking 145 days	9.6
Investigations - medium, small	23 for 61 days	5 for 16 days	8 for 32 days	2	36 taking 105 days	3.9
Court Time	29 days	0	0	0	29 days	
Industry Presentations or attendances	34	0	0	0	34	
MSSC	20 days	0	0	0	20 days	

Table 12 Tasmanian Inspectorate Activities 2016

TERMS OF REFERENCE 3

3. (c) investigation management and effectiveness

It is my view that the conduct of investigations would benefit from the development and implementation of two key documents currently absent from the OCIM, these being a -

- 1 definitive *Compliance & Enforcement Policy*; and
- 2 detailed, procedural based *Investigation Process Manual*.

A defined *Compliance & Enforcement Policy* will detail the types, application and levels of compliance actions available to the OCIM, as well as provide clear guidelines on when and under what circumstances these different actions may be initiated. Details of the decision making authorities and sign-off processes will provide transparency and clarity to all stakeholders of the mechanisms by which enforcement and compliance actions will be taken. This will provide an added barrier against perceptions or accusations of bias or capture.

A detailed investigations process manual will provide certainty of procedure and consistency in methodology to the conduct of investigations. There exists a well-respected investigation capability within the inspectorate; however, this capability cannot be attendant at every investigation.

73	...documented Compliance Policy adds absolute value...industry talks about it...industry knows about it...inspectorate must follow it...	Senior Exec Qld
85	...purpose of investigation enforcement /compliance is to change behaviour...deterrence through prosecution...	NSW Regulator
109	...compliance policy is crucial...transparent, prevent accusation of bias...	QLD Regulator

As discussed in the section of this report dealing with *Professional Alignment*, it is inevitable, given the relatively small size of the Tasmanian industry, that inspectors will have to conduct investigations at the same operations at which they may have previously been engaged.

To prevent questions of conflicts of interest and to avoid any circumstance where an inspector may be placed into a position of compromise, the *Investigations Process Manual* should include protocols for the selection and make-up of the investigating team. These protocols may include a requirement to engage an external inspector as the Lead Investigator for all serious or fatal investigations, while still allowing the local inspector to be part of the team and contribute essential local knowledge and historical background information. In recognition of the time and resources a significant investigation may require, the manual should also make provision for engaging short term assistance from regulators in the other jurisdictions to make-up for extended shortfalls.

As part of the broader WST, it is recognised that detailed investigation procedures are currently under development / review and that the department has existing guidelines for the process of authorising prosecutions.

TERMS OF REFERENCE 3

It is my opinion that the development, implementation and understanding by all parties of a documented and publically available *Compliance and Enforcement Policy* supported by a detailed *Investigations Process Manual* will add considerable value in determining the true nature of cause of incidents and the identification of future preventative actions. For these reason –

RECOMMENDATION 11 *That the OCIM develop a formal, detailed and publically available Compliance and Enforcement Policy document supported by a detailed Investigation Process Manual*

It is also suggested that documented protocols and Memoranda of Understandings be developed detailing the authorities, responsibilities and procedures governing interactions with the Police, Coroner, Next-of-Kin, media and within the Department of Justice and WorkSafe Tasmania.

There are excellent Compliance and Enforcement Policy documents available within both the Queensland²² and New South Wales²³ jurisdictions and the NSW *Mine Safety Operations Manual Part 1 Inspections and Investigations* (Feb 2015) is an excellent resource on planning and conducting inspections and investigations –

...designed to enable the correct and consistent application of the regulatory functions of the Department within NSW²⁴ ...

It is not my view that the OCIM could support (or warrants) a specialist investigations unit such as those that exist within the other jurisdictions. The detailed compliance, enforcement and investigation manuals, coupled with a mentoring and coaching programme to be provided by the experienced and skilled investigation expertise within the OCIM, should provide an adequate investigation capability.

The electronic linking of investigation reports with evidence briefs has been recognised as a valuable innovation by the Office of the Senior Crown Prosecutor and its further use is a standard method of reporting is encouraged.

3. (d) administrative functions undertaken by the OCIM

Completing the office based administrative work directly supporting field activities can consume as much time as the actual field work. Such activities include -

- 1 researching relevant information, reviewing previous findings and the planning of activities;
- 2 preparation of the tools and templates required;
- 3 drafting, recording and distributing subsequent Mine Record Entries;
- 4 determining and initiating appropriate enforcement actions;

²² Qld Dept. of Natural Resources and Mines. *Mines Inspectorate Compliance Policy*. Nov2009.

²³ NSW Department of Industry, Division of Resources & Energy. *Program & Policy document: A risk-based approach to compliance and enforcement*. Dec2014.

²⁴ NSW Trade and Investment, Mine Safety. *Mine Safety Operations Manual: Part 1 Inspections and Investigations*. Feb 2015.

TERMS OF REFERENCE 3

- 5 drafting of Investigation Reports and preparing Briefs of Evidence in support of enforcement actions; and
- 6 responding to complainants and managing stakeholder concerns.

In the section of this report dealing with *Mine Record and Enforcement Management*, an electronic mine record and enforcement system was discussed that has the potential for making the planning, recording, searching and reporting of site activities more efficient and less time consuming. The system is known as ACES and can also act as a document library for holding templates and audit tools.

Terms of Reference 4

- 4. Arrangements in Other Jurisdictions²⁵**
- (a) any existing anomalies**
 - (b) arrangements in similar jurisdictions**

The arrangements in place in other jurisdictions have been presented in different sections throughout this report.

Those anomalies identified between the OCIM and arrangements in the Queensland and New South Wales jurisdictions include -

- 1 funding models where the industry funds the entirety of the Operational Budget of the mining regulator;
- 2 all mine inspectors are engaged and remunerated through either -
 - a. individual contracts;
 - b. specific Mine Safety Officers Awards (Dept. of Industry NSW); and
 - c. with specific clauses detailing the provision of cars, allowances, out-of-hours attendances and the like. Both structures have defined salary scales with clear differentiation criteria between roles;
- 3 both jurisdictions have detailed legislative requirements for the reporting of safety and health performance data and both collect, store, analyse and report this data publically;
- 4 both jurisdictions report publically on the performance and activities of the mines inspectorate;
- 5 both jurisdictions publish information on the occurrences of significant incidents through Safety Alerts, Safety Bulletins and the like;
- 6 both jurisdictions define Statutory Positions and the Statutory Competencies required of persons to hold those positions. Both jurisdictions also have Statutory Certification/Qualifications Boards to examine and issue candidates with Certificates of Competence;
- 7 both jurisdictions have dedicated Investigation Units and appointed investigators;
- 8 both jurisdictions have extensive coal mining experience and expertise;
- 9 both jurisdictions have documented policies and/or processes for compliance, enforcement and the conduct of investigations; and
- 10 both jurisdictions have extensive Administrative Support within the regulatory unit.

²⁵ prior to the commencement of this audit, it was agreed that the jurisdictions to be reviewed would be those in Queensland and New South Wales

TERMS OF REFERENCE 4

One area of critical difference that has not yet been addressed is the matter of Occupational Health.

As evidenced by the current Coal Mine Workers Pneumoconiosis issues in Queensland, and now emerging in New South Wales, there appears to be a need for the OCIM to invest in the provision of some Occupational Health services to the industry.

As stated, the object of the ***Mines Work Health and Safety (Supplementary Requirements) Act 2012*** is -

... to assist in securing the health and safety of mine workers, and other people exposed to risks to their health or safety arising from mining operations, through the implementation of health and safety measures, specific to mines and mining operations, that are in addition to the measures imposed under the Work Health and Safety Act 2012. (emphasis added)

It could be reasonably argued that for the OCIM to meet its obligations in regulating the industry, it should have the capacity to assess, monitor, record and report on the occupational health hazards that workers and other people are exposed to arising from mining operations.

The jurisdictions in both Queensland and New South Wales require pre-placement and periodic health surveillance medical assessments to be completed for their workforces. The Queensland Health Surveillance Unit is a 13 person strong unit charged with the collection, analysis and reporting of Occupational Health matters. The New South Wales coal mining industry is serviced by the Coal Services Health Unit providing extensive workplace medicals, treatment services and rehabilitation programmes.

32	<i>...huge holes here on pneumoconiosis...had a wake-up call from Queensland...no health monitoring requirements in place since abolition of old mines act in 1995...over-reliance on companies doing the right thing...no registered medical advisors...no protocols for companies to follow...</i>	CFMEU Tas.
43	<i>...all the provisions are there to not breathe dust, but if people choose to, then we can't do anything about it...</i>	SSO Mine
48	<i>...we do health monitoring as a company...we are content that we are OK...</i>	SSO Mine
	<i>...rise of Coal Miners Pneumoconiosis is an example of not being able to self-regulate...will result in having 2 Recognised Standards...</i>	Senior Exec Qld

It is not envisaged that the Tasmanian OCIM could replicate these services; however, the engagement of the industry in discussing these matters should be a priority and consideration must be given to engaging an Occupational Health specialist as a (part-time) member of the OCIM staff.

In the interim, the legislative reporting of Occupational Health and Hygiene incidents and monitoring results should be included as part of RECOMMENDATION 5.

The exact scope, nature and extent of proposed Occupational Health monitoring services required to meet the objectives of the Act, should form part of the permanent agenda of the Advisory Council established under RECOMMENDATION 6.

TERMS OF REFERENCE 4

4. (c) any financial, resourcing, or structural support issues, brought about by the working patterns or geographical locations of the regulated industries

No financial resourcing or structural support issues were identified.

The location of the offices of the OCIM in Hobart and Burnie are appropriate to the geographical locations of major mining activity.

The spread of skills and personnel between these two offices appears appropriate with regular meetings being held that involve personnel from both offices.

The development, implementation and reporting of activities in accordance with the *Strategic and Operational Plans* to be developed in accordance with RECOMMENDATION 2 will require an enhanced level of communications and interactions between the offices and personnel of the OCIM.

