

# A survey of NSW mine site managers, personnel and contractors regarding perceptions of NSW Mine Safety and mine inspections



**FINAL REPORT dated 22 July 2015**

A telephone and online survey of 222 mine managers,  
personnel and contractors, conducted by Jetty Research  
on behalf of **NSW Mine Safety**  
for the Mine Safety Advisory Council

## Table of contents

<b>DISCLAIMER</b> .....	<b>4</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>5</b>
<b>INTRODUCTION</b> .....	<b>8</b>
BACKGROUND .....	8
METHODOLOGY .....	8
<i>Graph i: Online v Phone Methodology</i> .....	10
SAMPLING ERROR.....	11
<i>Table i: How sampling error varies with sample and population size</i> .....	11
SAMPLE CHARACTERISTICS.....	12
<i>Graph ii: Sample by industry sector</i> .....	12
<i>Graph iii: Sample by number of employees</i> .....	12
<i>Graph iv: Sample by tenure in the resources industry</i> .....	13
<i>Graph v: Sample by current role</i> .....	13
<b>PART 1: CONTACT WITH THE REGULATOR</b> .....	<b>14</b>
<i>Graph 1.1: Contact with the Regulator in the past year</i> .....	14
<i>Table 1.1: Contact with the Regulator in the past year, by industry sector</i> .....	15
<i>Table 1.2: Contact with the Regulator in the past year, by size of organisation</i> .....	15
<i>Graph 1.2: Frequency of contact with the Regulator</i> .....	16
<i>Table 1.3: Frequency of contact with the Regulator, by industry sector</i> .....	16
<i>Table 1.4: Frequency of contact with the Regulator, by organisation size</i> .....	17
<i>Graph 1.3: Nature of the contact with the Regulator</i> .....	18
<i>Table 1.5: Nature of the contact with the Regulator, by industry sector</i> .....	19
<i>Table 1.6: Nature of the contact with the Regulator, by organisation size</i> .....	20
<b>PART 2: GENERAL PERCEPTIONS OF THE MINE SAFETY REGULATOR</b> .....	<b>21</b>
<i>Graph 2.1: Overall perception of the MSR on supporting continuous improvement in workplace health and safety</i> .....	21
<i>Table 2.1: Perceived pro-activity of MSR, by mine type</i> .....	21
<i>Table 2.2: Perceived pro-activity of MSR, by number of personnel</i> .....	22
<i>Graph 2.2: Overall Perception of the MSR adding value to the organisation</i> .....	22
<i>Table 2.3: Perceived ability of MSR to add value, by industry sector</i> .....	23
<i>Table 2.4: Perceived ability of MSR to add value, by number of personnel</i> .....	23
<b>PART 3: SPECIFIC PERCEPTIONS OF THE PERFORMANCE OF THE MINE SAFETY REGULATOR</b> .....	<b>24</b>
<i>Graph 3.1: Perceptions of the Regulator – tasks performed well</i> .....	24
<i>Graph 3.2: Perceptions of the Regulator – tasks performance</i> .....	26
<i>Table 3.1a: Compliance / Enforcement tasks – perception of tasks by industry and organisation size</i> .....	27
<i>Table 3.1b: Compliance / Enforcement tasks – perception of tasks by contact frequency and worker type</i> .....	28
<i>Table 3.2a: Information tasks – perception of tasks by industry and organisation size</i> .....	28
<i>Table 3.2b: Information tasks – perception of tasks by contact frequency and worker type</i> .....	29

<b>PART 4: PERCEPTIONS OF THE PERFORMANCE OF THE MINE INSPECTORS .....</b>	<b>30</b>
<i>Graph 4.1: Perceptions of the Mine Inspector – tasks performed well .....</i>	31
<i>Graph 4.2: Perceptions of the Mine Inspector – tasks performance .....</i>	32
<i>Table 4.1a: Professional Manner tasks – perception of tasks by industry and organisation size .....</i>	33
<i>Table 4.1b: Professional Manner tasks – perception of tasks by contact frequency and worker type .....</i>	33
<i>Table 4.2a: Independent tasks – perception of tasks by industry and organisation size .....</i>	34
<i>Table 4.2b: Independent tasks – perception of tasks by contact frequency and worker type .....</i>	34
<i>Table 4.3a: Assistance and Advice tasks – perception of tasks by industry and organisation size .....</i>	35
<i>Table 4.3b: Assistance and Advice tasks – perception of tasks by contact frequency and worker type .....</i>	35
<i>Table 4.4a: Technical Competence tasks – perception of tasks by industry and organisation size .....</i>	36
<i>Table 4.4b: Technical Competence tasks – perception of tasks by contact frequency and worker type.....</i>	36
<b>PART 5: AWARENESS OF THE MINE SAFETY REGULATOR SERVICES .....</b>	<b>37</b>
<i>Diagram 5.1: Knowledge of MSR provided services; a word cloud .....</i>	37
<i>Graph 5.1: Awareness of specific MSR services (prompted) .....</i>	38
<i>Table 5.1: Awareness of specific services, by frequency of contact .....</i>	38
<b>PART 6: SUGGESTIONS FOR THE MINE SAFETY REGULATOR .....</b>	<b>40</b>
<b>APPENDIX 1: SURVEY QUESTIONNAIRE.....</b>	<b>42</b>
<b>APPENDIX 2: PRE-SURVEY LETTER/EMAIL .....</b>	<b>50</b>
<b>APPENDIX 3: FACTOR ANALYSIS.....</b>	<b>51</b>
<i>Purpose of factor analysis .....</i>	51
<i>Is factor analysis appropriate in this instance?.....</i>	51
<i>The MSR: Identifying Factors .....</i>	52
<i>Table A2.1: Test for appropriateness of factor analysis.....</i>	52
<i>Table A2.2: Factor Pattern structure.....</i>	53
<i>The Mine Inspector: Identifying Factors.....</i>	54
<i>Table A2.3: Test for appropriateness of factor analysis.....</i>	54
<i>Diagram A2.2: Scree Plot – identifying the number of factors evident in the structure .....</i>	54
<i>Table A2.4: Factor Pattern structure.....</i>	55
<b>APPENDIX 4: OTHER SUGGESTIONS FOR THE REGULATOR.....</b>	<b>57</b>

Front cover photo credit: Kylie Newton



## Disclaimer

**While all care and diligence has been exercised in the preparation of this report, Jetty Research Pty. Ltd. does not warrant the accuracy of the information contained within and accepts no liability for any loss or damage that may be suffered as a result of reliance on this information, whether or not there has been any error, omission or negligence on the part of Jetty Research Pty. Ltd. or its employees.**

## Executive summary

In April 2015, NSW Department of Industry, Division of Resources & Energy Mine Safety on behalf of the Mine Safety Advisory Council, commissioned Jetty Research to develop a database of mine and mine representatives, and conduct a telephone survey with these representatives. The survey aimed to understand current perceptions of the Mine Safety Regulator (MSR) and mine inspectors.

Mine site personnel were initially contacted to recruit them to the database and to alert that a survey was being conducted on the MSR's behalf. Mine site personnel were next sent a letter from the MSR endorsing the survey and asking them to participate. They were then contacted and upon agreement, undertook the +/- 10 minute CATI (i.e. telephone) survey with one of Jetty Research's trained telephone interviewers<sup>1</sup>.

The bulk of surveying was conducted from 11 to 21 May 2015. In all, 222 mining personnel and contractors completed interviews.

For more information on survey methodology and sampling error, see pages 8-11. For more detailed information on the characteristics of survey respondents, see pages 12-13.

### Among the survey's major conclusions:

1. 83% of mine site personnel had contact with the regulator in the past year.
  - The nature of the survey's method and introduction encouraged those who had some knowledge of the MSR to participate. Thus it is not surprising that a large proportion of the sample had had some form of contact with the MSR in the past year – those who had not had contact were more likely to decline to participate.
2. The nature of the contact with the MSR was shared across regulator-initiated and organisation-initiated: 32% of personnel had received MSR-initiated contact, 17% had contact as initiated by their company and 34% had contact initiated by both the MSR and their company.
3. Those who had had contact with the MSR in the past year indicated this contact was not a one-time occurrence. Only 6% had one contact with the regulator in the past year, 39% had contact several times (2-4) and 38% had "many" contacts (five or more) in the past year.
  - A linear relationship existed between the number of contacts with the Mine Safety Regulator and the size of the organisation; the larger the company, the higher the number of contacts with the MSR.

The most frequent forms of contact with the MSR in the past year were via passive contact(s) from the Mine Safety Regulator (information sent to personnel) or through an audit or inspection.

4. Perceptions of the performance of the MSR were positive. On a 0-10 (i.e. 11-point) Likert Scale:
  - Mean rating of the MSR pro-activity was 7.60
  - Mean rating of the MSR performance in adding value to the company was 7.35.

---

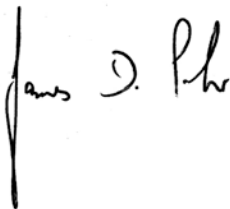
<sup>1</sup> Due to respondent requests, 9% of surveys were conducted using an online version of the CATI questionnaire

5. The Mine Safety Regulator’s performance was judged across 18 task statements, while mine inspector performance was judged across 20 task statements as outlined below:

	CATEGORY	TASK STATEMENT	Mean
<b>MINE SAFETY REGULATOR PERFORMANCE</b>	<b>Compliance / Enforcement</b>	Responding to complaints about safety	7.10
		Undertaking safety inspections	7.87
		Supporting work health and safety representatives	7.84
		Carrying out independent investigations of incidents	7.10
		Supporting unions/employer orgs to promote improvement to safety and health practices	7.21
		Responding to requests in a timely manner	7.75
		Monitoring safety performance data	7.51
		Resolving disputes about safety in the workplace	7.04
		Setting appropriate safety standards	7.87
	<b>INDEX SCORE</b>	<b>7.48</b>	
	<b>Information</b>	Providing advice and information about safety	7.95
		Providing guidance on development of documentation to meet legislative requirements	7.65
		Publishing appropriate industry safety performance indices	7.84
		Issuing safety alerts	8.12
		Promoting health management programs	7.26
		Encouraging consistent application of safety standards across all operations	7.56
		Clarifying where legal responsibilities lie	7.42
		<b>INDEX SCORE</b>	<b>7.69</b>
<b>MINE INSPECTOR PERFORMANCE</b>	<b>Professional Manner</b>	Approach the inspection with professionalism	8.59
		Treat staff with respect	8.64
		Treats staff in a fair and just manner	8.53
		Have satisfactory interpersonal skills	7.96
		Provide information in a civil and cooperative way	8.35
	<b>INDEX SCORE</b>	<b>8.41</b>	
	<b>Independent</b>	Ask objective and unbiased questions	7.93
		Are impartial when undertaking the inspection	8.28
		Issue improvement notices or compliance actions in an appropriate manner	7.95
		Are consistent in the application of the legislation	7.90
		<b>INDEX SCORE</b>	<b>8.02</b>
	<b>Assistance &amp; Advice</b>	Provides staff with examples of how they could comply	7.63
		Provide useful, actionable information to make operations safer	8.08
		Are available to visit sites when necessary	8.17
		Are available to answer queries over the telephone or online	8.48
		Acknowledges positive Work healthy and safety initiatives in the workplace	8.23
		Keep up with new technologies	7.67
		<b>INDEX SCORE</b>	<b>8.04</b>
	<b>Technical Competence</b>	Have a sufficient level of experience to carry out the inspection	8.29
		Have a good technical knowledge	8.48
Are knowledgeable about the type of operation that they are inspecting		8.53	
Are knowledgeable about the legislation		8.56	
Are knowledgeable about the industry that they are inspecting		8.66	
<b>INDEX SCORE</b>		<b>8.50</b>	

(Continued next page)

6. Regulator performance was judged across 18 tasks (again using a 0-10 Likert scale).
  - o Areas achieving the highest proportion of “performed well” scores (i.e. rated 8 to 10 out of a possible 10) were: issuing safety alerts; providing advice and information about safety (68%); responding to complaints about safety (65%); setting appropriate safety standards (65%); and undertaking safety inspections (64%).
  - o Areas identified for improvement (where the Mine Safety Regulator achieved the lowest proportion of 8 to 10 scores) included: promoting health management programs (46%); providing guidance on development of documentation to meet legislative requirements (51%); supporting unions and employer organisations to promote improvement to safety and health practices (52%); and clarifying where legal responsibility lies (54%).
7. Mine inspector performance was judged across 20 tasks (again using a 0-10 Likert scale).
  - o The areas achieving the highest proportion of “performed well scores” (i.e. rated 8 to 10) were: available to answer queries over the telephone or online (87%); knowledgeable about the industry they were inspecting (85%); treat staff with respect (84%); and approach the inspection with professionalism (83%).
  - o Areas identified for improvement with the lowest proportion of “performed well” scores (rated 8 to 10) included: keep up with new technologies (62%); consistent in the application of the legislation (64%); provide staff with examples of how they could comply (65%); and ask objective and unbiased questions (68%).
8. Awareness of the services provided by the MSR was high: 100% of respondents were aware the MSR conducts inspections, with slightly lower awareness of “develops industry-based work health and safety programs” (78%), “examines candidates for competencies” (74%) and “provides forums for stakeholder consultation and decision making on work health and safety issues” (74%).
9. When asked what services they thought the MSR should be providing, a large proportion of mine site personnel felt the current offering was appropriate, and were unable to offer services that they felt the Mine Safety Regulator should be providing. Those who were able offer services tended to focus on additional employee training.