It is envisaged that such interactions will provide the opportunity for mentoring, coaching and sharing of expertise and knowledge.

RECOMMENDATIONS

Recommendations

RECOMMENDATION 1 That a Safety and Occupational Health Levy be introduced as a matter of priority to fund the entirety of the activities of the OCIM. Such a levy to be calculated in consideration of the planned activities of the OCIM and struck against all mining and quarrying operations with safety and health obligations under the Mines Work Health and Safety (Supplementary Requirements) Act 2012. Consideration is to be afforded to smaller mines and quarries with less than a prescribed number of workers.

RECOMMENDATION 2 The Office of Chief Inspector of Mines develop and publish detailed Strategic and Operational Plans, clearly linked to the broader WorkSafe Tasmania Strategic Plan. Such plans to contain detailed goals and high priority target areas together with specific impact and risk indicators against which performance can be measured. Further, the Office of Chief Inspector of Mines shall prepare an annual report on the safety and health performance of the industry, the performance of the OCIM against these plans and detailing the activities undertaken during the period. These plans and annual reports are to be made publically accessible

RECOMMENDATION 3 All officers of the OCIM be transitioned to individual contracts whereby the remuneration, terms of engagement and other allowances (out-of-hours attendance, provision of vehicles, career paths and professional development) are simplified, transparent, equitable and reflective of salary and conditions available within the industry and to the mine inspectorates in other jurisdictions.

RECOMMENDATION 4 Provision should be included in the OCIM budget to provide some full-time administrative support to the OCIM and to engage short-term external personnel to cover unanticipated short-falls in the availability of the key OCIM personnel when required.

RECOMMENDATION 5 That amendments to the current legislation be introduced mandating the reporting of defined high potential incidents and all injury statistics on a monthly basis. This reporting to be done through a web-based portal designed for the purpose. This information must be appropriately analysed and an annual report be compiled detailing the results of this analysis.

RECOMMENDATION 6 That there be established under the legislation, a permanent Advisory Committee reporting to the Minister on the safety and health performance of the industry and charged with providing timely advice and making recommendations about improving and protecting the safety and health of persons in the mining industry.

RECOMMENDATIONS

RECOMMENDATION 7 That the following measures be included in the development and execution of the OCIM Strategic and Operational Plans -

- 1 all on-site activities be structured and conducted using defined audit tools, templates and involve interactions with different personnel whose names shall be recorded and reported;
- 2 a defined percentage of all planned activities at sites are to be “unannounced”;
- 3 a defined percentage of all planned activities at site are to be on “back-shifts” including week-ends;
- 4 any investigation into significant incidents should include an inspector not normally attendant at the site;
- 5 any fatal investigation should be led by an inspector not normally attendant at the site. This may involve engaging an inspector from a different jurisdiction;
- 6 all decisions on taking enforcement actions shall be taken by someone independent from the investigating officer/s; and
- 7 local site workers representatives should be consulted whenever an inspector attends any site.

RECOMMENDATION 8 That a Chemical Hazardous Management unit be established under the Director of Industry Safety within WST and those persons currently working on the regulation of MHFs within the OCIM be transitioned to this unit.

RECOMMENDATION 9 A skill matrix be developed for all defined positions within the OCIM detailing the Mandatory Qualifications, Core Competencies and Practical Experience required to hold such a position. The Statement of Duties for each position must also reflect these requirements.

RECOMMENDATION 10 A documented Professional Development and Skills Training & Maintenance Scheme be developed to underpin the attainment and maintenance of these skills. A formal Peer Exchange Programme set up with the mine inspectorates in other jurisdictions should form a component of the scheme. Such an exchange programme should initially target bridging the gap in coal mining expertise, providing practical experience in risk and critical control management and participation in targeted system audits. It is envisaged that such a scheme would assist in the attraction and retention of personnel.

RECOMMENDATION 11 That the OCIM develop a formal, detailed and publically available Compliance and Enforcement Policy document supported by a detailed Investigation Process Manual.

Australian Business Excellence Framework

Since 1996, there have been a number of comprehensive restructures of state mining regulatory bodies that have been initiated, at least in part, by the findings and recommendations of various inquiries, inquests, reviews, audits and commissions. These include, but are not limited to the -

- 1 1996 Qld. Mining Wardens Inquiry Report on an Accident at Moura No 2 Underground Mine on 7 August 1994;
- 2 1997 NSW Mine Safety Review commissioned by the State Government;
- 3 2005 NSW Mine Safety Review by The Hon Neville Wran AC QC;
- 4 2008 Regulation of Mine Safety in Queensland. A Review of the Queensland Mines Inspectorate by the Queensland Ombudsman;
- 5 2009 Coronial Inquest Touching the Death of Larry Paul Knight. Findings, Recommendations and Comments of Coroner Rod Chandler; and
- 6 2013 Royal Commission on the Pike River Coal Mine Tragedy, Chapter 22 The decline of the mining inspectorate.

In Tasmania, the recommendation by Coroner Chandler that the OCIM be regularly audited by an external third party, has been met by the comprehensive 2010, 2012 and 2014 audits by Professor Andrew Quinlan.

In New South Wales, the 1997 Review of Mine Safety was commissioned against a backdrop of continuing death and serious injuries in that state's mining industry followed by the Wran Review of 2005.

The background to the comprehensive restructuring of the Queensland mines inspectorate in the late 1990s had its origins in August 1994 with the Moura No 2 Underground Mine disaster which resulted in the death of 11 men. This disaster was the fourth such event in the Queensland coal industry since 1972. In total, 52 lives were lost and all the mines were subsequently sealed and abandoned.

The Wardens Inquiry Report into the Moura disasters became the catalyst for a far ranging review of all aspects of Queensland's mine safety and its regulation, including the subsequent 1996 investigation of the mining and energy inspectorate. The subsequent Report, '*Review of Mining and Energy inspectorate*' November 1996, acknowledged the primary role of the *Safety & Health Division* was to facilitate the continuous improvement of safety and health performance in the industries in which it operates.

The report further recommended that *Safety & Health* pursue a strategy to ensure sound business practices and quality assurance principles were built into all its regulatory processes and activities.

Such a strategy required the adoption of a holistic management system that would deliver continuous improvement, monitor performance and promote sustainability. It was decided that the ***Australian Quality Council's Australian Quality Awards*** criteria, now the ***Australian Business***

Excellence Framework (ABEF) was the most suitable process for reviewing and improving its operations because of its broad scope, emphasis on leadership, continuous improvement philosophy and its ability to be used to assess and improve all aspects of an organisation's operations.

The ABEF is structured around *Nine Principles of Business Excellence*²⁶, these being –

- 1 clear direction and mutually agreed plans enable organisational alignment and a focus on the achievement of goals;
- 2 understanding what customers and other stakeholders value, now and in the future, enables organisational direction, strategy and action;
- 3 all people work *in* a system, outcomes are improved when people work *on* the system and its associated processes;
- 4 engaging people's enthusiasm, resourcefulness and participation improves organisational performance;
- 5 innovation and learning influence the agility and responsiveness of the organisation;
- 6 effective use of facts, data and knowledge leads to improved decisions;
- 7 variation impacts predictability, profitability and performance;
- 8 sustainable performance is determined by an organisation's ability to deliver value for all stakeholders in an ethically, socially and environmentally responsible manner; and
- 9 leaders determine the culture and value systems of the organisation through their decisions and behaviour.

A business unit or agency is then assessed against these principles using *Seven Categories*, these being -

- 1 Leadership;
- 2 Strategy and Planning;
- 3 Information and Knowledge;
- 4 People;
- 5 Customers and Other Stakeholders;
- 6 Process Management, Improvement and Innovation; and
- 7 Results and Sustainability Performance.

It is put for consideration, that the *ABEF Principles of Business Excellence* would provide the OCIM and the broader WST with a recognised and valuable framework against which to measure its current business practices and a tool that may assist in the development, measurement and monitoring of improvement in its operations.

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Appendix I Terms of Reference

2016 AUDIT OF THE OFFICE OF THE CHIEF INSPECTOR OF MINES (OCIM)

REVIEW OF FINANCIAL RESOURCING OF THE OCIM

1. Examine and report on:
 - a. the optimal use of the financial resources of the inspectorate to maximise the impact of regulatory activity;
 - b. options for better aligning financial resources with industry activity;
 - c. the remuneration qualifications and experience for staff of the OCIM;
 - d. arrangements for out-of-hours attendance by OCIM staff at major/fatal events; and
 - e. improvements to Statement of Duties and use of existing award structures for the OCIM.

REVIEW STRUCTURAL SUPPORT OF THE OCIM

2. Examine and report on:
 - a. the optimisation of current physical resources to administer the legislation applicable to the OCIM;
 - b. the optimal organisational structure and strategic alignment of the OCIM;
 - c. professional alignment and support for staff of the OCIM; and
 - d. training needs and capability gaps impacting the achievement of the OCIM objectives.

REVIEW INSPECTORATE ACTIVITIES

3. Examine and report on:
 - a. the effectiveness and capability of inspectorate activities;
 - b. the effectiveness and capability of reactive and pro-active activity;
 - c. investigation management and effectiveness; and
 - d. administrative functions undertaken by the OCIM.

EXAMINE AND REPORT ON ARRANGEMENTS IN OTHER JURISDICTIONS, ANY ANOMALIES AND WORKING PATTERNS

4. Examine and report on:
 - a. any existing anomalies;
 - b. arrangements in similar jurisdictions; and
 - c. any financial resourcing, or structural support issues, brought about by the working patterns or geographic locations of the regulated industries.