James Parker, B. Ec, Grad Cert Applied Science (Statistics), MAMRS  
Managing Director  
22 July 2015

## Introduction

## Background

The Mine Safety Regulator (hereafter MSR, or “the regulator”), a statutory body within NSW Department of Industry, is responsible for enforcing work health and safety standards within NSW mine sites. It does this by ensuring the mining community complies with safety legislation and by offering advice, information and education. The MSR offers services through provision of safety data, information and advice on updated technologies and interpretation of relevant legislation for mines. It also undertakes mine inspections to ensure compliance.

In February 2015, the regulator sought to better understand its effectiveness in promoting and encouraging safety among NSW mines. Jetty Research was commissioned to undertake research addressing the following objectives:

1. Creating an accurate and up-to-date database of operators, contractors and workers within relevant NSW mine sites.
2. Measuring perceptions of performance (inspections, communications, other) of the MSR, attributes such as respect, professionalism, usefulness, and ability to make a difference to workplace safety.
3. Measuring awareness of the range of services offered.
4. Identifying any other functions that the regulator could/should be performing.
5. Enabling comparisons by sector, mine size, stakeholder type and experience.

## Methodology

The research was conducted across a three-stage process:

1. **The census stage:** Jetty Research worked collaboratively with the MSR to create a comprehensive and accurate database of relevant personnel and other stakeholders within all major NSW mine sites<sup>2</sup>.
2. **The survey stage:** Constructing and conducting a CATI (i.e. telephone) and online survey of all those on the above database, to achieve the above objectives.
3. **The analysis and reporting phase:** Analysing survey data, presenting this in our “simple, credible and useful” format, and presenting results to relevant stakeholders.

Further detail of each stage is outlined below:

---

<sup>2</sup> i.e. All coal and metalliferrous sites, and top 200 extractive sites, as per RFQ. “Relevant personnel” is defined here as mine personnel and contractors who have interacted with the MSR over the past 12 months.



**The census stage** involved generating a list of mines currently operating in NSW (including coal sites, metalliferous sites and extractives sites) and a list of representative contacts from each site.

A list of mine sites was sourced from NSW Department of Industry, NSW Minerals Council, the CFMEU and MSAC. Research was then undertaken to identify missing mine sites. Jetty Research also collated contact details for 99 potential mining contracting companies.

Following this process, each mine site and contractor was contacted to identify representatives for the purpose of the survey. Researchers sought to gather details on;

- operator (which could include mine or production manager, general group manager (where relevant), WHS manager (coal and metalliferous) or corporate WHS manager (extractives – where relevant))
- in-mine contractors (which could include contractor manager, labour hire manager, construction manager or equipment service manager)
- workers (which could include a union delegate, site safety and health representative (coal) or WHS committee representative).

From multi-site mining contractors, we sought names and contact details for general or operations manager, health and safety manager, training manager, and anyone else who may interact with the MSR.

The final confirmed employee list consisted of 306 individuals from 168 mine sites and contractors. To this was added a further 133 “non-responders”.

**The survey stage** involved creating a survey instrument collaboratively with the regulator, based on satisfying the above objectives (see Appendix 1), and undertaking the survey with individuals identified in the census stage.

Individuals from both the confirmed and non-responder lists were contacted via letter or email (see Appendix 2) designed to (a) explain the survey purpose; (b) encourage participation; and (c) let them know Jetty Research would be in contact to set up an appointment time for the survey interview.

Surveying was conducted from 9 to 22 May 2015 from our CATI<sup>3</sup> research centre. Mine representatives were phoned between 9am and 6pm each week day. Length of interview ranged from 9 to 23 minutes, with an average length per interview of 13.6 minutes. To maximise response rates, potential respondents were contacted up to five times. Jetty Research’s CATI software automatically enters data as surveys are completed. This eliminates the need for manual data entry, reducing cost, time and data entry errors.

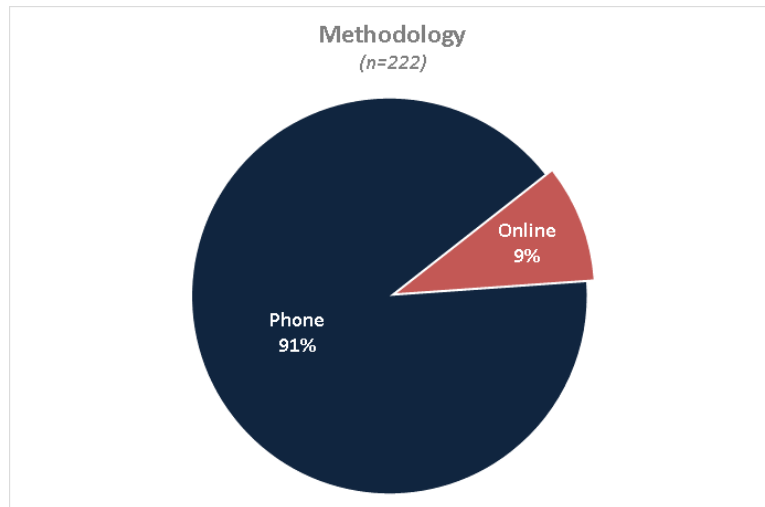
Where individuals were not able or willing to complete the survey over the phone, they were offered the option to complete an identical online version.

In all, 222 interviews were conducted. As graph i (next page) outlines, 90% of the sample was collected over the phone and 10% online. Where differences by methodology exist, they are detailed in the report.

---

<sup>3</sup> Computer-assisted telephone interviewing. Jetty Research uses state-of-the-art and Australian-developed Plenari CATI software – see [www.plenari.com](http://www.plenari.com) for further information

**Graph i: online v phone methodology**



Due to the nature of the survey, not all respondents answered every question. The number of respondents answering each question is marked as “n = XXX” in the graph accompanying that question. Caution should be taken in analysing some questions due to the small sample size.

Where differences in this report are classed as significant, this implies they are statistically significant based on independent sample t-scores or other analysis of variation (or ANOVA) calculations. In statistical terms, significant differences are unlikely to have been caused by chance alone.

**The analysis and reporting phase** involved exporting the data from the CATI and online platforms into SPSS for analysis. The survey questions fell into three categories and each question category was treated differently for analysis and reporting purposes.

First, open-ended questions were coded to determine quantitative themes. These were then reported using descriptive statistics (i.e. frequencies), with some verbatim comments used to add context.

Perceptual statement questions, which were measured using a 0-10 Likert scale, were loaded into a factor analysis to identify a factor structure. The factor structure identified two factors within the MSR perceptual statements and four factors within the mine inspector perceptual statements.

These statements were then checked for reliability and logic and each factor structure was labelled as a category type. For example, the statements regarding technical competence were statistically grouped through the factor analysis and then presented as a category in the report.

This is effective for (a) developing an index by which future benchmarks can be compared; and (b) adding sense and ease of presentation and interpretation within the report. Each category is presented with the individual mean scores for each perceptual statement.

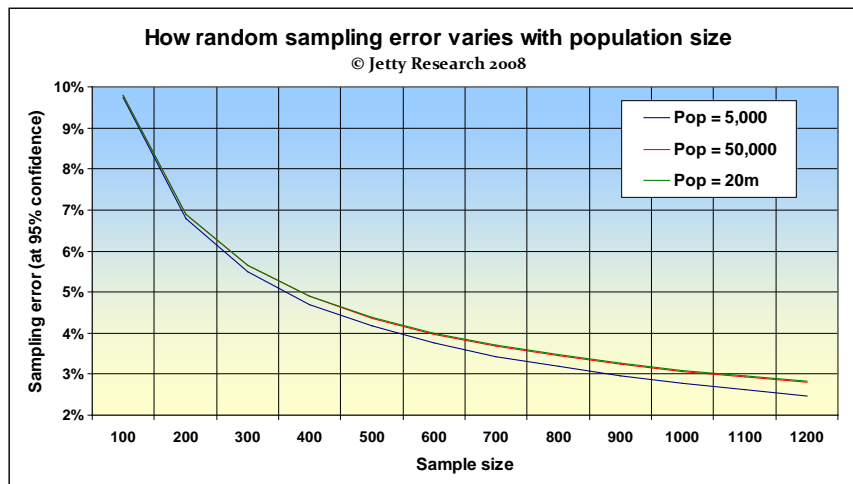
A number of groups of interest were analysed for differences in their opinion. Industry groups, levels of frequency of contact with the MSR, worker types and size of organisations were explored for differences and tables outline result where relevant. Specifically, significant differences are highlighted in blue and red where blue is significantly higher than red.

## Sampling error

It is difficult to establish precise random sampling error, as we do not know the size of the target population (mining personnel and other stakeholders with whom the mine safety regulator has interacted over the past 12 months). However if we assumed a population size of 3000<sup>4</sup>, a random sample of 222 mine site personnel implies a margin for error of +/- 6.3% at the 95% confidence level. This means that if we conducted a similar poll 20 times, results should reflect the views and behaviour of the overall survey population – in this case “all NSW mine site personnel and contractors who interact on at least an occasional basis with the MSR” - to within a +/- 6.3% margin in 19 of those 20 surveys.

As table 1 (below) shows, sampling error is obviously higher with smaller sample sizes. Hence for sub-samples of (say) 100 – e.g. by mine type - results should be representative of those sub-samples to within +/- 9.6% (again at the 95% confidence level.)

**Table i: How sampling error varies with sample and population size**



Self-selection and/or non-response bias may also be evident in the sample. Mine personnel were alerted to the subject matter in the initial introduction to the survey and some may have declined to participate as they had had little or no involvement with the Mine Safety Regulator, or did not wish to make comment.

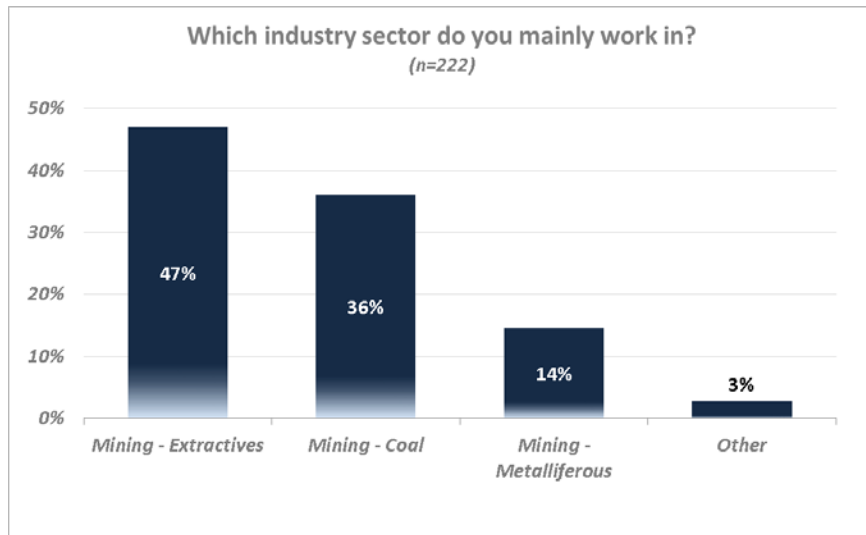
For this reason, caution must be taken when extrapolating the findings to “all mine site personnel who have interacted with the MSR over the past 12 months”.

<sup>4</sup> By means of comparison, there were 31,185 NSW residents employed in the mining industry at the time of the 2011 ABS Census.

## Sample characteristics

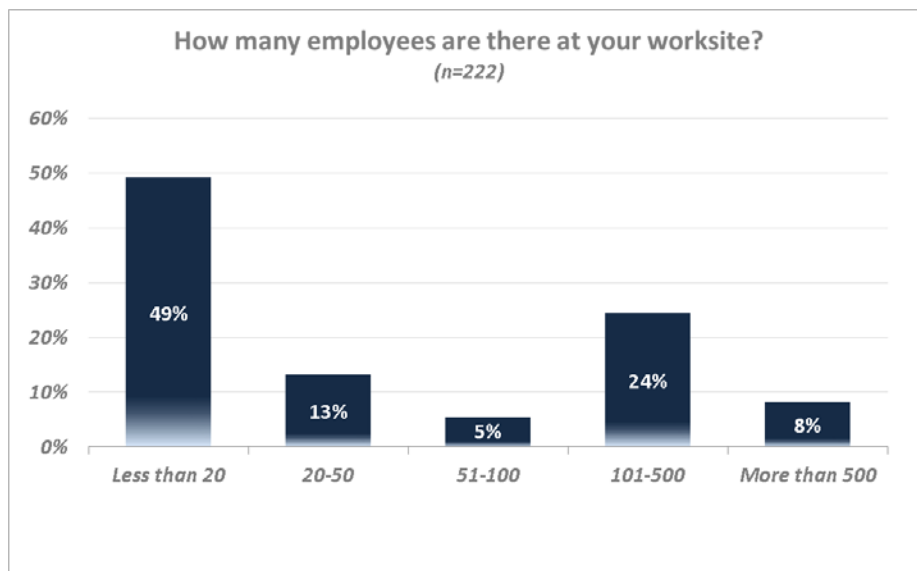
The following graphs outline the sample characteristics.

**Graph ii: Sample by industry sector**



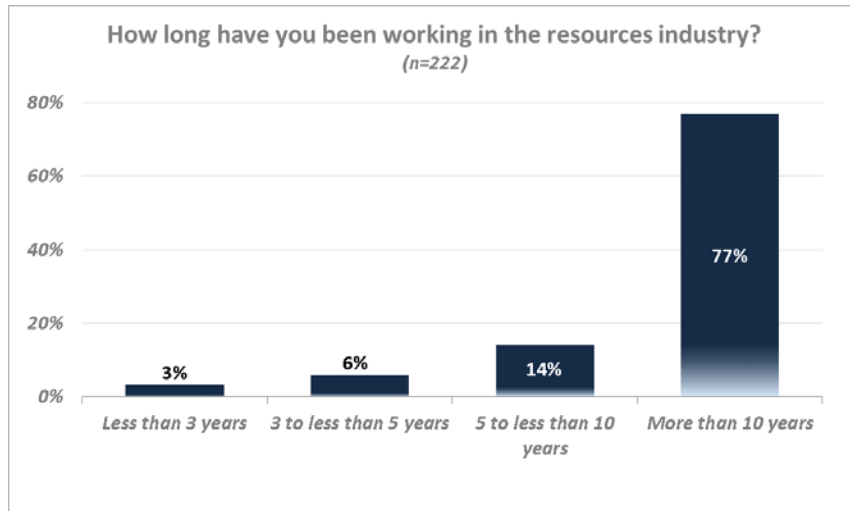
The sample was made up of 47% extractives, 36% coal and 14% metalliferous. The balance was mainly contractors working across multiple mine types.

**Graph iii: Sample by number of employees**



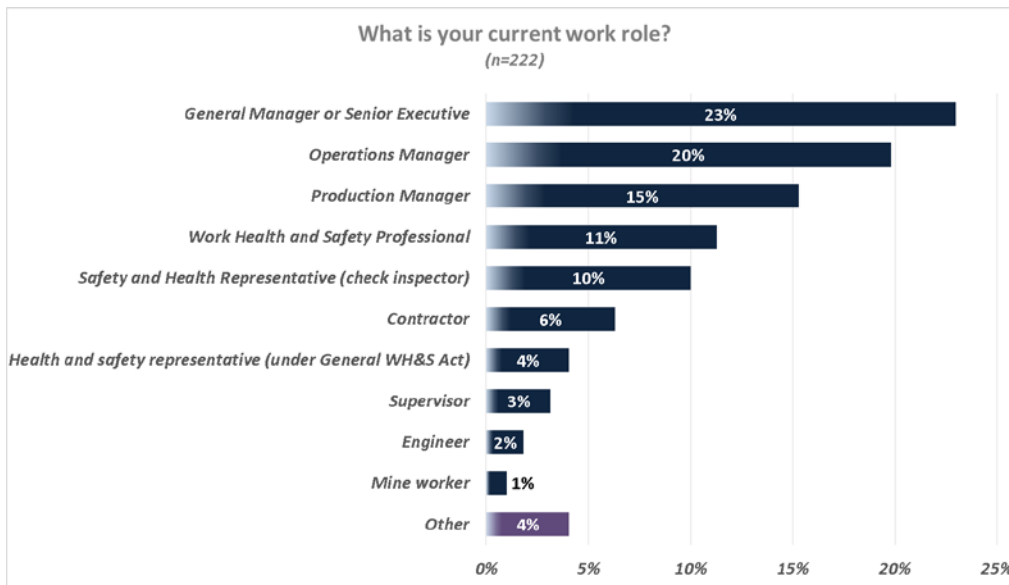
Almost half of the sample (49%) was comprised of small mine sites of less than 20 personnel. At the other end of the spectrum, roughly one third of those surveyed worked in mine sites with more than 100 personnel.

**Graph iv: Sample by tenure in the resources industry**



Three in four mine site personnel surveyed had worked in the resources industry for more than 10 years, while 14% had less than 5-10 years' experience and 9% less than five years.

**Graph v: Sample by current role**



A range of employee roles was represented in the sample including general managers or senior executives (23%), operations managers (20%), production managers (15%), work health and safety professionals (11%), check inspectors (10%), contractors (6%) and health and safety representatives (4%).

**It is relevant to note the relative lack of interest shown by contractors at both census and survey stages. This may suggest they feel less engaged with MSR processes and protocols.**

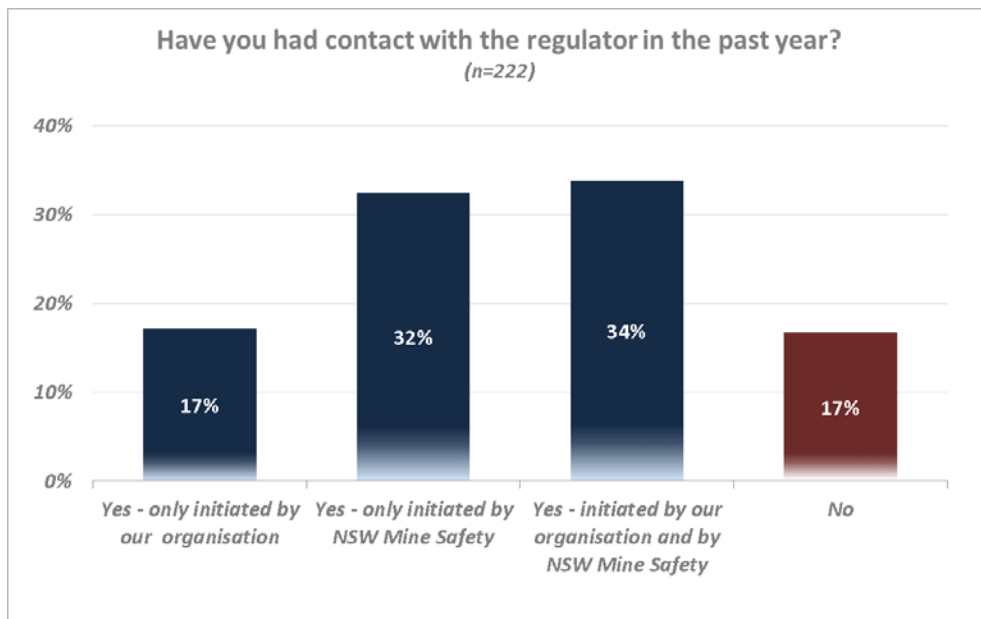
## Part 1: Contact with the regulator

Respondents were initially asked whether they recalled receiving a letter regarding the Mine Safety Regulator survey. Those who did not recall the letter were informed of the intent of the survey:

*“The survey we are conducting for the Mine Safety Regulator with the endorsement of the Minerals Council, the Cement and Concrete Association of Australia and the CMFEU is to provide feedback of their performance and assist them to improve the service that they provide to you.”*

All respondents were then asked about the contact they had had with the MSR in the past year.

**Graph 1.1: Contact with the regulator in the past year**



Over four in five respondents (83%) had had contact with the MSR in the past year while 17% had not. The nature of the introduction of the survey encouraged those who had some knowledge of the MSR to participate in the survey. Thus it is not surprising that a large proportion of the sample had had some form of contact with the MSR in the past year.

The nature of the contact with the MSR was shared across regulator-initiated and organisation-initiated: 32% of personnel had received MSR-initiated contact, 17% said their contact was initiated by their organisation, and 34% had contact which was initiated by both the regulator and their company.

**Table 1.1: Contact with the regulator in the past year by industry sector**

		Which industry sector do you mainly work in?			Total
		Coal	Metalliferous	Extractives	
Have you had contact with the regulator in the past year?	Yes - only initiated by our organisation	14 17.5%	6 18.8%	17 16.3%	<b>37</b> <b>17.1%</b>
	Yes - only initiated by NSW Mine Safety	18 22.5%	8 25.0%	44 42.3%	<b>70</b> <b>32.4%</b>
	Yes - initiated by our organisation and by NSW Mine Safety	29 36.3%	15 46.9%	31 29.8%	<b>75</b> <b>34.7%</b>
	No	19 23.8%	3 9.4%	12 11.5%	<b>34</b> <b>15.7%</b>
<b>Total</b>		<b>80</b> <b>100.0%</b>	<b>32</b> <b>100.0%</b>	<b>104</b> <b>100.0%</b>	<b>216</b> <b>100.0%</b>

Personnel who received company-initiated contact with the regulator were more likely to be in the metalliferous sector than the extractives (at 47% and 30% respectively). Those in the extractives industry were more likely to have received regulator-initiated contact (42%) than those in either the coal (23%) or metalliferous (25%) industries.

**Table 1.2: Contact with the regulator in the past year, by size of organisation**

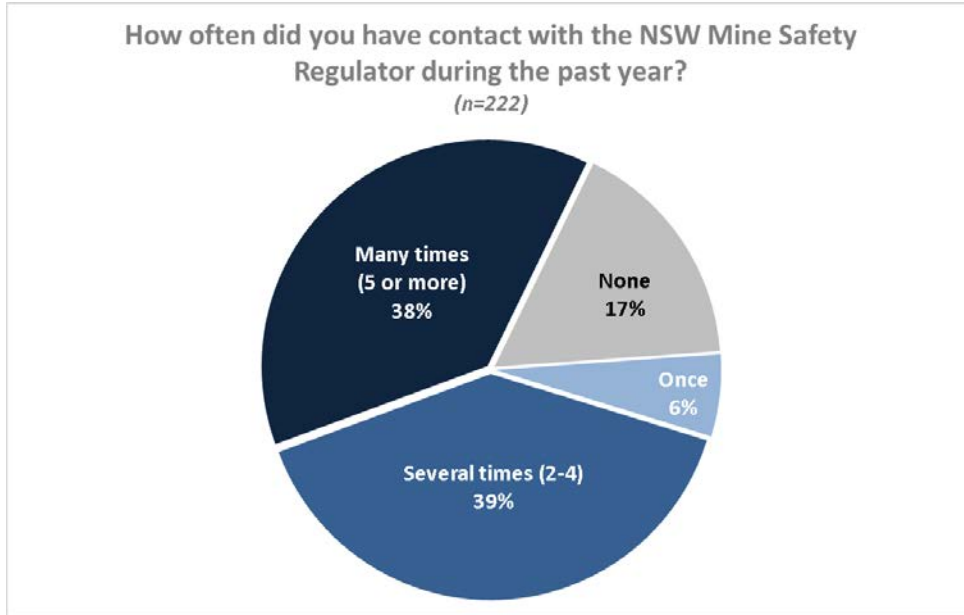
		Number of employees			Total
		<20	20-100	101+	
Have you had contact with the regulator in the past year?	Yes - only initiated by our organisation	19 17.4%	5 12.2%	14 19.4%	<b>38</b> <b>17.1%</b>
	Yes - only initiated by NSW Mine Safety	50 45.9%	10 24.4%	12 16.7%	<b>72</b> <b>32.4%</b>
	Yes - initiated by our organisation and by NSW Mine Safety	23 21.1%	20 48.8%	32 44.4%	<b>75</b> <b>33.8%</b>
	No	17 15.6%	6 14.6%	14 19.4%	<b>37</b> <b>16.7%</b>
<b>Total</b>		<b>109</b> <b>100.0%</b>	<b>41</b> <b>100.0%</b>	<b>72</b> <b>100.0%</b>	<b>222</b> <b>100.0%</b>

As shown in Table 1.2, larger organisations were more likely to initiate contact with the MSR than smaller ones: 49% of organisations with 20-100 personnel and 44% of organisations with over 100 personnel had initiated contact with the MSR in the past year, compared with just 21% of organisations with less than 20 personnel.