APPENDIX II INTERVIEWS AND SITE VISIT REGISTER

Appendix II Interviews and Site Visit Register

Name	Position	Organisation	Date	Conducted At
Martin Shirley ¹	Chief Executive Officer (at the time)	WorkSafe Tasmania	06-Oct-16	WST Offices, Hobart
Mark Cocker ¹	Director Industry Safety (at the time) Acting Chief Executive Officer (currently)	WorkSafe Tasmania	6-Oct-2016 23-Jan-2017	WST Offices, Hobart
Fred Sears ¹	Chief Inspector of Mines	WorkSafe Tasmania	6-Oct-2016 21, 23, 24-Dec-2016 22, 23, 24-Jan-2017	WST Offices, Hobart
Andrew Tunstall ¹	Principal Mining Inspector	WorkSafe Tasmania	5, 6, 8, 9-Dec-2016 20-Dec-2016	WST Offices, Burnie
Willard Zaria ¹	Senior Inspector of Mines	WorkSafe Tasmania	5, 6, 7, 8-Dec-2016 19-Dec-2016	WST Offices, Burnie
Yvonne Veenendaal ¹	Senior Inspector of Mines	WorkSafe Tasmania	7, 8-Dec-2016 19-Dec-2016	WST Offices, Burnie
Alan King ¹	Senior Site Officer	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Adrian Williams ¹	Underground Mine Manager	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Stephan Rush ²	Safety Coordinator	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Colin Carter ²	Geologist	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Jessie ²	Drill Operator	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Will ²	Underground Crusher Station	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Aarron ²	Shot Firer	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Steve Howorka ²	WHS Rep & Bogger Operator	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Kevin Stacey ²	Geologist	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Beau Cavell ²	Jumbo Operator	Bluestone Mines Tasmania: Renison	05-Dec-16	Renison Underground Mine

APPENDIX II INTERVIEWS AND SITE VISIT REGISTER

Name	Position	Organisation	Date	Conducted At
		U/Ground (Tin) Mine		
Shaun Purden ²	Jumbo Off-sider	Bluestone Mines Tasmania: Renison U/Ground (Tin) Mine	05-Dec-16	Renison Underground Mine
Gilbert Charles ¹	Senior Site Officer	Grange Resources: Savage River Open Cut (Iron Ore) Mine	06-Dec-16	Savage River Open-Cut Mine
Dave Dannals ²	Gatehouse & Induction	Grange Resources: Savage River Open Cut (Iron Ore) Mine	06-Dec-16	Savage River Open-Cut Mine
Chris Hawkins ²	Day Work Supervisor	Grange Resources: Savage River Open Cut (Iron Ore) Mine	06-Dec-16	Savage River Open-Cut Mine
Matthew Anderson ¹	Mine Manager	Grange Resources: Savage River Open Cut (Iron Ore) Mine	06-Dec-16	Savage River Open-Cut Mine
Jenkins Kroon ¹	Senior Site Officer	MMG: Roseberry Underground (Silver Lead Zinc Gold) Mine	07-Dec-16	Roseberry Underground Mine
Pat Ball ¹	Mining Operations Superintendent	MMG: Roseberry Underground (Silver Lead Zinc Gold) Mine	07-Dec-16	Roseberry Underground Mine
Jody McDermott ²	WHS Rep	MMG: Roseberry Underground (Silver Lead Zinc Gold) Mine	07-Dec-16	Roseberry Underground Mine
Warwick ²	Foreman and Jumbo Operator	MMG: Roseberry Underground (Silver Lead Zinc Gold) Mine	07-Dec-16	Roseberry Underground Mine
Richard ²	Jumbo Operator	MMG: Roseberry Underground (Silver Lead Zinc Gold) Mine	07-Dec-16	Roseberry Underground Mine
Wayne Straehnetter ²	Magazine Keeper	MMG: Roseberry Underground (Silver Lead Zinc Gold) Mine	07-Dec-16	Roseberry Underground Mine
Dean Wiley ²	Bogger Operator	MMG: Roseberry Underground (Silver Lead Zinc Gold) Mine	07-Dec-16	Roseberry Underground Mine
Leon Jones ²	Tradesman	MMG: Roseberry Underground (Silver Lead Zinc Gold) Mine	07-Dec-16	Roseberry Underground Mine
Craig Dennis	Tradesman	MMG: Roseberry Underground (Silver Lead Zinc Gold) Mine	07-Dec-16	Roseberry Underground Mine
Alan Lord ¹	Senior Site Officer	Purdy's Pit Smithton Quarry	08-Dec-16	Purdy's Pit Smithton Quarry
Greg Ralston ¹	Senior Site Officer	Circular Head (Dolomite) Quarry	08-Dec-16	Circular Head (Dolomite) Quarry

APPENDIX II INTERVIEWS AND SITE VISIT REGISTER

Name	Position	Organisation	Date	Conducted At
Wade Spinks ²	Plant Operator	Circular Head (Dolomite) Quarry	08-Dec-16	Circular Head (Dolomite) Quarry
Lee Lardner ²	Tradesman	Circular Head (Dolomite) Quarry	08-Dec-16	Circular Head (Dolomite) Quarry
Barry Pyke ²	Tradesman	Circular Head (Dolomite) Quarry	08-Dec-16	Circular Head (Dolomite) Quarry
Ben Maynard ¹	Vice-President General Manager Operations	Tasmanian Minerals & Energy Council Grange Resources	09-Dec-16	WST Offices, Burnie
Peter Walker ¹	Chair OHS Committee Senior Site Officer	Tasmanian Minerals & Energy Council Copper Mines Tasmania (Mt Lyell Copper Mine)	09-Dec-16	WST Offices, Burnie
Chris Hinds ¹	State Executive Officer	CFMEU Mining & Energy Division	19-Dec-16	WST Offices, Launceston
Ian Graham ¹	Lead Safety Analyst: Major Hazard Facilities	WorkSafe Tasmania	19-Dec-16	WST Offices, Launceston
Don Beams ¹	Senior Site Officer	Beams Brothers Flowery Gully Quarry	19-Dec-16	Beams Brothers Flowery Gully Quarry
Peter Roser ¹	Senior Site Officer	Cornwall Coal Blackwood No4 U/Ground Coal Mine	20-Dec-16	Blackwood No4 U/Ground Coal Mine
Dean Jamieson ¹	Underground Mine Manager	Cornwall Coal Blackwood No4 U/Ground Coal Mine	20-Dec-16	Blackwood No4 U/Ground Coal Mine
Mike ²	Surface Controller	Cornwall Coal Blackwood No4 U/Ground Coal Mine	20-Dec-16	Blackwood No4 U/Ground Coal Mine
Paul ²	Trainee U/Managers - Supervisors	Cornwall Coal Blackwood No4 U/Ground Coal Mine	20-Dec-16	Blackwood No4 U/Ground Coal Mine
Sean ²	Trainee U/Managers - Supervisors	Cornwall Coal Blackwood No4 U/Ground Coal Mine	20-Dec-16	Blackwood No4 U/Ground Coal Mine
Stephan ²	Trainee U/Managers - Supervisors	Cornwall Coal Blackwood No4 U/Ground Coal Mine	20-Dec-16	Blackwood No4 U/Ground Coal Mine
Trent Fraser ¹	Deputy	Cornwall Coal Blackwood No4 U/Ground Coal Mine	20-Dec-16	Blackwood No4 U/Ground Coal Mine
Tim Mason ²	Maintenance Tradesmen	Cornwall Coal Blackwood No4 U/Ground Coal Mine	20-Dec-16	Blackwood No4 U/Ground Coal Mine

APPENDIX II INTERVIEWS AND SITE VISIT REGISTER

Name	Position	Organisation	Date	Conducted At
Scott Mason ²	Maintenance Tradesmen	Cornwall Coal Blackwood No4 U/Ground Coal Mine	20-Dec-16	Blackwood No4 U/Ground Coal Mine
Craig Salt ¹	Inspector of Mines & Major Hazard Facilities	WorkSafe Tasmania	21-Dec-16	WST Offices, Hobart
Sean ¹	Site Manager	Water Mountain Group Quarry	21-Dec-16	Water Mountain Group Quarry
Greg Dodridge ²	Plant Operator	White Hills Road Nugent Quarry	21-Dec-16	White Hills Road Nugent Quarry
Mark Smith ¹	Senior Inspector of Mines	WorkSafe Tasmania	22, 23-Dec-2016	WST Offices, Hobart
Frank Carpenter ¹	Senior Site Officer	Heidelberg Cement Group: Hanson Quarry	22-Dec-16	Heidelberg Cement Group: Hanson Quarry
Todd Milne ¹	SHEC Manager	Nyrstar Zinc Works	22-Dec-16	Nyrstar Zinc Works
Richard Curtis ¹	Plant Manager	Nyrstar Zinc Works	22-Dec-16	Nyrstar Zinc Works
Darren Nicholls ¹	Director Underground Operations	Glencore Coal	11-Jan-17	Glencore Coal Corporate, Brisbane
Greg Dalliston ¹	Industry Safety and Health Rep	CFMEU Mining & Energy Division: Qld	11-Jan-17	CFMEU Offices, Brisbane
Lee Shearer ¹	Chief Compliance Officer	NSW Department of Industry: Resources Regulator	12-Jan-17	NSW Resources Regulator, Maitland
Jenny Nash ¹	Director Mine Safety Operations	NSW Department of Industry: Resources Regulator	12-Jan-17	NSW Resources Regulator, Maitland
Dave McLean ¹	Chief Inspector of Mines	NSW Department of Industry: Resources Regulator	12-Jan-17	NSW Resources Regulator, Maitland
Steve Orr ¹	Manager, Regulatory Audit and Investigation Unit	NSW Department of Industry: Resources Regulator	12-Jan-17	NSW Resources Regulator, Maitland
Tony Linnane ¹	Director Mine Safety Performance	NSW Department of Industry: Resources Regulator	12-Jan-17	NSW Resources Regulator, Maitland
Stewart Bell ¹	Former Qld Commissioner of Mine Safety	Qld Department Natural Resources & Mines	16-Jan-17	Private Residence, Brisbane
Peter Dent ¹	Former Executive Director Safety & Health Division	Qld Department Natural Resources & Mines	16-Jan-17	Private Residence, Brisbane
Russell Albury ¹	Chief Inspector of Coal Mines	Qld Department Natural Resources & Mines	17-Jan-17	DNRM Offices, Brisbane

APPENDIX II INTERVIEWS AND SITE VISIT REGISTER

Name	Position	Organisation	Date	Conducted At
Phil Goode ¹	Chief Inspector of Metalliferous Mines & Quarries	Qld Department Natural Resources & Mines	17-Jan-17	DNRM Offices, Brisbane
Kate Du Preez ¹	Qld Commissioner of Mine Safety	Qld Department Natural Resources & Mines	17-Jan-17	Office of Commissioner, Brisbane
Barry Williams ¹	Industry Relations Manager	Cement, Concrete & Aggregates Australia	23-Jan-17	WST Offices, Hobart
Simon Nicholson ¹	Senior Crown Prosecutor	Department of Justice, Crown Law. Tasmania	23-Jan-17	WST Offices, Hobart
John Webber ¹	Consultant Member	Mine Safety Steering Committee	23-Jan-17	WST Offices, Hobart
Wendy Clarkson ¹	Director Policy	WorkSafe Tasmania	24-Jan-17	WST Offices, Hobart
Ian Wakefield ¹	Tasmania Branch Secretary	AWU	25-Jan-17	WST Offices, Hobart
Damien Davidson ¹	Asst. Director Workers Compensation	WorkSafe Tasmania	25-Jan-17	WST Offices, Hobart

¹ Structured Interviews

² Targeted Discussions

Appendix III Contemporaneous Notes

Extracts of contemporaneous notes taken at the time of interviews, site inspections and discussions.