Smaller companies were more likely to receive MSR-initiated contact than larger organisations.

Mine site personnel were then asked how frequently they had had contact with the MSR in the past year:

**Graph 1.2: Frequency of contact with the regulator**



Those who had had contact with the regulator in the past year for the most part indicated multiple interactions. Only 6% claimed to have had just one contact with the regulator in the past year, while 39% had contact several times (2-4) and 38% had “many” contacts (five or more) in the past year.

Caution must be taken when interpreting this result as it may not reflect the population. Those who had more frequent contact with the MSR may have felt better equipped to undertake the survey than those who had infrequent or a one-time contact.

**Table 1.3: Frequency of contact with the regulator, by industry sector**

		Which industry sector do you mainly work in?			Total
		Coal	Metalliferous	Extractives	
How often did you have contact with the NSW Mine Safety Regulator during the past year?	Once	4 6.6%	1 3.4%	8 8.7%	13 7.1%
	Several times (2-4)	21 34.4%	11 37.9%	53 57.6%	85 46.7%
	Many times (5 or more)	36 59.0%	17 58.6%	31 33.7%	84 46.2%
<b>Total</b>		<b>61</b> 100.0%	<b>29</b> 100.0%	<b>92</b> 100.0%	<b>182</b> 100.0%



Those in the coal and metalliferous sectors indicated more frequent contact with the regulator than those in the extractives sector, as outlined in Table 1.3.

**Table 1.4: Frequency of contact with the regulator, by organisation size**

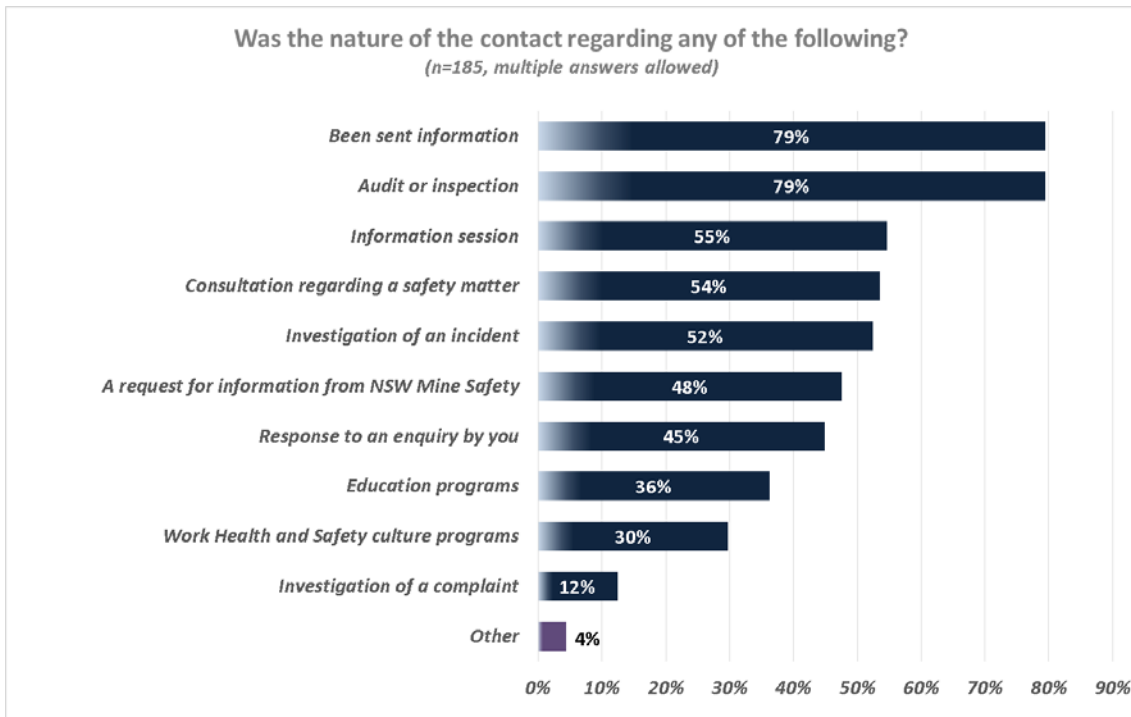
		Number of employees			Total
		<20	20-100	101+	
How often did you have contact with the NSW Mine Safety Regulator during the past year?	Once	9 9.8%	2 5.7%	2 3.4%	13 7.0%
	Several times (2-4)	53 57.6%	15 42.9%	20 34.5%	88 47.6%
	Many times (5 or more)	30 32.6%	18 51.4%	36 62.1%	84 45.4%
<b>Total</b>		<b>92</b> <b>100.0%</b>	<b>35</b> <b>100.0%</b>	<b>58</b> <b>100.0%</b>	<b>185</b> <b>100.0%</b>

A linear relationship existed between the number of contacts with the MSR and the size of the organization. The larger the size, the higher the number of contacts (as shown in Table 1.4). Organisations with fewer than 20 personnel were more likely to claim several (i.e. 2-4) contacts with the MSR in the past year than organisations with more than 100 personnel (58% compared with 35%). Conversely, and as one might expect, organisations with more than 100 personnel were significantly more likely to have multiple interactions (five or more) with the MSR than organisations with less than 20 personnel (62% compared with 33%).

Those mine site personnel and contractors who indicated they had had contact with the MSR in the past year were then asked (in a multiple response, prompted question) the nature of this contact. Responses are shown in graph 1.3.

*(Continued next page)*

**Graph 1.3: Nature of the contact with the regulator**



The most frequent forms of contact with the MSR in the past year were via passive contact(s) from the MSR (information sent to personnel) or through an audit or inspection.

Other forms of contact with the MSR included participation in an information session (55%), consultation regarding a safety matter (54%), investigation of an incident (52%), a request for information from NSW Mine Safety (48%), response by the employee to an enquiry (45%), education programs (36%), Work health and safety culture programs (30%) or investigation of a complaint (12%).

Breakdown of interaction types by mine type and number of personnel is shown in tables 1.5 and 1.6.

*(Continued next page)*

**Table 1.5: Nature of the contact with the regulator, by industry sector**

	Which industry sector do you mainly work in?			Total
	Coal	Metalliferous	Extractives	
Audit or inspection	45 73.8%	19 65.5%	80 87.0%	144 79.1%
Investigation of a complaint	14 23.0%	3 10.3%	6 6.5%	23 12.6%
Investigation of an incident	46 75.4%	20 69.0%	31 33.7%	97 53.3%
Consultation regarding a safety matter	35 57.4%	20 69.0%	43 46.7%	98 53.8%
Response to an enquiry by you	28 45.9%	18 62.1%	37 40.2%	83 45.6%
A request for information from NSW Mine Safety	29 47.5%	23 79.3%	36 39.1%	88 48.4%
Information session	33 54.1%	16 55.2%	51 55.4%	100 54.9%
Work Health and Safety culture programs	15 24.6%	10 34.5%	30 32.6%	55 30.2%
Education programs	16 26.2%	11 37.9%	40 43.5%	67 36.8%
Been sent information	47 77.0%	25 86.2%	73 79.3%	145 79.7%
OTHER	4 6.6%	2 6.9%	2 2.2%	8 4.4%
<b>Total</b>	<b>61</b>	<b>29</b>	<b>92</b>	<b>182</b>

A number of differences in the nature of the contact with the MSR were observed by industry sectors, as outlined in table 1.5. These included:

- ⇒ Organisations in the extractives sector were significantly more likely to have contact with the MSR via audits or inspections than those in the metalliferous industry (87% compared with 66%).
- ⇒ Those in the coal sector were significantly more likely to experience investigation of an incident than those in the extractives industry (75% compared with 34%).
- ⇒ Those in the metalliferous industry had significantly higher likelihood of contact with the MSR than those in the extractives industry via consultation regarding a safety matter (69% compared with 47%), response to an enquiry from the organisation (62% compared with 40%) or a request for information from the MSR (79% compared with 39%).

**Table 1.6: Nature of the contact with the regulator by organisation size**

	Number of employees			Total
	<20	20-100	101+	
Audit or inspection	75 81.5%	29 82.9%	43 74.1%	147 79.5%
Investigation of a complaint	5 5.4%	3 8.6%	15 25.9%	23 12.4%
Investigation of an incident	26 28.3%	25 71.4%	46 79.3%	97 52.4%
Consultation regarding a safety matter	46 50.0%	18 51.4%	35 60.3%	99 53.5%
Response to an enquiry by you	37 40.2%	15 42.9%	31 53.4%	83 44.9%
A request for information from NSW Mine Safety	38 41.3%	16 45.7%	34 58.6%	88 47.6%
Information session	46 50.0%	20 57.1%	35 60.3%	101 54.6%
Work Health and Safety culture programs	28 30.4%	9 25.7%	18 31.0%	55 29.7%
Education programs	38 41.3%	13 37.1%	16 27.6%	67 36.2%
Been sent information	72 78.3%	27 77.1%	48 82.8%	147 79.5%
OTHER	3 3.3%	1 2.9%	4 6.9%	8 4.3%
<b>Total</b>	<b>92</b>	<b>35</b>	<b>58</b>	<b>185</b>

The proportion of contacts with the MSR via audits or inspections was similar by company size. However, a number of differences in the nature of the other contact with the regulator were observed between company sizes.

Small organisations were more likely to be involved in the regulator’s education programs (41% of organisations with less than 20 personnel compared with 28% of organisations with more than 100 personnel indicated contact via their education program).

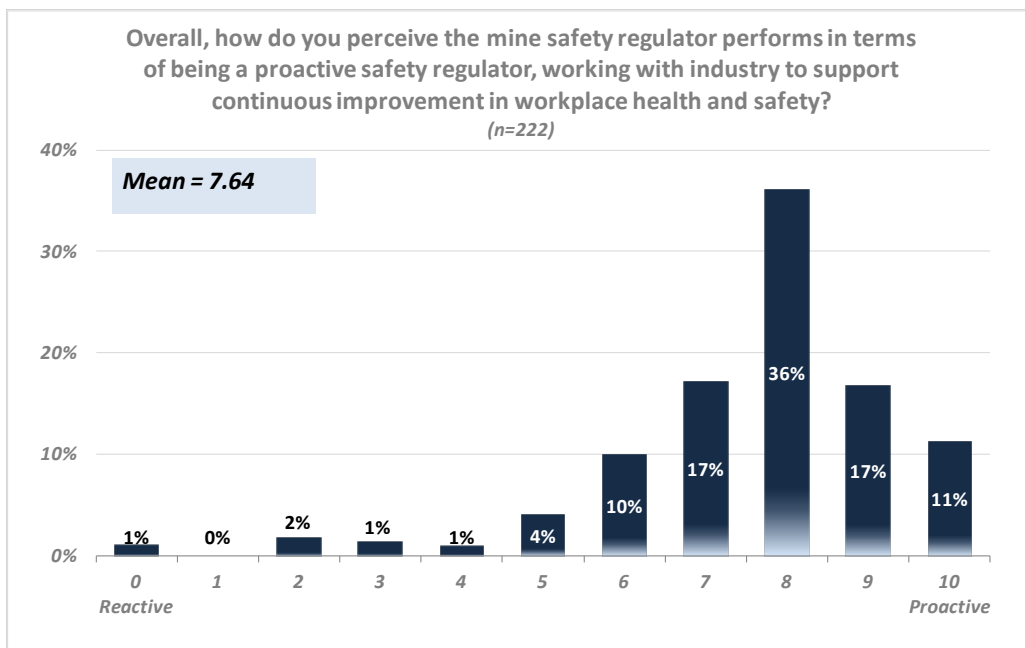
The regulator was more likely to investigate complaints from larger operations. Furthermore, larger companies were more likely to request information and/or send enquiries to the regulator than smaller organisations.

## Part 2: General perceptions of the regulator

The next series of questions related to perceptions of the performance of the MSR. The first question related to how well the MSR was performing in creating a safe environment. Respondents were asked to consider whether the MSR was reactive or proactive. Specifically, the personnel were asked:

*“Overall, how do you perceive the Mine Safety Regulator performs in terms of being a proactive safety regulator, working with industry to create an environment where industry is operating as safely as possible? Please rate out of 10, where 0 is reactive and 10 is proactive.”*

**Graph 2.1: Overall perception of the MSR on supporting continuous improvement in workplace health and safety**



Mean rating of the MSR pro-activity was 7.6, indicating the MSR was considered more proactive than reactive. Almost two-thirds (64%) rated pro-activity as an 8 or above, while 27% rated it as a 9 or 10. Conversely, just 9% rated the regulator 5 or below on this measure.

**Table 2.1: Perceived pro-activity of MSR, by mine type**

Industry sector	Mean	N	Std. Deviation
Mining - Coal	6.86	80	1.973
Mining - Metalliferous	7.31	32	1.306
Mining - Extractives	8.32	104	1.233
Total	7.63	216	1.693

By mine type, extractives were significantly more impressed with the regulator’s pro-activity than those in coal sector.

**Table 2.2: Perceived pro-activity of MSR by number of personnel**

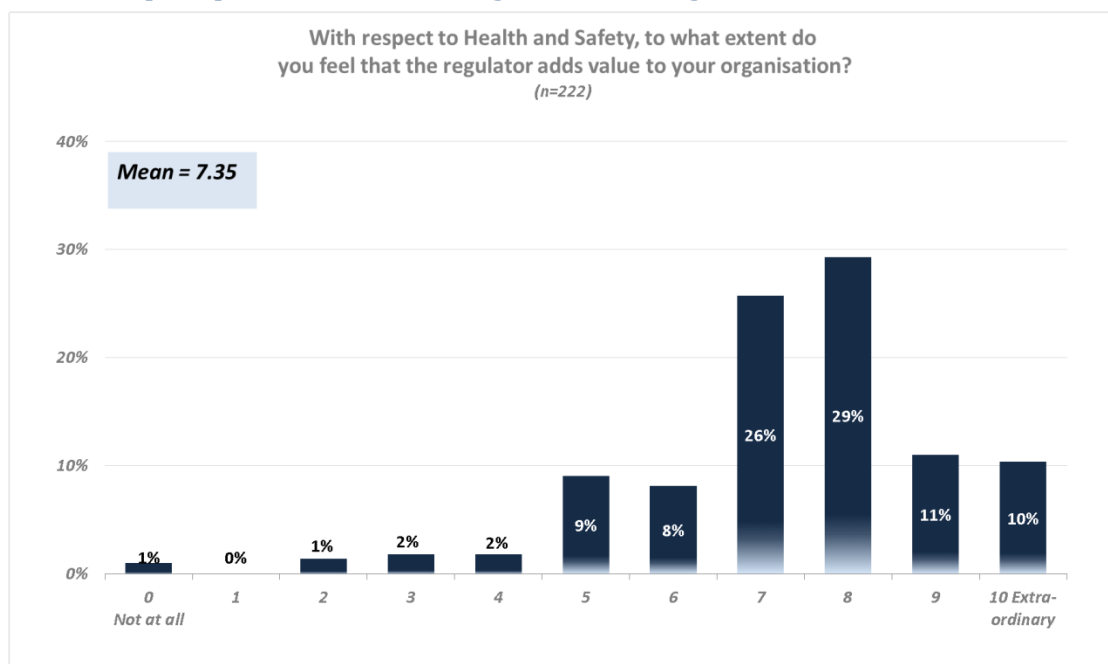
Employees	Mean	N	Std. Deviation
Less than 20	8.12	109	1.514
20-100	7.83	41	1.321
101+	6.81	72	1.859
Total	7.64	222	1.701

Likewise, smaller mine sites and contractors provided significantly higher pro-activity scores than larger ones.

Mine site personnel were then asked:

*“With respect to health and safety, to what extent do you feel that the regulator adds value to your organisation? Please rate out of 10, where 0 is not at all and 10 is an extraordinary amount.”*

**Graph 2.2: Overall perception of the MSR adding value to the organisation**



Mean overall rating of the regulator’s performance in adding value to the organisation was 7.35 out of a possible 10. This is a satisfactory – but not outstanding – result.

Half of those surveyed rated the MSR's performance in adding value as an 8 or above, while 21% rated it as a 9 or 10 on this basis. Only 15% rated the regulator's performance in adding value as a 5 or below.

**Table 2.3: Perceived ability of MSR to add value, by industry sector**

Industry sector	Mean	N	Std. Deviation
Mining - Coal	6.97	79	1.853
Mining - Metalliferous	6.94	32	1.605
Mining - Extractives	7.76	104	1.640
Total	7.35	215	1.755

Respondents within extractive mines were most impressed with the regulator's ability to add value to their business, coal operatives significantly less so.

**Table 2.4: Perceived ability of MSR to add value, by number of personnel**

Employees	Mean	N	Std. Deviation
Less than 20	7.56	108	1.784
20-100	7.46	41	1.398
101+	6.97	72	1.823
Total	7.35	221	1.746

Respondents at smaller mines were significantly more impressed than those at larger sites with the regulators' ability to add value.

### Part 3: Specific perceptions of the performance of the regulator

Respondents were then asked to rate the performance of the MSR on a wide range of criteria. Each was rated on a 0-10 scale, where 0 meant the respondent felt the regulator conducted this task very poorly and 10 meant they performed it extremely well. Where the respondent was unsure or had no knowledge of the task, they were invited to answer “not applicable”.

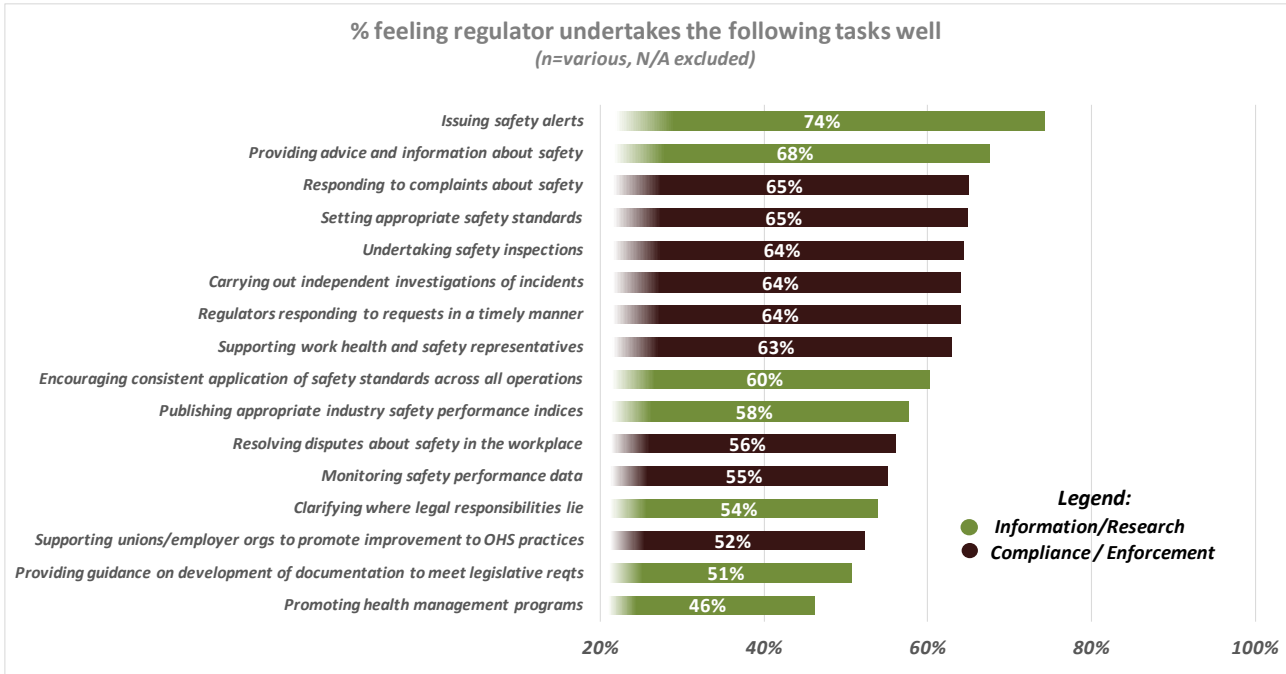
The regulator’s performance was judged across 18 tasks. In determining how best to present the findings across these 18 tasks, a number of sophisticated factor analysis techniques were applied to determine the most statistically relevant groupings of tasks to form categories. (Appendix 3 outlines further information regarding the analysis undertaken.)

The categories uncovered through this analysis included;

- ⇒ **Compliance and enforcement;**
- ⇒ **Information (including research).**

The following graphs outline the results of each task per task and per category. The scores were initially grouped into “poor” (score of 0 to 3), “neutral” (score of 4 to 7) and “well” (score of 8 to 10). These groupings are commonly used in government and corporate research as they are felt to reflect satisfactory, unsatisfactory and neutral sentiment whereby a score of 8 to 10 is considered good/excellent, 0 to 3 is considered poor and 4 to 7 is considered neutral.

**Graph 3.1: Perceptions of the regulator – tasks performed well**





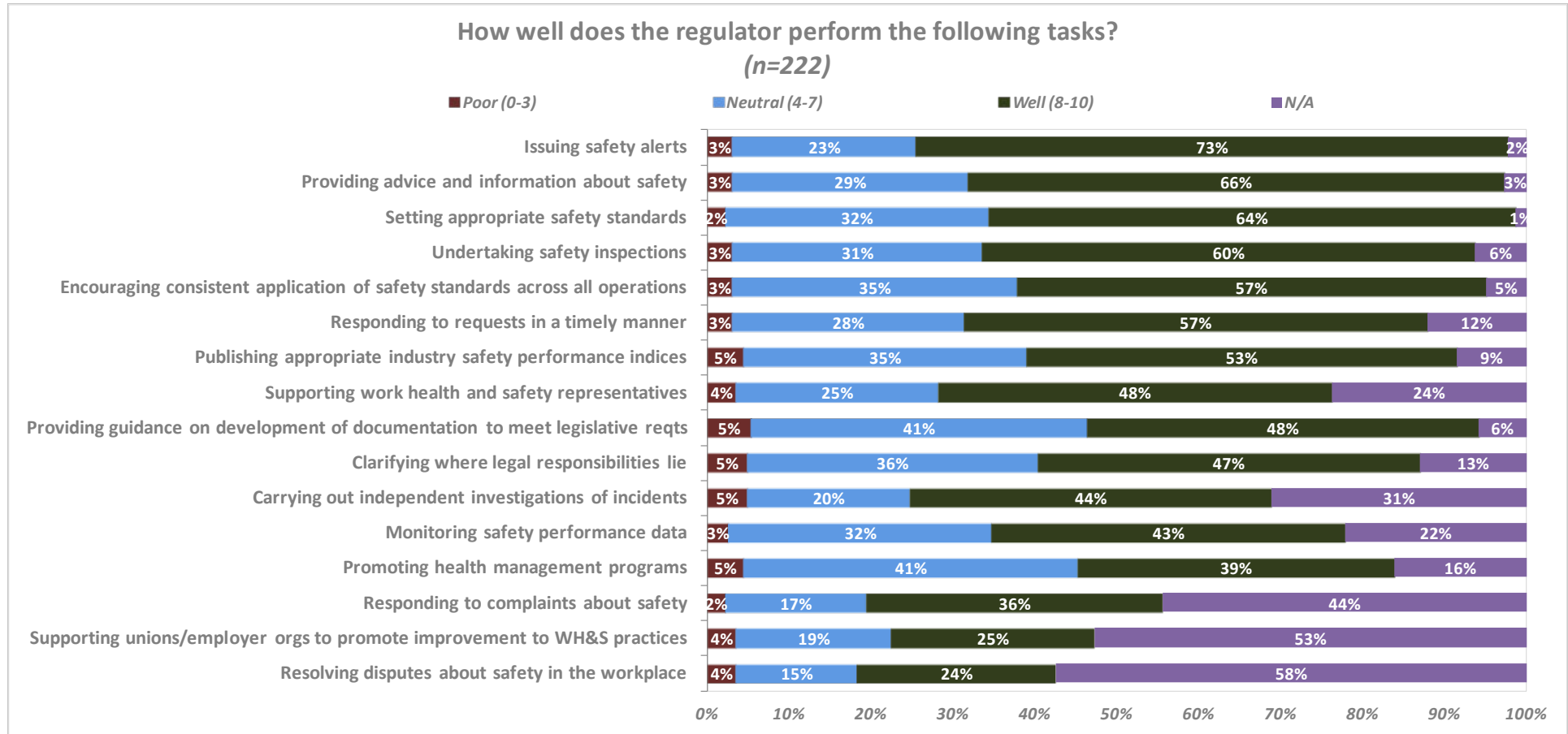
Graph 3.1 outlines each MSR task ordered by the proportion rating that task as having been performed well (i.e. a score of 8 to 10). Note the figure has omitted the “not applicable”, so sample size varies in each case.

Almost three quarters of respondents (74%) rated MSR effectiveness in *issuing safety alerts* as 8, 9 or 10 out of 10. This is followed by *providing advice and information about safety* (68%), *responding to complaints about safety* (65%), *setting appropriate safety standards* (65%) and *undertaking safety inspections* (64%).