ID	Contemporaneous Notes	Source
1	...they are good...easy to approach and talk to...they always ask our opinions when they are here...	WHS Rep Mine
2	...they provide another set of eyes...not necessarily technical eyes...	SSO Mine
3	...regulations are confusing and not clear...although we should stay away from prescription, it stifles innovation...	SSO Mine
4	...believe there could be a risk of capture, but I haven't seen any evidence of it...	SSO Mine
5	...we are not looking for technical expertise...	SSO Mine
6	...looking for risk and process system experts...	SSO Mine
7	...value in providing input and critique into investigations...	SSO Mine
8	...value in providing benchmarking data on all injuries...from all industries...	SSO Mine
9	...being the contact point...sharing information...people with experience on how others are managing risks...networks and contacts that might be able to help...	SSO Mine
10	...there is great value in focusing on Lead Indicators and being pro-active with it...	SSO Mine
11	...capture...haven't seen any evidence of it...	SSO Mine
14	...value in providing benchmarking...	SSO Mine
15	...there is value in sharing good ideas...we need to work together...	SSO Mine
16	...technical expertise is valued at the "big-end of town"... focus on risk management and investigations at the "smaller-end of town"...	SSO Mine
17	...they are good...we don't hide anything from [them]...	WHS Rep Mine
18	...pleased to be rid of TAKE 5s...tick & flick only...better focus with STOP & THINK and not writing down...	U/G Tradesman Mine
19	...can see the benefit now...good relationship now...not always the case...they are here to try and help...have made a good difference...	SSO Quarry
20	...value another set of eyes on the operations...but can't cover all the quarries...people used to dread them coming around every 2 or 3 years...we are always concerned about cost...	SSO Quarry
21	...we need guidance on what the new Act and Regs mean and how they are to be applied...there is a role for the [OCIM] in education, mentoring and training...there is a role to help us understand the law...	Mineral Council
22	...value approachability, experienced expertise...asking appropriate and valuable questions...	Mineral Council
23	...value in benchmarking data and providing Heads-Ups in trends and improvements...	Mineral Council
24	...levy...not opposed to it as such...how do we set the level of it...understand the value...need to develop a Business Case...clear statements of Value vs. Costs...	Mineral Council
25	...inspectors should have independence in investigations...no problems with prosecutions...	Mineral Council OHS
26	...no objections to a levy that funds the inspectorate...	Mineral Council OHS

27	...more sharing information about incidents...never hear anything from other jurisdictions...	Mineral Council OHS
28	...has the world changed...has the role of inspectorate changed with it...do we still need an inspectorate...	Mineral Council OHS
29	...value another set of eyes...should not contradict technical experts...doing detailed audits or system (reviews) not 2hr tours...	Mineral Council OHS
30	...need to have an inspector trained in coal mining...we call in NSW Check Inspector...inspectorate have been supportive of our workplace inspections...	CFMEU Tas.
31	...no objections to external experts from other states coming down to help...	CFMEU Tas.
32	...huge holes here on pneumoconiosis...had a wake-up call from Queensland...no health monitoring requirements in place since abolition of old mines act in 1995...over-reliance on companies doing the right thing...no registered medical advisors...no protocols for companies to follow...	CFMEU Tas.
33	...found clear breeches of act...no action taken because DPP don't want to take up the charge...	CFMEU Tas.
34	...doing more investigations of issues than they used to...like to see more prosecutions or on-the-spot fines...	CFMEU Tas.
35	...no complaint about professionalism...always gets a response from (them) ...any evidence of regulator capture...haven't seen anything and haven't given it any thought...	CFMEU Tas.
36	...like to see more inspections...still think 1 or 2 short...short-handed if anyone is tied up doing an investigation...still more reactive than pro-active...	CFMEU Tas.
37	...resourcing is on a shoe-string...only 2 people to write the entire Act and Regulations...critical for new legislation to safe guard the workers in the mines...	CFMEU Tas.
38	...Major Hazard Facilities do not fit within mining legislation... establish a Chemical Hazard Management inspectorate under Director of Industrial Safety within Dept. of Justice...	OCIM Inspector
41	...the inspectorate have been good and we are a better site...they have been fair and helpful...	SSO Quarry
42	...since coming around more regularly, we are noticing big improvements in people attitudes and mindsets...	SSO Quarry
43	...all the provisions are there to not breathe dust, but if people choose not to, then we can't do anything about it...	SSO Mine
44	...the workforce see (Inspector) as an ally...	U/G Mine Manager
45	...not sure about technical competencies of inspectors...we need some way to ensure they (inspectors) can do the job...they need to be mining engineer and have been a mine manager...	SSO Mine
46	...effective and capable inspector is someone who can be a conduit of information and help grow and improve mine operations...	SSO Mine
47	...we are supposed to give them plans and stats...	SSO Mine
48	...we do health monitoring as a company...we are content that we are OK...	SSO Mine
49	...NSW inspectorate used to be ...now they are...policeman...	SSO Mine
50	...once inspectorate told to step out and not be part of developing a ... Management Plan, it was the beginning of the end...	SSO Mine
54	...mines rescue now has mutual assistance that is the best in the country...really proud of this...	OCIM Inspector
55	...we don't keep good statistical data, or any data really...we still get forms faxed in and still not electronically entered...	OCIM Inspector

56	...our role is as educator, problem solvers...no compulsion now to conduct any investigation...	OCIM Inspector
59	...value advice, explaining requirements of the law, face-to-face, trust and personal relationships...	SSO Quarry
60	...not trivial matters like micro-waves being at wrong height...	SSO Quarry
61	...last injury here was 15 years ago...least experienced bloke has been here 7 years...	SSO Quarry
62	...we aim to have a quarterly catch-up meeting (with regulator)...	MHF
63	...we would see great value in bench-marking data...	MHF
64	...don't think the inspectorate are in position to offer "best practice" solutions...	MHF
65	...they are there to implement and enforce the statutes...	MHF
66	...ideal inspector has operational experience, how people function, understanding modern OHS practices, value in industry forums...	MHF
67	...nervous about inspectors that...need to impose their view of the world...not their job to tell us we need a procedure to do this, unless it's called for under the legislation...	MHF
68	...most important is the legislation itself...enforcement...monitoring...	Senior Exec Qld
69	...inspectorate capture...NSW structures removes forming relationships between inspectors and mines...would like more (of this) in Qld...	Senior Exec Qld
70	...positive aspects of unannounced inspections sends good messages, serious about back-shifts...	Senior Exec Qld
71	...role of a "sounding board"...advice from senior people...working together, not posturing to get to goal of zero fatalities...	Senior Exec Qld
72	...legislation must be strong enough to get around working in small communities...	Senior Exec Qld
73	...documented Compliance Policy adds absolute value...industry talks about it...industry knows about it...inspectorate must follow it...	Senior Exec Qld
74	...rise of Coal Miners Pneumoconiosis is an example of not being able to self-regulate...will result in having 2 Recognised Standards...	Senior Exec Qld
75	...effectiveness of the regulator "Do I have a Purpose and Do I have a Focus"...	Senior Exec Qld
76	...WST reps can't afford to travel...sitting on telephones for 1 1/2 days...can't afford to attract mining qualified people...	CFMEU Qld
77	...centralised in July 2015, couldn't trend, couldn't make decisions that are proportionate...trend data that focusses activities...	NSW Regulator
78	...we should be working across boundaries...	NSW Regulator
79	...hope they pick up the NSW regulations, then they can pick up the Codes of Practice and Mine Department Guidelines...	NSW Regulator
80	...make it your business to understand your business...	NSW Regulator
81	...inspectors used to have 5-8 mines assigned to them...now centralised...Targeted Assessment Plans (TAPs) Targeted Intervention Plans (TIPs), audits using documented tools...	NSW Regulator
82	...focus efforts through risk profiling, hazard loads, type of operation, number of visits required...	NSW Regulator
83	...levy charged to employers that have people in defined WIC code...get additional item on their workers compensation annual invoice...	NSW Regulator
84	...levy negotiated through the Mine Safety Advisory Council...	NSW Regulator