Areas identified for improvement (i.e. where the regulator achieved the lowest proportion of 8 to 10 scores) included: *promoting health management programs* (46%); *providing guidance on development of documentation to meet legislative requirements* (51%); *supporting unions and employer organisations to promote improvement to safety and health practices* (52%); and *clarifying where legal responsibility lies* (54%).

*(Continued next page)*

Graph 3.2: Perceptions of the regulator – tasks performance



Graph 3.2 arranges the tasks by those that the employee perceived the regulator is performing well (i.e. scores of 8 to 10). No task areas achieved significant “poor” scores (scores of 0-3 inclusive).

There were a number of statements whereby the respondents answered “not applicable” (n/a) – these statements were ones where the respondents felt they had insufficient information or experience to be able to rate the regulator. These statements included: *responding to complaints about safety* (44% n/a); *supporting unions and employer organisation to promote improvement to safety and health practices* (53% n/a); and *resolving disputes about safety in the workplace* (58% n/a).

Those in smaller organisations were more likely to answer “n/a” when asked to rate the regulator against *responding to complaints against safety* (54% less than 20 employees, against 44% for those with 101+ employees), as were those in the extractives sector (57% extractives, 41% metalliferous and 29% coal).

Those in the extractives industry were more likely to answer “n/a” when asked to rate the MSR against *supporting unions and employer organisation to promote improvement to safety and health practices* (at 70% n/a, against metalliferous 50% and coal 30%). Those in smaller organisation were also more likely to answer n/a (64% in organisations with less than 20 employees, 54% in those with 20-100 employees and 35% in companies or sites with 101+ employees).

Those in the metalliferous industry were more likely to answer “n/a” when asked to rate the MSR against *resolving disputes about safety in the workplace* (at 72%, against 63% for extractives and 45% for coal). There was no difference by organisation size.

A number of significant differences in MSR task ratings existed by groups of interest. Again, significant differences are highlighted in blue and red where **blue** is significantly higher than **red**.

**Table 3.1a: Compliance/enforcement tasks – perception of tasks by industry and organisation size**

<b>Compliance / Enforcement</b>						
<b>Statement</b>	<b>Industry sector</b>			<b>No. of employees</b>		
	<b>Coal</b>	<b>Metalliferous</b>	<b>Extractives</b>	<b>&lt;20</b>	<b>20-100</b>	<b>101+</b>
Responding to complaints about safety	7.33	7.47	8.80	8.54	7.67	7.40
Undertaking safety inspections	7.13	6.87	8.24	8.10	7.64	6.96
Supporting work health and safety representatives	6.97	6.78	8.42	8.26	7.41	6.94
Carrying out independent investigations of incidents	6.82	7.09	8.47	8.21	7.69	6.76
Supporting unions and employer organisations to promote improvement to safety and health practices	6.88	6.69	7.71	7.44	7.47	6.68
Responding to requests in a timely manner	6.94	7.47	8.42	8.12	7.65	7.25
Monitoring safety performance data	6.73	7.28	8.18	7.92	7.53	6.89
Resolving disputes about safety in the workplace	6.48	5.44	8.10	7.62	7.41	6.19
Setting appropriate safety standards	7.34	7.47	8.37	8.25	7.66	7.42

The first category identified grouped a number of the tasks relating to compliance and enforcement. Mean rating scores suggest smaller organisations and those working in the extractives industry had more positive perceptions of the MSR than those in larger organisations and/or the coal or metalliferous sectors.

By size, smaller mines provided significantly higher scores on all statements.

**Table 3.1b: Compliance/enforcement tasks – perception of tasks by contact frequency and worker type**

Compliance / Enforcement							
Statement	Contact with regulator			Worker type			
	No contact	Infrequent contact	Frequent contact	Worker	Manager	Contractor	WH & S Professional
Responding to complaints about safety	7.58	8.25	7.68	7.52	8.24	7.43	7.33
Undertaking safety inspections	7.69	7.73	7.51	7.29	7.86	7.33	7.32
Supporting work health and safety representatives	7.13	8.08	7.49	7.35	7.90	7.08	7.41
Carrying out independent investigations of incidents	7.78	8.03	7.06	7.34	7.64	8.42	7.05
Supporting unions and employer organisations to promote improvement to safety and health practices	6.56	7.20	7.23	6.85	7.44	6.82	6.14
Responding to requests in a timely manner	7.41	7.96	7.61	7.36	8.01	7.00	7.57
Monitoring safety performance data	7.14	7.89	7.25	7.00	7.86	7.13	7.05
Resolving disputes about safety in the workplace	6.14	7.77	6.68	7.00	7.54	5.67	6.22
Setting appropriate safety standards	7.83	8.07	7.65	7.74	8.04	7.54	7.56

Those who had infrequent contact with the MSR also had more positive perceptions of MSR performance than those who had frequent or no contact with the MSR.

Managers had more positive perceptions of performance of MSR in *monitoring safety performance data* than workers.

**Table 3.2a: Information tasks – perception of tasks by industry and organisation size**

Information						
Statement	Industry sector			No. of employees		
	Mining - Coal	Mining - Metalliferous	Mining - Extractives	Less than 20	20-100	101+
Providing advice and information about safety	7.12	7.27	8.70	8.44	8.08	7.13
Providing guidance on development of documentation to meet legislative requirements	6.32	6.52	8.10	7.92	7.28	6.13
Publishing appropriate industry safety performance indices	6.68	6.81	8.19	8.00	7.21	6.70
Issuing safety alerts	7.41	8.00	8.74	8.53	8.37	7.37
Promoting health management programs	6.09	6.86	7.81	7.78	6.89	6.10
Encouraging consistent application of safety standards across all operations	7.01	7.29	8.17	8.07	7.44	7.11
Clarifying where legal responsibilities lie	6.44	6.58	8.11	8.04	7.11	6.28

Mean rating of the MSR's performance regarding *information and research* tasks indicate similar findings to the *compliance/enforcement* tasks. Again, those in the extractives industry sector were more positive than those in the coal sector and those in larger companies were more negative than those in the smaller organisations.

**Table 3.2b: Information tasks – perception of tasks by contact frequency and worker type**

Information							
Statement	Contact with regulator			Worker type			
	No contact	Infrequent contact	Frequent contact	Worker	Manager	Contractor	WH & S Professional
Providing advice and information about safety	7.81	8.21	7.69	7.71	8.17	7.55	7.60
Providing guidance on development of documentation to meet legislative requirements	7.16	7.52	6.88	6.75	7.59	6.70	6.50
Publishing appropriate industry safety performance indices	7.50	7.82	6.92	7.13	7.68	7.21	6.96
Issuing safety alerts	7.92	8.39	7.88	8.02	8.19	8.13	7.92
Promoting health management programs	7.10	7.43	6.59	6.84	7.29	6.84	6.32
Encouraging consistent application of safety standards across all operations	7.59	7.86	7.43	7.44	7.89	6.86	7.54
Clarifying where legal responsibilities lie	7.07	7.62	6.95	6.64	7.60	7.07	6.59

Those who have had frequent contact with the regulator tended to rate performance of the MSR in *information* tasks significantly lower than those who had infrequent contact.

Managers had more favourable perceptions of MSR in *providing guidance on the development of documents* and *clarifying where legal responsibilities lie* than work health and safety professionals.

## Part 4: Perceptions of the performance of the mine inspectors

Of the 222 respondents to the survey, 173 said they had interacted with an inspector over the previous 12 months<sup>5</sup>. These 173 respondents were asked to rate the performance of the mine inspectors on a range of 20 different criteria.

Again each task was read out and performance was rated on a 0-10 scale where 0 meant the respondent believed the task or responsibility to be performed very poorly and 10 meant they believed it was done extremely well. Where the employee was unsure or had no experience of the task, they were again able to answer “not applicable”. (Note: this excludes respondents who not had contact with a mine inspector over the past 12 months, as they were not asked this series of questions.)

Mine inspector performance was again grouped according to category through a factor analysis process (see appendix 2 for further detail).

Categories revealed as a result:

- ⇒ **Professional manner**
- ⇒ **Independent**
- ⇒ **Assistance and advice**
- ⇒ **Technical competence**

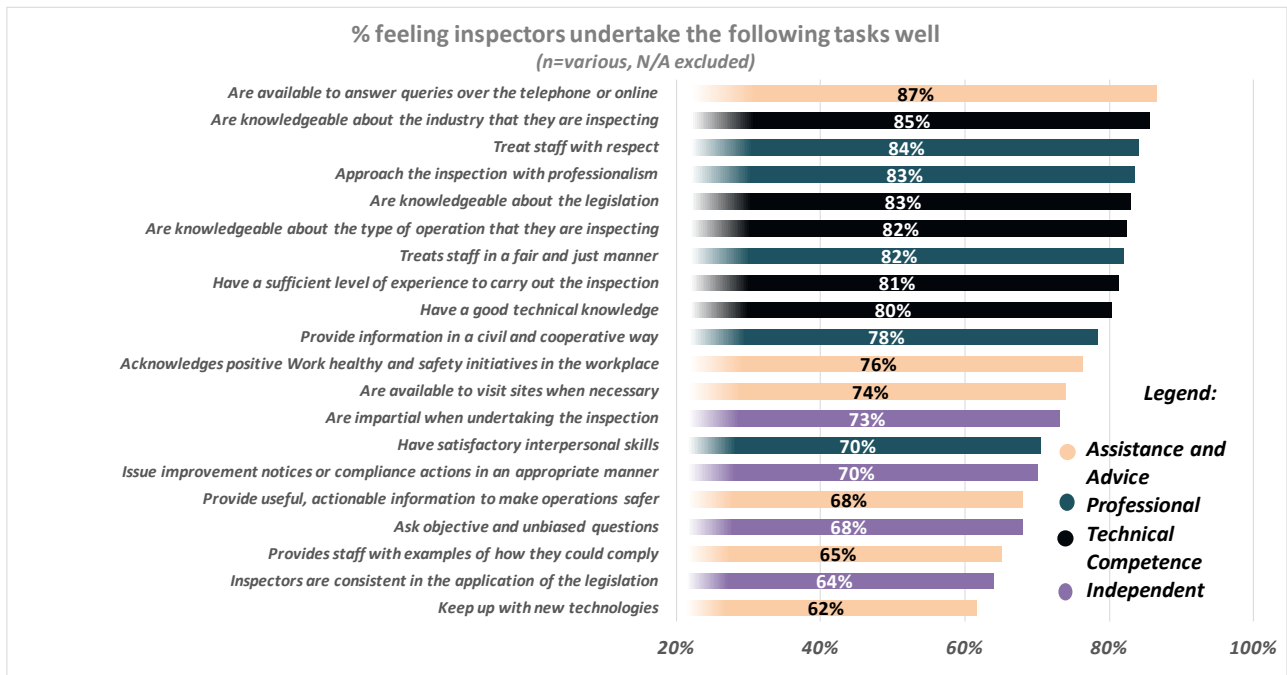
Thus, the following tables outline results of each task per task and per category. The scores were initially grouped into poor (score of 0 to 3), neutral (score of 4 to 7) and well (score of 8 to 10). As previously mentioned, these groupings are commonly used in state government, local government and corporate research as they are felt to reflect satisfactory, unsatisfactory and neutral sentiment whereby a score of 8 to 10 is considered satisfactory, 0 to 3 is considered unsatisfactory and 4 to 7 is considered neutral.

*(continued over page)*

---

<sup>5</sup> This constituted those respondents who had acknowledged the following interactions with the MSR over the previous 12 months: audit or inspection; investigation of a complaint or incident; and consultation regarding a safety matter

**Graph 4.1: Perceptions of the mine inspector – tasks performed well**



Responses regarding inspectors generally scored higher than responses regarding the regulator as a whole, with 9 of 20 statements seeing 80+% scores of 8, 9 or 10 out of 10.