85	...purpose of investigation enforcement /compliance is to change behaviour...deterrence through prosecution...	NSW Regulator
86	...have an intelligence unit that collects and analyses data, statistical analysis...	NSW Regulator
87	...until 2015 we were geographically separated...now centralised triage of incident notification...send two inspectors instead of one...	NSW Regulator
88	...on call people are kitted out with cars and phones...pay is built into the roster...	NSW Regulator
89	...all inspectors are under specific award <i>Dept. of Industry Mine Safety Officers Award...</i>	NSW Regulator
90	...quality investigations and communications...giving coroner our full brief of evidence...have resulted in not having coronial inquest...	NSW Regulator
91	...recommend developing an MOU and procedures for interacting with the coroner..	NSW Regulator
92	...metals and extractive industry safety performance is poorer than coal even though coal mining is more hazardous...coal is more closely watched and coal mining companies are large, multinational and have more expertise...	NSW Regulator
93	...levy introduced through Minister...gave us independence...gave us freedom to conduct research...funded the Health Surveillance Unit...	QLD Regulator
94	...restructure driven by review of inspectorate following Moura No 4 disaster...must have total support from the top...	QLD Regulator
95	...ABEF needs strong leaders...opens leaders to criticisms...finding faults with systems leaders are in charge of...	QLD Regulator
96	...we use the HPI data...develop risk profiles that lead into operating plans...	QLD Regulator
97	...all inspectors are on...contracts...to make up the remuneration in order to attract people from industry...	QLD Regulator
98	...our training and Code of Ethics protects us from regulatory capture...	QLD Regulator
99	...use Lotus Notes...looking to change...	QLD Regulator
100	...our role...achieve zero harm... to assist operations by auditing, inspecting, complying with legislation and best practice, raise awareness, appropriate compliance actions..	QLD Regulator
101	...use data to instigate a focussed campaign...identified the Fatal 4...falls, entanglements, pressure release, collisions...	QLD Regulator
102	...inspectors are not assigned to specific mines...use structured inspection guides to conduct inspections...provide consistency...	QLD Regulator
103	...measure effectiveness...less compliance actions taken over time...trending results against compliance actions...meet the objectives of the Act...	QLD Regulator
104	...we haven't got an effectiveness index...	NSW Regulator
105	...we know the hazards, we know the controls, we just have to have people to do what should be done...	QLD Regulator
106	...we are the keepers of knowledge and spreader of information...	QLD Regulator
107	...requires diverse qualifications, mining, mechanical, electrical...need operational experience (crucial)...	QLD Regulator
108	...measure effectiveness by auditing the audits, quality of investigations, ratio of planned vs. unplanned, levels of Directives, are we bringing down the stats...	QLD Regulator
109	...compliance policy is crucial, Commissioner comes in at Level 4 and 5, transparent, prevent accusation of bias...	QLD Regulator
110	...capture gets raised at Estimates...Commissioner's role is to monitor independence, has no "management" roll in the inspectorate...	QLD Regulator
111	...we need an Occupational Hygienist as an inspector...	QLD Regulator

112	...we must be able to buy experience and practical people from industry...	QLD Regulator
113	...clearer delineation in determining operational focus...focus on high risk work tasks...field-based officers to be in the field...	WST
114	...must avoid the appearance (or reality) of a sense of entitlement...KPIs cannot read like project narratives...	WST
115	...Effectiveness...reach and impact, changing behaviours, delivering a consistent message, impartial, consistent...	WST
116	...very pro-regulation...the inspectorate should be out there conducting inspections, checking that systems and processes are happening as they should...	AWU Tas
117	...probably the best inspectors we've ever had...	AWU Tas
118	...inspectors are under-valued...numbers are OK...improving the mix...think they've got it about right...	AWU Tas
119	...we should have health surveillance...we have silica, coal, lead, asbestos...	AWU Tas
120	...would be an advantage to be able report on industry trends and background data...	AWU Tas
121	...no Safety Alerts or Significant Incident Alerts currently...did in the past...	AWU Tas
122	...prior to 2012 quarries were largely illiterate in the requirements of the new legislation...were used to not seeing the regulator...	CCAA
123	...members do not believe the information [on new legislation] was given to them in a way they could absorb...	CCAA
124	...they are now seeing the inspectors and everyone believes that is a good thing...very well received...the attention of the inspectorate and their approach...cast a set of experienced eyes and expertise...	CCAA
127	...difficult to represent all of the diverse nature of quarrying in Tasmania...a lot of quarries are not members of the CCAA...	CCAA
128	...would like further explanation and mentoring in new legislation...unsure of regulatory burden of monthly reporting...	CCAA
129	...we don't oversee investigation practices...	ODPP
130		ODPP
131	...there is no documented Workflow Chart on engagement with inspectors...	ODPP
132	...we need to maintain a separation between the investigation and prosecution...we facilitate investigations, where we can, to help the evidence be admissible...	ODPP
133	...real benefits in cooperation between the 2 evidence collecting agencies...Police take affidavit evidence and photographs...OCIM take other photographs and video and conducted interviews...DPP need to have all the evidence...	ODPP
134	...we are moving to electronic files...has been a big help to have electronic copies of evidence linked to electronic copies of investigation reports...	ODPP
135	...we have been playing catch-up...need contingency for major issues, incidents and other distractions [politics]...	Member Mine Safety Steering Committee
136	...we can make recommendations to the Minister because we were established by the Minister...there is no statutory recognition of the MSSC...	Member Mine Safety Steering Committee
137	...lack of data and information to make informed decisions...no focus on Critical Controls...how do you focus effort without data...	Member Mine Safety Steering Committee
138	...recommendations on the Act being framed for presentation to the Minister...working	WST

	through consideration of the regulations...sub-committee working on Coal regulations...basically looking at 90% of NSW Regs....	
139	...specialisation is critical to high risks...inspectors must be able to talk the technical language at mines...	WST
140	...we have these current mechanisms in place...would need to seek the cooperation of the insurers...	Workers Comp Tas
141	...it is a very efficient model...	NSW Regulator
143	...what attributes do we want for a field ready inspector...	WST
144	...2 days field visits will take 2 1/2 days to do the MREs and associated documents...	OCIM Inspector

Appendix IV References

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Appendix V

Recommendations of Previous Audits

numbering added and sequence re-ordered

TOR: FIRST ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES	FINDINGS	RECOMMENDATIONS
<p>1. Assess adequacy of current physical resources to administer the legislation applicable to mines, quarries and mineral processing industries throughout Tasmania by:</p> <ul style="list-style-type: none"> Confirming the structure (Organisational Chart) for the Department Confirming the key responsibilities for the Department resources Confirming the “training needs analysis” and the identified capability gaps impacting the achievement of the Department objectives <p>2. Assess adequacy of financial resources to provide for an inspectorate to a standard equal to that expected at a national level.</p>	<p>Since 2006, the Government of Tasmania/WST has increased the number of mine inspectors from two to five, including two with mine engineering qualifications and three other experienced and capable inspectors (only one of who had prior experience in the mining industry). Additional budget allocations have been made within WST to support these activities. Interviews indicated that these changes have had a positive effect in rectifying – in part – deficiencies identified in recent Coronial Inquests.</p> <p>Notwithstanding this improvement, a number of deficiencies were identified:</p> <ul style="list-style-type: none"> • A significant administrative load prevented the Chief Inspector of Mines from contributing to inspection activity within mines and to mentor non mine-engineering qualified inspectors 	<p>1.1 That an additional inspector be appointed to the Office of Chief Inspector of Mines with primary responsibility for quarries and based at the Rosny Office of WST. The increase in the establishment to six inspectors is consistent with recommendations made by the independent investigation into the death of Larry Knight as a result of a rockfall at the Beaconsfield Gold Mine on Anzac Day 2006.</p> <p>The budget of the Mine Safety Unit should be adjusted accordingly to cover the costs of this appointment. According to Mr Sears, an additional inspector with on-costs, access to travel (car etc.) and other work-related expenses would require \$150,000-165,000.</p> <p>1.2 The Office of Chief Inspector of Mines should have a dedicated and relatively predictable budget (with normal cost increases factored in over time) rather than contingent budget. This budget should be sufficient to for inspectors to upgrade their skills through training programs (such as the G3 risk assessment program and specialist training in major hazards areas such as seismicity) engage specialist consultants (such as geotechnical experts) on contingent basis, for a representative of the unit to visit to other states to look at management systems, databases, enforcement programs and inspection methods every three years.</p>
<p>3. Review effectiveness and capability of inspectorate activities.</p> <ul style="list-style-type: none"> Identify reactive and pro-active capability and effectiveness Identify investigation management and effectiveness 	<ul style="list-style-type: none"> • The imminent introduction of mine and quarry specific regulations in Tasmania will cause of a significant drain on existing resources 	<p>1.3 Within the budget of the Mine Safety Unit an increased allocation should be made for training inspectors/conference attendance. The Chief Inspector of Mines should develop a prioritised training matrix in this regard covering the next three years.</p>

APPENDIX V

RECOMMENDATIONS OF PREVIOUS AUDITS

TOR: FIRST ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES	FINDINGS	RECOMMENDATIONS
<p>Review administrative functions undertaken by the Mine Safety Unit</p>	<ul style="list-style-type: none"> The number of inspectors and budget of the Mine Safety Unit is currently inadequate to meet current and foreseeable challenges with regard to operations, the training/skill upgrading of inspectors, meeting knowledge deficiencies with regard to coal mining, and providing a sufficient expert advice via consultants as required. The current budget is also based to some degree on contingent funding which is inappropriate for this ongoing task. There is a need for a more systematic and comparable approach to setting the salaries of mine inspectors in Tasmania if this state is to be able to recruit and retain a suitably qualified inspectorate. 	<p>1.4 While Tasmania has only one operating coal mine (Cornwall Coal) the lack of expertise with regard to coal mining represents a gap that should be addressed. The most cost efficient means of doing this would be to arrange for a short-term (e.g. two week) periodic visit (say every 12 months to two years) by an experienced coal mine inspector to provide training and advice to two local mines inspectors along with an opportunity for these inspectors to visit coal mines in other jurisdictions to better acquaint themselves with hazards and best practice. In addition, the practice of engaging Mr Reece to audit Cornwall Coal mines every six to eight months, in conjunction with local inspectors, should continue.</p> <p>1.5 The annual budget should also include an amount sufficient to cover reasonable expenditure on expert consultants and administration of National Mine Safety Framework data input (an additional area of demand only hinted at earlier in the report). In the estimation of the Chief Inspector of Mines a total additional figure of \$130,000 to \$160,000 would cover all the items just mentioned (i.e. all recommendations except that relating to the appointment of a sixth inspector).</p>

APPENDIX V

RECOMMENDATIONS OF PREVIOUS AUDITS

TOR: FIRST ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES	FINDINGS	RECOMMENDATIONS
	<p>Beyond these specific points, a more general contextual observation can be made. In my role in the Beaconsfield investigation and reading the coronial report into the fatal rockfalls at the Renison Mine and reading the transcripts of evidence relating to the fatality at the Cornwall Coal Mine (without wishing to pre-empt the findings of that coronial inquest), I was struck by a number of apparent commonalities, namely:</p> <ul style="list-style-type: none"> • In all three cases there appear to have been clear warning signs prior to the fatal incident (i.e. these were not unpredictable events) • In Beaconsfield and Cornwall at least underground supervisors and/or workers expressed serious concerns prior to the incident which were not responded to • In all three cases there appear to have been failings with regard to risk assessment and related management systems • All occurred after the rationalisation of inspectorates that followed the introduction of the Workplace Health and Safety Act, 1995, that effectively resulted in a winding down of the resources available for mine inspection and the removal of mine-specific regulation (without might I add any evidence that the potential consequences of this had received serious consideration). 	<p>1.6 In future a set budget to cover the cost of the annual audit of the Office of Chief Mines Inspector should be established and incorporated within the WST budget. This budget should be sufficient to cover workplace visits with inspectors and more wide-ranging interviews with individual managers of mines (and ideally mineral processing plants and quarries). A number of issues were identified in this report that should be investigated during such visits. Workplace visits need not occur in the context of every audit (if these are carried out annually) but should be budgeted for every second or third year.</p>

APPENDIX V

RECOMMENDATIONS OF PREVIOUS AUDITS

TOR: FIRST ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES	FINDINGS	RECOMMENDATIONS
	<p>Fatal incidents in mines (and other workplaces for that matter) are commonly viewed in isolation, without reference as to whether there are repeated or ongoing sources of failure. However, the coronial inquests into Beaconsfield and Renison raised a number of common issues (indeed beyond those just mentioned such as problems for the designated post of Responsible Officer) including the urgent need for mine specific regulation but this is still to be enacted. The issue of inadequate resourcing of the mine inspectorate received particular attention and transcripts of hearings indicate this issue has also received attention at the Cornwall Coal inquest. Despite improvements, this audit would conclude that mine inspectorate is yet to be adequately resourced (and on a sustainable basis) to ensure that this vital protective role for the community is carried out effectively. It is essential in my view that these longstanding issues be addressed as a matter of urgency</p>	<p>1.7 Funding for two additional specialist MHF inspectors to administer that separate legislation should be addressed with some priority so this doesn't have the potential to divert resources from the Mine Safety Unit.</p>

TOR: SECOND ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES

1. Assess adequacy of current physical resources to administer the legislation applicable to mines, quarries and mineral processing industries throughout Tasmania by:

Confirming the structure (Organisational Chart) for the Department

Confirming the key responsibilities for the Department resources

Confirming the “training needs analysis” and the identified capability gaps impacting the achievement of the Department objectives

2. Assess adequacy of financial resources to provide for an inspectorate to a standard equal to that expected at a national level.

FINDINGS

Following the events of 2006, the number of inspectors within OCIM was increased to five and at the time of writing this report that remains the number, though one of these inspectors is on 12 months unpaid leave, effectively meaning there were four inspectors (a job application process was under way but unresolved).

Two of these inspectors have mine engineering qualifications while the other inspectors have a range of skills and experience which is complementary and appropriate to mines, mineral processing and quarries.

There is a gap with regard to coal mining and geotechnical expertise and OCIM lacks sufficient resources to adequately address quarrying activities.

Current inspectors are well-regarded in terms of their skill/expertise, experience and professionalism by all stakeholders I interviewed or spoke to in the course of workplace visits.

In mines and mineral processing inspectors undertake regular inspections, have a good level of engagement with industry associations and unions, and are trying to take a more proactive approach to inspection and regulatory compliance (including implementing the 2011 regulations).

A number of valuable initiatives have been undertaken since the 2010 audit including organising a training program on risk management, forums with industry and targeting of significant hazards and notifiable incidents.

However, five inspectors (and five available inspectors) are only just sufficient to undertake these tasks.

RECOMMENDATIONS

2.1 That the Office of Chief Inspector of Mines should consist of six inspectors covering mines, mineral processing and quarrying with one of these having primary responsibility for quarries. The establishment of six inspectors is consistent with earlier recommendations made by the 2010 audit and the independent investigation into the rockfall at the Beaconsfield Gold Mine on Anzac Day 2006.¹³ In 2010 I recommended the ‘quarry’ inspector be located in Rosny while the current appointment in train is planned for the Burnie office (as indicated earlier I do not see it as optimal to locate all OCIM inspectors in Burnie – many quarries and some mineral processing is located closer to Hobart - so careful consideration needs to be given to getting the best ‘mix’ of location and responsibilities).

2.2 The budget of the Mine Safety Unit should be adequate to cover two engineering qualified inspectors and four other inspectors on a sustainable basis (including the recruitment/retention issues identified in this and the 2010 audit). If the current appointment process is unsuccessful or if a shortfall in the establishment of six inspectors should arise due to resignation or retirement the resulting gap needs to be filled as a matter of urgency. In future any prolonged (i.e. one year or more) absence of an inspector should be covered by a replacement (though for reasons already identified in this report this is not an optimal alternative). Adequate attention to succession planning is also required given the age profile of current inspectors. Any significant expansion in mining operations will require revision to this establishment (I do not regard the future closure of the Beaconsfield mine as sufficient to reduce current requirements).

APPENDIX V

RECOMMENDATIONS OF PREVIOUS AUDITS

TOR: SECOND ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES

3. Review effectiveness and capability of inspectorate activities.

Identify reactive and pro-active capability and effectiveness.

Identify investigation management and effectiveness.

Review administrative functions undertaken by the Mine Safety Unit

FINDINGS

In quarrying inspectors do what they can with limited resources but it isn't nearly enough given the large number of these workplaces, many (especially smaller operators) with limited knowledge of OHS (let alone systems)

The capacity of OCIM to operate as effectively as it should (including engaging in long term strategic planning of activities) is inhibited by a combination of factors:

- Budget constraints (both with regard to numbers, salaries and non-salary expenses) and ongoing uncertainty.

- The need to 'catch up' following over a decade from 1995 where both regulation and regulatory oversight in Tasmania lagged behind important developments in other Australian jurisdictions now regarded as 'best practice' (the same point has been repeatedly made with regard to New Zealand in hearings of the Pike River Mine Disaster Royal Commission).

The national harmonisation of mine safety legislation has placed an initial set of demands on OCIM (not aided by the inability of the Chief Inspector to attend recent meetings of chief mine inspectors of Australia and New Zealand).

- Gaps in expertise (which could be filled without appointing an additional inspector) and ongoing operational concerns about access to training, home-garaging and overtime.

RECOMMENDATIONS

2.3 All OCIM inspectors should have access to dedicated vehicles and home-garaging and flexibility in their working-hours arrangements to reflect the 24/7 and high hazard nature of the industry they are dealing with.

2.4 Consideration should also be given to the salary of the non-engineering qualified inspectors so it better reflects the specialised and demanding nature of their tasks and assists with recruitment, retention and staff succession.

2.5 The Office of Chief Inspector of Mines should have a dedicated and predictable budget (with normal cost increases factored in over time) rather than a contingent budget. The budget should be sufficient (with regard to training, consultancy and travel) for inspectors to upgrade their skills through training programs engage specialist consultants (such as geotechnical experts) on contingent basis, to pay for an annual audit of the coal mine by a suitably qualified person, for Mr Tunstall to undertake a visit to NSW to inspect coal mines and inspectorate practices there, and for a representative of the unit to visit other states to look at management systems, databases, enforcement programs and inspection methods in metalliferous mining every three years.

2.6 Funding should also ensure the chief mines inspector is able to attend the annual meeting of all Australian and New Zealand chief mine inspectors. To cover these and other non-salary measures recommended the total non-salary budget needs to be increased between \$150,000 and \$200,000.

APPENDIX V RECOMMENDATIONS OF PREVIOUS AUDITS

TOR: SECOND ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES

FINDINGS

- A recruitment/retention issue remains and thought also needs to be given to long term succession planning in staffing given the age profile of the existing inspectorate group if the valuable level of experience/knowledge this entails is not to be seriously diminished by departures

A number of organisational changes have been proposed to increase the effectiveness of OCIM.

Upon careful reflection, including examining recent experiences in other jurisdictions and the lessons already apparent from the Pike River mine disaster, I do not believe (with one exception) the measures proposed will achieve this outcome.

Indeed, in several cases they entail costs that may actually lead to a less efficient use of resources.

In undertaking this audit comparisons have been made both to changes since 2006 (the benchmark for the 2010 audit) and the situation as determined by the 2010 audit.

With regard to the latter, a number of recommendations of the 2010 audit remain outstanding (and indeed some of these flow on from the recommendations made in earlier coronial inquests).

This was a point of considerable concern to quite a number of the persons I interviewed or held discussions with in the course of this (2012) audit.

Information collected in the course of the 2012 audit also reinforced the justification underpinning these findings and recommendations.

RECOMMENDATIONS

2.7 The Chief Inspector of Mines should in consultation with other OCIM inspectors develop a prioritised training matrix and strategic enforcement agenda covering the next three years. While such planning will inevitably undergo change over time it will assist in maximising the effectiveness of OCIM and is a logical progression from the prioritisation of activities and proactive measures already evident.