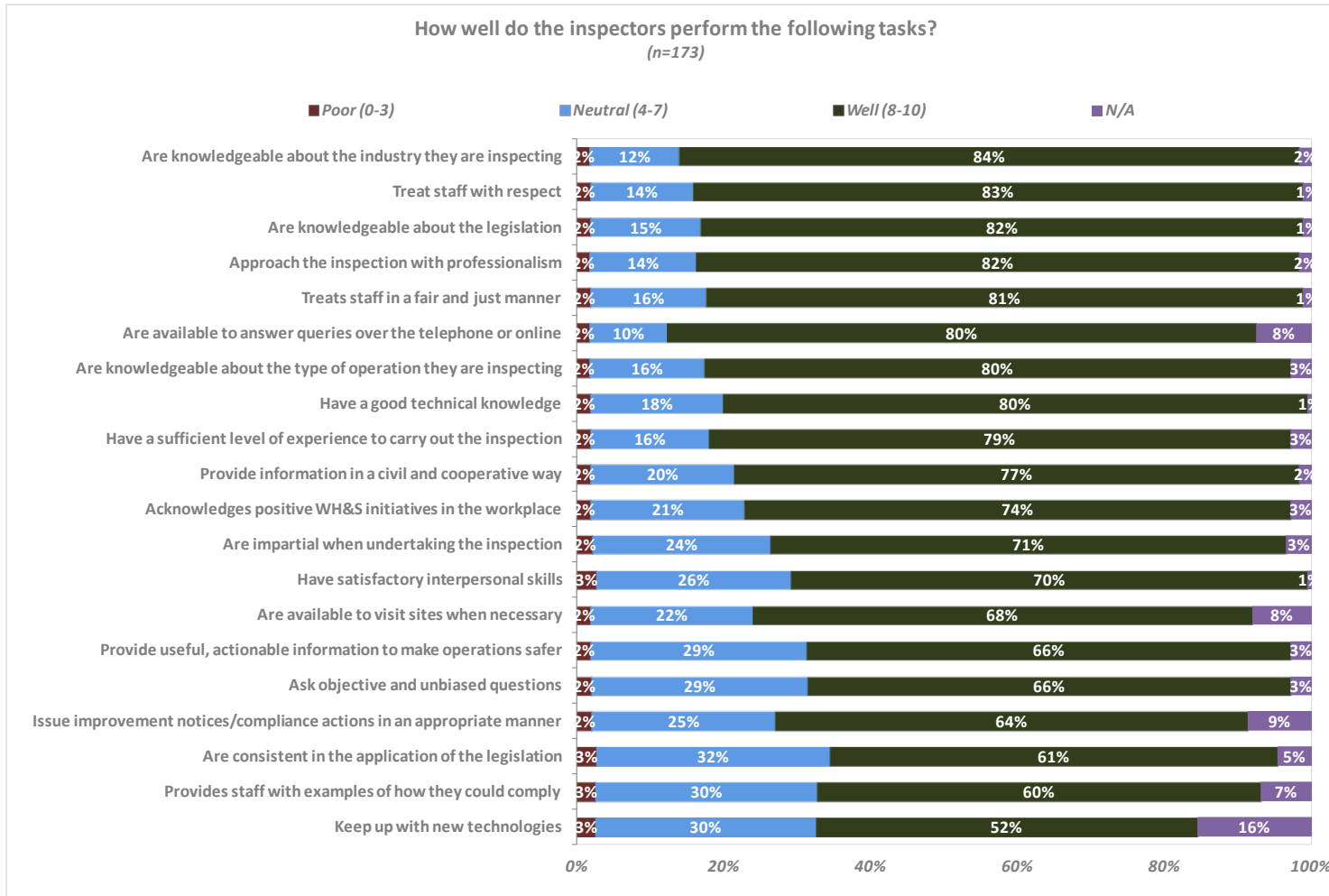
The areas achieving the highest proportion of “performed well” scores (i.e. rated 8 to 10) were: *are available to answer queries over the telephone or online* (87%); *are knowledgeable about the industry that they are inspecting* (85%); *treat staff with respect* (84%); *approach the inspection with professionalism* (83%); *are knowledgeable about the legislation* (83%); *are knowledgeable about the type of operation they are inspecting* (82%); and *treat staff in a fair and just manner* (also 82%).

Areas identified for improvement – i.e. with the lowest proportion of “performed” well scores – included: *keep up with new technologies* (62%); *are consistent in the application of the legislation* (64%); *provides staff with examples of how they could comply* (65%) and *ask objective and unbiased questions* (68%).

However it must be noted that over half of mine site personnel still rated these areas as 8 to 10, suggesting a high level of overall performance by inspectors.

(Continued next page)

**Graph 4.2: Perceptions of the mine inspector – tasks performance**





While there were negligible poor (i.e. 0-4) scores in any category, the neutral scores (i.e. those rated 4 to 7) again reflect the areas highlighted for improvement above.

The tables below outline difference between groups of interest. Again, significant differences are highlighted in blue and red where blue is significantly higher than red.

**Table 4.1a: Professional manner tasks – perception of tasks by industry and organisation size**

Professional manner						
Statement	Industry sector			No. of employees		
	Mining - Coal	Mining - Metalliferous	Mining - Extractives	Less than 20	20-100	101+
Approach the inspection with professionalism	8.33	8.48	8.77	8.79	8.34	8.44
Treat staff with respect	8.15	8.30	8.87	8.78	8.56	8.20
Treats staff in a fair and just manner	8.11	8.26	8.85	8.74	8.59	8.15
Have satisfactory interpersonal skills	7.64	8.19	8.48	8.41	8.28	7.74
Provide information in a civil and cooperative way	7.64	8.41	8.76	8.69	8.41	7.80

Those in the extractives industry rated the inspector significantly higher than those in the coal industry in most aspects of their *professional manner*, as did those in smaller organisations.

**Table 4.1b: Professional manner tasks – perception of tasks by contact frequency and worker type**

Professional manner							
Statement	Contact with regulator			Worker type			
	No contact	Infrequent contact	Frequent contact	Worker	Manager	Contractor	WH & S Professional
Approach the inspection with professionalism	N/A	8.62	8.56	8.41	8.73	7.78	8.50
Treat staff with respect	N/A	8.60	8.50	8.26	8.70	8.00	8.56
Treats staff in a fair and just manner	N/A	8.59	8.45	8.21	8.66	7.90	8.67
Have satisfactory interpersonal skills	N/A	8.29	8.05	7.82	8.33	7.60	8.22
Provide information in a civil and cooperative way	N/A	8.53	8.15	8.06	8.51	7.80	8.28

Those who had infrequent contact with the MSR rated the inspector significantly higher than those who had infrequent contact with the MSR in *providing information in a civil and cooperative way*. Apart from this, results were consistent by degree of contact and worker type.

**Table 4.2a: Independent tasks – perception of tasks by industry and organisation size**

Independent						
Statement	Industry sector			No. of employees		
	Mining - Coal	Mining - Metalliferous	Mining - Extractives	Less than 20	20-100	101+
Ask objective and unbiased questions	7.33	7.56	8.44	8.23	7.94	7.52
Are impartial when undertaking the inspection	7.36	7.89	8.33	8.17	7.94	7.65
Issue improvement notices or compliance actions in an appropriate manner	7.39	7.92	8.51	8.38	8.07	7.60
Are consistent in the application of the legislation	7.34	7.81	8.14	8.07	7.81	7.50

Those in the extractives industry rated the inspector significantly higher than those in the coal industry in regards to their displays of *independence* as did those in smaller organisations.

**Table 4.2b: Independent tasks – perception of tasks by contact frequency and worker type**

Independent							
Statement	Contact with regulator			Worker type			
	No contact	Infrequent contact	Frequent contact	Worker	Manager	Contractor	WH & S Professional
Ask objective and unbiased questions	N/A	8.17	7.70	7.67	8.07	7.33	8.00
Are impartial when undertaking the inspection	N/A	8.06	7.85	7.45	8.14	7.50	8.00
Issue improvement notices or compliance actions in an appropriate manner	N/A	8.14	8.00	7.48	8.35	7.29	7.71
Are consistent in the application of the legislation	N/A	8.08	7.58	7.55	7.98	7.67	7.67

Managers had more favourable perceptions than contractors towards the manner in which MSR *issues improvement notices or compliance actions in an appropriate manner*. And those with frequent contact with the MSR were less impressed in regards to *ask objective and unbiased questions* and *are consistent in the application of the legislation* than those in less frequent contact.

(Continued next page)

**Table 4.3a: Assistance and advice tasks – perception of tasks by industry and organisation size**

Assistance & Advice						
Statement	Industry sector			No. of employees		
	Coal	Metalliferous	Extractives	<20	20-100	101+
Provide staff with examples of how they could comply	7.21	7.50	8.39	8.18	8.22	7.19
Provide useful, actionable information to make operations safer	7.04	7.59	8.56	8.33	8.25	7.08
Are available to visit sites when necessary	7.88	7.88	8.63	8.58	8.13	7.94
Are available to answer queries over the telephone or online	8.29	8.44	8.94	8.77	8.80	8.41
Acknowledges positive work healthy and safety initiatives in the workplace	7.66	7.89	8.68	8.66	8.31	7.54
Keep up with new technologies	7.09	7.29	8.45	8.22	7.91	7.16

Those in the extractives industry rated the inspector significantly higher than those in the coal industry in regards to their provision of *assistance and advice* as did those in smaller organisations.

**Table 4.3b: Assistance and advice tasks – perception of tasks by contact frequency and worker type**

Assistance & Advice							
Statement	Contact with regulator			Worker type			
	No contact	Infrequent contact	Frequent contact	Worker	Manager	Contractor	WH & S Professional
Provide staff with examples of how they could comply	N/A	8.05	7.67	7.45	8.06	7.63	7.63
Provide useful, actionable information to make operations safer	N/A	8.23	7.58	7.45	8.12	7.33	7.94
Are available to visit sites when necessary	N/A	8.35	8.22	7.85	8.45	8.33	8.12
Are available to answer queries over the telephone or online	N/A	8.63	8.70	8.45	8.79	7.50	8.67
Acknowledges positive work healthy and safety initiatives in the workplace	N/A	8.32	8.14	7.88	8.50	7.63	7.56
Keep up with new technologies	N/A	8.00	7.66	7.76	7.91	7.00	8.00

Managers had more favourable perceptions of MSR’s *availability to answer queries over the phone* than contractors. Managers were also significantly more likely to agree that the MSR *acknowledges positive health and safety initiatives in the workplace* than work health and safety professionals.

Those with infrequent contact with the MSR had significantly more favourable perceptions of the MSR in regard to *providing staff with examples of how they could comply* and *providing useful, actionable information to make operations safer* than those with infrequent contact with the MSR.

**Table 4.4a: Technical competence tasks – perception of tasks by industry and organisation size**

Technical Competence						
Statement	Industry sector			No. of employees		
	Coal	Metalliferous	Extractives	<20	20-100	101+
Have a sufficient level of experience to carry out the inspection	8.43	7.96	8.66	8.46	8.58	8.46
Are knowledgeable about the legislation	8.22	8.04	8.84	8.87	8.25	8.15
Have a good technical knowledge	8.02	8.00	8.52	8.40	8.44	8.04
Are knowledgeable about the type of operation that they are inspecting	8.15	8.19	8.74	8.68	8.25	8.30
Are knowledgeable about the industry that they are inspecting	8.39	8.44	8.83	8.73	8.63	8.50

Those in the extractives industry had more favourable perceptions of the MSR in *having a sufficient level of experience to carry out the inspection, knowledge of the legislation and technical knowledge* compared with those in the metalliferous industry. Those in the extractives industry rated the MSR more favourably than those in the coal industry in their *knowledge about the type of operation they are inspecting and knowledge about the industry they are inspecting*.

Those working in organisations with 20-100 personnel rated the MSR more favourably in *having a good technical knowledge* than those in an organisation with more than 100 personnel.

**Table 4.4b: Technical competence tasks – perception of tasks by contact frequency and worker type**

Technical Competence							
Statement	Contact with regulator			Worker type			
	No contact	Infrequent contact	Frequent contact	Worker	Manager	Contractor	WH & S Professional
Have a sufficient level of experience to carry out the inspection	N/A	8.53	8.43	8.35	8.58	7.67	8.53
Are knowledgeable about the legislation	N/A	8.69	8.35	8.35	8.72	8.50	7.72
Have a good technical knowledge	N/A	8.52	8.04	8.47	8.24	7.80	8.56
Are knowledgeable about the type of operation that they are inspecting	N/A	8.65	8.28	8.32	8.57	7.88	8.44
Are knowledgeable about the industry that they are inspecting	N/A	8.73	8.53	8.71	8.65	7.89	8.78

Managers had more favourable perceptions of MSR's *knowledge of the legislation* than work health and safety professionals. Those who had experienced infrequent contact with the MSR had more favourable perceptions of the regulator's *technical knowledge* than those who had frequent contact.

## Part 5: Awareness of the regulator services

The next series of questions related to the suite of services offered by the MSR. First, mine site personnel were asked what services the MSR provides.

The following diagram is a word cloud of the responses.