2.8 While Tasmania has only one operating coal mine (Cornwall Coal) the lack of expertise with regard to coal mining represents a gap that must be addressed. The most cost efficient means of doing this would be to arrange for an annual audit of the mine by a suitably qualified coal mine safety expert and for one of the current engineering qualified inspectors (Andrew Tunstall) to visit NSW to undertake visits to comparable coal mines and hold discussions with experienced coal mine inspectors.

2.9 The data management system (TRIM) should be reviewed and if necessary modified so information and statistics relevant to mining, mineral processing and quarrying (such as notifiable incidents) can be readily retrieved. A simple summary of notifiable incidents as well statistics relating to overall numbers, types and trends should be provided to industry and unions on a regular basis for reasons already identified in this audit (if this requires some revision of existing regulations this should be done).

APPENDIX V RECOMMENDATIONS OF PREVIOUS AUDITS

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FINDINGS

RECOMMENDATIONS

2.10 Taking the foregoing points together the total current annual budget of OCIM should be around \$1.5 million. To achieve this and put it on a sustainable basis it is recommended that the budget should be in future deducted on an ongoing basis from mining royalties.

2.11 Future audits of the mines inspectorate should include workplace visits along the same lines as those carried out in this audit although with the inclusion of visits to one small and one larger quarry (no quarry visit has been undertaken as part of the audit). The next audit should also include a detailed examination of notices and other actions taken by inspectors over a five year period. If the recommendations of this audit are substantially implemented further audits need only be undertaken at 12-18 month intervals rather than annually. The slightly longer time-frame but more detailed nature of the audit (as recommended) would result in a more effective (and cost efficient) review of the mine inspectorate. The costs of the audit should be included in the Office of Chief Mines Inspector budget.

TOR: THIRD ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES

1. Assess adequacy of current physical resources to administer the legislation applicable to mines, quarries and mineral processing industries throughout Tasmania by:

Confirming the structure (Organisational Chart) for the Department

Confirming the key responsibilities for the Department resources

Confirming the “training needs analysis” and the identified capability gaps impacting the achievement of the Department objectives

2. Assess adequacy of financial resources to provide for an inspectorate to a standard equal to that expected at a national level.

FINDINGS

Inspectorate Resourcing, Numbers and Qualifications/Skill Sets

An adequately resourced inspectorate is essential to providing effective regulatory oversight of mine safety. Inadequate resourcing has been a contributory factor in a number of fatal incidents, including the Pike River mine disaster and a number of mine fatalities in Tasmania. Indeed, it is ‘pattern’ flaw that has been found repeatedly by investigations into serious mine incidents.

It is also notable that the three major mining states in Australia (NSW, Queensland and Western Australia) all upgraded their mine inspectorates in the past decade as part of measures to improve mine safety. The New Zealand government did this too in the wake of the Pike River mine disaster.

This audit makes the following specific findings.

1. Notwithstanding the closure of mining operations at Beaconsfield the current establishment of five inspectors is inadequate and as recommended by previous audits an additional inspector needs to be appointed with primary responsibility for quarrying.

RECOMMENDATIONS

3.1 An additional inspector needs to be appointed with primary responsibility for quarrying.

3.2 The two posts which are vacant at the moment should be filled by applicants with mine engineering qualifications, one with specialist knowledge of coal mining and one with specialist knowledge of metalliferous mining.

APPENDIX V

RECOMMENDATIONS OF PREVIOUS AUDITS

TOR: THIRD ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES

- 3. Review effectiveness and capability of inspectorate activities.
 - Identify reactive and pro-active capability and effectiveness.
 - Identify investigation management and effectiveness.
 - Review administrative functions undertaken by the Mine Safety Unit

FINDINGS

- 2. The qualifications composition of the current establishment is not adequate for the tasks it is required to undertake and not comparable to that found when benchmarked against another small mining jurisdiction namely New Zealand.

To rectify this, the two posts which are vacant at the moment should be filled by applicants with mine engineering qualifications, one with specialist knowledge of coal mining and one with specialist knowledge of metalliferous mining. With regard to the latter applicants who have the qualifications and experience to manage a metalliferous mine might also be considered.
- 3. Engineering qualified mine inspectors need an opportunity to upgrade their skill set periodically and to gain insights into practices and developments in larger jurisdictions. The Chief Inspector of Mines should attend the annual meeting of Chief Mine inspectors of Australia and New Zealand as a matter of course for the reasons already identified in this report.
- 4. If the interregnum prior to the appointment of a qualified coal mine inspector is more than six months, an inspection by a qualified coal mine inspector from another jurisdiction (or a suitably qualified and experienced equivalent like David Reece) should be organised.
- 5. Provision should be made for specialist expertise (notably geotechnical expertise) to be brought in on a consulting basis as required.
- 6. The additional training needs identified in this section, including those with regard to auditing, should be addressed
- 7. The adequacy of current arrangements with regard to electrical inspection should be reviewed.

RECOMMENDATIONS

- 3.3 I recommend that the process of finding replacement staff should commence as soon as a departure is known in order to minimise (ideally eliminate) the gap period between departure and a new appointment
- 3.4 The Chief Inspector of Mines should attend the annual meeting of Chief Mine inspectors of Australia and New Zealand.
- 3.5 I recommend that a visit of at least one week's duration to another jurisdiction with a larger mine inspectorate should be available on a two yearly basis for both metalliferous mine inspectors and any future appointments.
- 3.6 If the interregnum prior to the appointment of a qualified coal mine inspector is more than six months, an inspection by a qualified coal mine inspector from another jurisdiction, or equivalent.
- 3.7 Provision should be made for specialist expertise (notably geotechnical expertise) to be brought in on a consulting basis as required.
- 3.8 The additional training needs identified in this section, including those with regard to auditing, should be addressed

APPENDIX V RECOMMENDATIONS OF PREVIOUS AUDITS

TOR: THIRD ANNUAL AUDIT OF OFFICE OF CHIEF INSPECTOR OF MINES

FINDINGS

Organisational Structure, Budget and Operational Issues

1. The current organisational structure of the OCIM and location of inspectors is broadly appropriate and fit for purpose. The Chief Inspector is able to maintain close links with other senior managers within WorkSafe Tasmania (most notably the Compliance Director and General Manager) and there seems to be a good working relationship between inspectors based at the Rosny and Burnie offices. Locating an inspector in Hobart (Rosny) makes sense of its proximity to a major metal processing facility and quarries in the south of the state. The Burnie office is best-located in terms of servicing the West Coast mines. While Launceston is closer to the Cornwall Colliery than Burnie this doesn't seem to be an issue in terms of maintaining contact and spreading the small mine inspectorate across three different offices would not be beneficial.

2. With regard to the budget, salary and salary-related costs are the overwhelming component of the OCIM budget. A number of non-salary budget issues raised in earlier audits appear to have been addressed though the importance of maintaining adequate access to vehicles and training/knowledge updating activities needs to be emphasised. For reasons explained in the report, it is critical that the Chief Inspector should regularly attend the annual meeting of chief mine inspectors of Australia and New Zealand.

3. While efforts have been made to address some deficiencies identified in earlier audits, the overall budget is not adequate and nor has it been placed on a sustainable footing – a significant recommendation of the 2010 and 2012 audits and the Beaconsfield Coronial Inquest Findings. The budget is not adequate to meet the costs of staffing needs identified in this report both in terms of numbers and the qualifications of appointments identified as essential in this report.

RECOMMENDATIONS

3.9 The adequacy of current arrangements with regard to electrical inspection should be reviewed.

3.10 The current organisational structure of the OCIM and location of inspectors is broadly appropriate and fit for purpose.

3.11 Either;
a. Introduce a levy on the industry to fund OCIM, or
b. allocate a set fraction of mining royalties to cover the costs of the OCIM

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4. The OCIM budget needs to be placed on a more sustainable and predictable footing. The uncertainty associated with recurring budgetary pressures on government agencies, including WorkSafe Tasmania, are not conducive to a planned and strategic approach to maintaining safety standards in a high hazard industry. WorkSafe Tasmania has made efforts to insulate OCIM as far as possible from budget shortfalls but, viewed in the context of budget/staff cuts described in the 2012 audit, it seems extremely doubtful that the agency has the resources to fund OCIM at a sustainable and appropriate level.

Previous audits identified two options to resolve this problem. First, the imposition of a levy on the industry to fund OCIM – an approach that has been used with regard to several mine inspectorates on the mainland. While such a levy would not be universally popular both the 2010 and this audit found industry representatives want the OCIM to be adequately funded and several indicated they would accept this approach if it was the only way this outcome could be secured. Second, allocating a set fraction of mining royalties to cover the costs of the OCIM. The 2012 audit showed that the amount required would only represent a small proportion of annual total royalty receipts. Needless to say, this option was more popular with industry because it entailed no additional costs on them. Both these options offer the advantage of being able to tie funding from the industry to OCIM and so avoid the risk of cross subsidisation of other activities (this very point was made by one industry representative). This audit strongly recommends that the OCIM budget be placed on a more sustainable footing by adopting one of these two approaches.

RECOMMENDATIONS

- 3.12 A separate salary structure be established that;
- a. for mine inspectors that better reflects the task requirements/expertise and market demand for these skills.
 - b. includes two broad classifications, one for mine inspectors without mine engineering qualification and another (higher scale) for those with engineering qualification.
 - c. Bases the salary of the Chief Inspector of Mines on a loading/payment additional to the higher classification to reflect their administrative/managerial tasks and greater responsibilities.
 - d. is periodic benchmarked against salary levels paid in other Australian mining jurisdictions.

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FINDINGS

5. Salary levels and determination continue to be a source of uncertainty and concern within the inspectorate. Further, the arrangement doesn't accord with the salary setting practices of mine inspectorates in other states I am familiar with, which represent a better approach of having a distinct salary scale for mine inspectors. This places Tasmania at a disadvantage in terms of recruiting and retaining well qualified mine inspectors. This audit recommends that a separate salary structure be established for mine inspectors that better reflects the task requirements/expertise and market demand for these skills (as is the case in jurisdictions like NSW). The salary structure should include two broad classifications, one for mine inspectors without mine engineering qualification and another (higher scale) for those with engineering qualification. The salary of the Chief Inspector of Mines should be based on a loading/payment additional to the higher classification to reflect their administrative/managerial tasks and greater responsibilities.

6. Salary levels within this scale should be determined by periodic benchmarking against salary levels paid in other Australian mining jurisdictions. While Tasmania may not be able to precisely match, the salaries paid to mine inspectors in the better paying jurisdictions (like WA, Queensland and NSW) the salaries should be sufficiently comparable to them and salaries in the private sector to ensure that quality staff can be recruited and retained.

Tasmania offers lifestyle advantages and the role of a mine inspector is also attractive to some mine managers or other suitably qualified applicants. The mining industry is also not experiencing the boom conditions of several years ago. While these factors enable some 'salary discounting', mining is a high paying industry and failure to pay broadly comparable salaries is liable to adversely affect/recruitment retention and staff qualifications/expertise.

RECOMMENDATIONS

3.13 The skill set of existing inspectors needs to be upgraded (in the area auditing in particular).

3.14 The two engineering qualified inspectors who are most likely to be called out to a serious mine incident have access to home-garaged vehicles and this should be extended to the new qualified appointments recommended in this report.

**TOR: THIRD ANNUAL AUDIT OF OFFICE OF
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FINDINGS

7. While the OCIM has maintained a proactive approach to securing compliance its capacity to do this needs to be strengthened through changes to the size and qualifications, skills and experience of the inspectorate. In particular, OCIM needs the resources to conduct both targeted campaigns and systematic auditing - the types of activities that are central to the success of 'best practice' inspection regimes found in NSW and Queensland.

In addition to new appointments, the skill set of existing inspectors needs to be upgraded (in the area auditing in particular). As an interim measure, some use could be made of an expert consultant to assist with auditing.

8. OCIM has a constructive relationship with both industry and unions and overall the relationship between industry and unions is also mature and constructive in terms of safety. There are opportunities to build collaboration with regard to a more proactive long term improvement in safety and health standards in Tasmania. These should be encouraged. The establishment of a tripartite advisory body on mine safety would be a step in this direction. The audit stresses the importance of both employers and unions devoting resources and attention to safety and remaining alert to the lessons of history in mining – namely that all information, input and concerns relating to safety warrant serious consideration.

RECOMMENDATIONS

3.15 WorkSafe Tasmania collects data on notifiable incidents at all mines. I would recommend this information (suitably anonymised) be forwarded to unions and the Minerals Council on a six monthly basis.

3.16 A review of mine safety regulation in Tasmania should be undertaken as soon as possible to ensure the regulatory framework accords with the best practice.

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FINDINGS

9. The current regulatory framework in Tasmania is deficient in a number of regards, both due to a failure to conduct a full assessment of the regulatory framework following Beaconsfield as has occurred in other jurisdictions, and due to some implications of the harmonisation of OHS legislation. The deficiencies identified in this audit are Significant, including adversely affecting the capacity of the OCIM to carry out its tasks effectively. They require urgent attention. A review of mine safety regulation in Tasmania should be undertaken as soon as possible to ensure the regulatory framework accords the best practice regimes found in Queensland, NSW and now New Zealand. Borrowing from these models will be more efficient (in terms of time and cost) and will more closely align Tasmania with other parts of Australia (which itself has advantages in terms of developing systems, moving people and the like) The process could and should be facilitated (to ensure fit with local circumstances) by a tripartite steering committee.

RECOMMENDATIONS

APPENDIX VI MINES INSPECTOR SKILL MATRIX

Appendix VI Mines Inspector Skill Matrix

POSITION	MANDATORY QUALIFICATIONS	MINING EXPERIENCE	CORE COMPETENCIES
Inspection Officer Inspection Officer (Electrical) Inspection Officer (Mechanical)	Associate Diploma, Diploma or Degree in Engineering or relevant trade certificate or equivalent	Min 5 yrs. in related mining or engineering industry	
Inspector of Mines (Coal)		1. 1st Class Mine Manager Certificate (Coal) or equivalent and 2a. Experience as an inspector of mines or 2b. a coal mine manager or 2c. senior operational position in an underground/open cut coal mine	MNCG1003A Establish the risk management system MNCU1102A Establish the spontaneous combustion management plan MNCU1106A Establish the ventilation management plan MNCU1111A Establish the gas management system MNCU1131A Establish the mining method and strata management systems MNCU1136A Establish mine transport systems and production equipment MNCU1141A Establish the mine services and infrastructure systems MNCU1151A Establish mine emergency preparedness and response systems
Inspector of Mines (Chemical/Metallurgical)	Degree in Chemical or Metallurgical Engineering or equivalent	Min 5 yrs. in related mining, chemical or metallurgical industry	MNMMMS617A Establish the risk management system
Inspector of Mines (Electrical)	Professional Electrical Engineering qual or equivalent	Min 5 yrs. in related mining, chemical or metallurgical industry	
Senior Inspector of Mines	1. 1st Class Mine Manager Certificate (Coal) and 2. Degree in Mining, Electrical or Mechanical Engineering or equivalent	1a. Recent senior mine management experience in a specialist engineering or OHS field or 1b. Min 5 yrs. as an inspector of mines	

APPENDIX VI MINES INSPECTOR SKILL MATRIX

Senior Inspector of Mines (Coal)	<ol style="list-style-type: none"> 1. 1st Class Mine Manager Certificate (Coal) and 2. Degree in Mining, Electrical or Mechanical Engineering or equivalent 	<ol style="list-style-type: none"> 1a. Recent senior mine management experience in a specialist engineering or OHS field or 1b. Min 5 yrs. as an inspector of mines 	<p>MNCG1003A Establish the risk management system MNCU1102A Establish the spontaneous combustion management plan MNCU1106A Establish the ventilation management plan MNCU1111A Establish the gas management system MNCU1131A Establish the mining method and strata management systems MNCU1136A Establish mine transport systems and production equipment MNCU1141A Establish the mine services and infrastructure systems MNCU1151A Establish mine emergency preparedness and response systems</p>
Chief Inspector of Mines	<ol style="list-style-type: none"> 1. 1st Class Mine Manager Certificate (Coal) and 2. Degree in Mining Engineering or equivalent 	<ol style="list-style-type: none"> 1. Recent senior mine management experience in the effective management of projects, strategic operations/activities and the leadership of a diverse workforce and 2. Min 5 yrs. experience in the mining industry in a supervisory position 3. Experience in proactively leading in a business environment 4. Experience managing a work environment to empower, motivate and develop people 5. Experience in the efficient and effective management of resources 	<p>MNCG1003A Establish the risk management system MNCU1102A Establish the spontaneous combustion management plan MNCU1106A Establish the ventilation management plan MNCU1111A Establish the gas management system MNCU1131A Establish the mining method and strata management systems MNCU1136A Establish mine transport systems and production equipment MNCU1141A Establish the mine services and infrastructure systems MNCU1151A Establish mine emergency preparedness and response systems</p>

Appendix VII**About The Author**

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Professional Experience

Greg began his mining career in the Ipswich coalfields of Queensland as a cadet mine manager in 1978.

He has extensive operational experience as a mine worker and machine operator, in management as the mine manager of a number of operations and in executive leadership as the Director of Research with the CSIRO's Mining and Exploration Division and with Anglo American as the Head of Safety & Health and General Manager of Operational Risk.

Greg has held positions with the Queensland regulator as a Senior Inspector and Acting Chief Inspector of Coal Mines. He was one of the team charged with developing and introducing the new, risk based *Queensland Coal Mining Safety and Health Act 1999* and the *Queensland Coal Mining Safety and Health Regulation 2000*. He was the Chief Examiner of statutory certificates and was active in the development and implementation of national competency standards and approved training schemes. In 1999 he was appointed the inaugural Chairman of the Qld Emergency Exercise Management Committee which introduced the state-wide Level 1 Simulated Emergency Response Exercises.

Greg worked with the CSIRO to co-ordinate the international *Enhanced Mine Communications and Real Time Risk Management* project. Continuing with the CSIRO, Greg was a key driver in establishing CSIRO's *Minerals Down Under Research Flagship* and in 2005 was appointed as the Director of Mining Research. As a member of the CSIRO Executive Leadership Team (Minerals & Energy Division), he sat on the United Nations European Economic Commission's Task Force on Methane Capture and Control, was a member of the United Nation's Expert Group on Coal

Mining and was a member of the Asia Pacific Partnership for Clean Energy and Climate Coal Mining Task Force.

Greg has been consulting to the mining, minerals and energy sectors through his private consultancy since 2002, sits on the Board of Directors of two private investment companies and has worked across Australia and in India, Japan and China.

He has been the Lead Investigator in a number of fatal investigations and significant business loss events and has conducted detailed reviews of a number of Safety and Health Management and Risk Management Systems across the mining industry.

Qualifications

- 1981 First Class Coal Mine Managers Certificate. Queensland Board of Examiners
- 2001 Graduate Certificate in Management. University of Queensland
- 2002 Master Degree in Business Administration. University of Queensland

Affiliations

- 1998 Fellow Member of the Australasian Institute of Mining and Metallurgy
- 1998 Member of the Mine Managers Association of Australia

International

- 2000 Member - NEDO (New Energy Development Organisation of Japan)
- 2001-02 AusAID Program. Emergency Preparedness and Response. Sijua Colliery and Silewara Colliery. India.
- 2003 Joint Australia-India Business Council. New Delhi.
- 2004-08 Real Time Risk Management. Kushiro Coal mine, Hokkaido.
- 2004-06 Joint Australia-Chine Mine Safety Project. Xuandong No.2 Coal mine, Xuanhua, China.
- 2005-08 United Nation's European Economic Commission's Task Force
- 2007-08 Member of the United Nation's Expert Group on coal mining
- 2006-08 Asia Pacific Partnership on Clean Development and Climate.