**Diagram 5.1: Knowledge of MSR provided services; a word cloud**

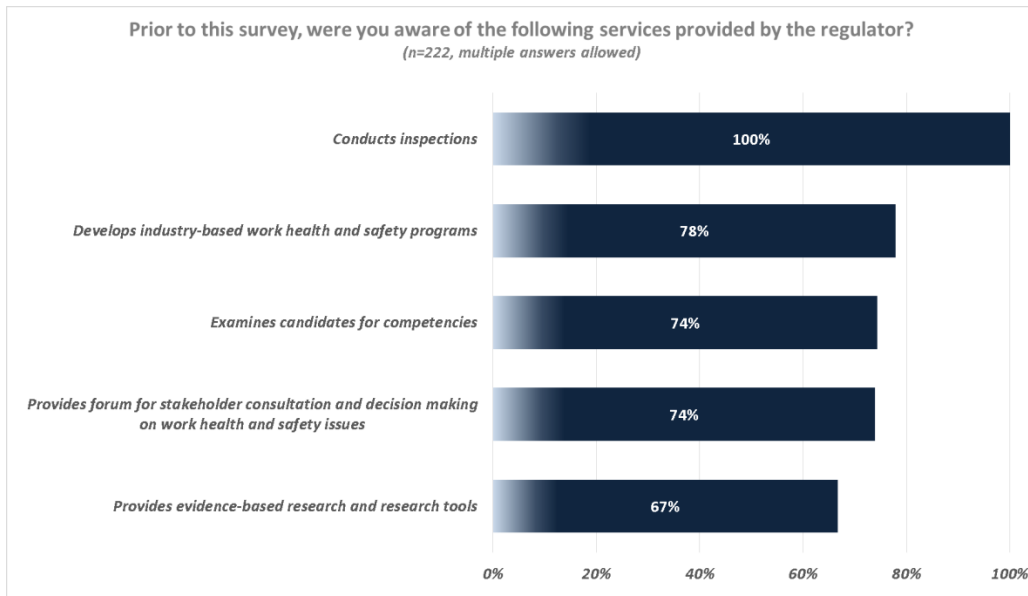


The word cloud suggests that mine site personnel understand that the MSR's role is vast and varied. The themes of *safety* and *information* were strongest among mine site personnel as was *advice* and *legislation*.

Mine site personnel were then asked, in a prompted context, which services they were aware the MSR provided.

*(Continued next page)*

**Graph 5.1: Awareness of specific MSR services (prompted)**



All mine site personnel were aware that the MSR conducts inspections. Awareness was lower for the MSR services of *develops industry-based work health and safety programs* (78%), *examines candidates for competencies* (74%) and *provides forums for stakeholder consultation and decision making on work health and safety issues* (74%).

**Table 5.1: Awareness of specific services, by frequency of contact**

	Contact with regulator			Total
	No contact	Infrequent contact	Frequent contact	
Examines candidates for competencies	14 37.8%	80 79.2%	71 84.5%	165 74.3%
Develops industry-based work health and safety programs	26 70.3%	79 78.2%	68 81.0%	173 77.9%
Provides forum for stakeholder consultation and decision making on work health and safety issues	22 59.5%	76 75.2%	66 78.6%	164 73.9%
Provides evidence-based research and research tools	23 62.2%	69 68.3%	56 66.7%	148 66.7%
Conducts inspections	37 100.0%	101 100.0%	84 100.0%	222 100.0%
<b>Total</b>	<b>37</b>	<b>101</b>	<b>84</b>	<b>222</b>

As would be expected, there was a direct correlation between frequency of contact with the MSR, and awareness of the range of services offered.

Mine site personnel were then asked what services they thought the MSR should be providing. A large proportion of mine site personnel felt current services were sufficient. Those who did offer responses tended to focus on enhanced employee training.

Some examples of services personnel felt that the MSR could provide, verbatim per survey results, were:

- ⇒ *“The perspective of a regulator is that they are there policing you when you have done something wrong. Training of the guidelines and what we are meant to be doing would help.”*
- ⇒ *“Should be doing a road show on new legislation.”*
- ⇒ *“Providing expectations of the new legislation, different inspectors have different views on different parts of our industry.”*
- ⇒ *“More online tools for WHS and local check inspectors to assist in inspections and reporting.”*
- ⇒ *“If they have information on health and safety, that should be sent out to us more. Learning's (sic) from other mine sites that we can adopt. Passing on formal information about investigations (of incidents) at other mine sites.”*
- ⇒ *“Should be a more supportive role - legislation is stopping the inspectors from being more supportive, and the new legislation will make it worse.”*

## Part 6: Suggestions for the regulator

The survey concluded with a general question:

*“Based on your experiences with the regulator, do you have any other comments or suggested improvements for the regulator?”*

The comments and suggestions for improvement were varied and (as expected) dependent on individual experiences with the regulator. Some themes arose regarding leadership, legislation and education and training. Examples of the types of comments made by respondents are below. (A full list of comments is available in appendix 4.)

### ⇒ Positive

- *“They do a good job.”*
- *“They are there to help. And not to be police ... have had only good experiences.”*
- *“The regulators do a very good job.”*
- *“The regulator is great. We have a good relationship with our inspector and he is very good at his job.”*
- *“The inspectors are quite willing to talk to you, work with you, that helps our relationship.”*
- *“Pretty good; the regulator we have is very experienced and knowledgeable.”*

### ⇒ Leadership

- *“They need to adopt a leadership role rather than a role of shepherd...they tend to round them up. Instead of setting the direction and getting them to follow.”*
- *“They are going quite well towards a proactive approach.”*

### ⇒ Legislation

- *“More consistency required on interpretation of the legislation.”*
- *“Maybe in terms of new legislation more workshops or education, how the regulator will apply the new regulations.”*
- *“Legislation just takes too long to review and implement.”*
- *“Inspectors do a good job but the legislation stops them working together with us on health and safety issues within our industry.”*
- *“Codes of practice and guidance material are sometimes difficult to comprehend, easier to understand information maybe give examples of legislation instead referring to the legislation.”*
- *“Clear up any understanding of the new legislation, they have written the new legislation but do not have any forms or anything to back it up. They take time in getting back to us about these new legislations (sic) and what we are supposed to be doing.”*



- *“With the changes in the legislation have they done any road shows on legislation?”*
- *“More consistency required on interpretation of the legislation.”*

⇒ **Education and training**

- *“More contact with and education of health and safety representatives.”*
- *“More regular seminars for health and safety reps to build a relationship with the regulator.”*
- *“Our bloke is fantastic but his area is too large which makes him unavailable sometimes.”*



## Appendix 1: Survey questionnaire

### Version 1 Mine Safety Regulator

Last modified: 28/04/2015 10:23 AM

Q1. Hi my name is (name), and I'm calling from Jetty Research on behalf of the NSW Trade & Investment (*now NSW Department of Industry*) - the Mine Safety Regulator. You should have received a letter or email regarding a survey we are conducting for the Mine Safety Regulator. Do you recall seeing that letter? The survey takes less than 15 minutes and all answers are strictly confidential. Would you be willing to assist us with a survey today?

IF NOT SEEN LETTER/EMAIL The survey we are conducting for the Mine Safety Regulator with the endorsement of the Minerals Council, the Cement and Concrete Association of Australia and the CMFEU is to provide feedback of their performance and assist them to improve the service that they provide to you.

The survey takes around 12-15 minutes and all answers are strictly confidential. Would you be willing to assist us with a survey today?

*If not a good time offer a CALL BACK at convenient time*

Yes	1
No	555

Q1

*Answer If attribute "No" from Q1 is SELECTED*

Q2. Thank you for your time. Have a great day!

End

Q3. RESEARCHER: Enter first name.

*Use details or ask if different*

Q3

---

---

**Q4. Great, thanks [Q3]. The first series of questions relate to where you work and what you do. Firstly, which industry sector do you mainly work in?**

<i>UNPROMPTED</i>	
Mining - Coal	1
Mining - Metalliferous	2
Mining - Extractives	3
OTHER	

Q4

**Q5. How many employees are there at your worksite?**

<i>UNPROMPTED</i>	
Less than 20	1
20-50	2
51-100	3
101-500	4
More than 500	5

Q5

**Q6. How long have you been working in the resources industry?**

<i>UNPROMPTED</i>	
Less than 3 years	1
3 to less than 5 years	2
5 to less than 10 years	3
More than 10 years	4

Q6

**Q7. And what is your current work role?**

<i>UNPROMPTED</i>	
General manager or senior executive	1
Operations manager	2
Production manager	3
Engineer	4
Supervisor	5
Safety and health representative	6
Work health and safety professional	7
Contractor	8
Check inspector	9
OTHER	

Q7

**Q8. [Q3], I'm now going to ask you some questions about your relationship with the Mine Safety Regulator. Have you had contact with the regulator in the past year?**

***IF YES - confirm which yes below***

Yes - only initiated by our organisation	1	
Yes - only initiated by NSW Mine Safety	2	
Yes - initiated by our organisation and by NSW Mine Safety	3	Q8
No	555	

**Q9. How often did you have contact with NSW Mine Safety during the past year?**

*Do not answer If Attribute "No" from Q8 is SELECTED*

***PROMPTED***

Once	1	
Several times	2	Q9
Many times	3	

**Q10. Was the nature of the contact regarding any of the following? Please answer yes or no.**

*Do not answer If Attribute "No" from Q8 is SELECTED*

***PROMPTED - tick any that apply.***

Audit or inspection	1	Q10_1
Investigation of a complaint	2	Q10_2
Investigation of an incident	3	Q10_3
Consultation regarding a safety matter	4	Q10_4
Response to an enquiry by you	5	Q10_5
A request for information from NSW Mine Safety	6	Q10_6
Information session (e.g. safety road-show, industry briefing)	7	Q10_7
Work Health and Safety culture programs	8	Q10_8
Education programs	9	Q10_9
Send information by NSW Mine safety (such as a letter, e-mail or brochure)	10	Q10_10
OTHER		Q10_O

**Q11.** Now I'm going to ask you some questions about the performance of the regulator. Overall, how do you perceive the Mine Safety Regulator performs in terms of being a proactive safety regulator, working with industry to create an environment where industry is operating as safely as possible? Please rate out of 10, where 0 is reactive and 10 is proactive.

*Confirm correct scale*

0 Reactive	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10 Proactive	10
NA	555

Q11

**Q12.** With respect to health and safety, to what extent do you feel that the regulator adds value to your organisation? Please rate out of 10, where 0 is not at all and 10 is an extraordinary amount.

*Confirm correct scale*

0 Not at all	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10 Extraordinary	10
NA	555

Q12

**Q13. [Q3], how would you rate the performance of the regulator in undertaking the following tasks? Please rate on a scale of 0-10, where 0 means they do this very poorly and 10 means they do it extremely well. So how well would you rate the regulator in regard to:**

**PROMPTED**

	0	1	2	3	4	5	6	7	8	9	10	NA	
	Ver											Extr	
	y											em	
	po											ely	
	orly											well	
Setting appropriate safety standards	0	1	2	3	4	5	6	7	8	9	10	555	Q13_1
Undertaking safety inspections	0	1	2	3	4	5	6	7	8	9	10	555	Q13_2
Carrying out independent investigations of incidents	0	1	2	3	4	5	6	7	8	9	10	555	Q13_3
Responding to complaints about safety	0	1	2	3	4	5	6	7	8	9	10	555	Q13_4
Encouraging consistent application of safety standards across all operations	0	1	2	3	4	5	6	7	8	9	10	555	Q13_5
Providing advice and information about safety	0	1	2	3	4	5	6	7	8	9	10	555	Q13_6
Supporting work health and safety representatives	0	1	2	3	4	5	6	7	8	9	10	555	Q13_7
Resolving disputes about safety in the workplace	0	1	2	3	4	5	6	7	8	9	10	555	Q13_8
Supporting unions and employer organisations to promote improvement to safety and health practices	0	1	2	3	4	5	6	7	8	9	10	555	Q13_9

**Q14. And still thinking about the Mine Safety Regulator's performance on a scale of 0-10, where 0 means they do this poorly and 10 means they do it extremely well. How would you rate the regulator in regard to:**

**PROMPTED**

	0	1	2	3	4	5	6	7	8	9	10	NA	
	Ver											Extr	
	y											em	
	po											ely	
	orly											well	
Supporting workplace safety and health representatives	0	1	2	3	4	5	6	7	8	9	10	555	Q14_1
Responding to requests in a timely manner	0	1	2	3	4	5	6	7	8	9	10	555	Q14_2
Providing advice and information about safety	0	1	2	3	4	5	6	7	8	9	10	555	Q14_3
Monitoring safety performance data	0	1	2	3	4	5	6	7	8	9	10	555	Q14_4
Promoting health management programs	0	1	2	3	4	5	6	7	8	9	10	555	Q14_5
Publishing appropriate industry safety performance indices	0	1	2	3	4	5	6	7	8	9	10	555	Q14_6
Issuing safety alerts	0	1	2	3	4	5	6	7	8	9	10	555	Q14_7
Providing guidance on development of documentation to meet legislative requirements	0	1	2	3	4	5	6	7	8	9	10	555	Q14_8
Clarifying where legal responsibilities lie	0	1	2	3	4	5	6	7	8	9	10	555	Q14_9

**Q15. I'd now like to ask you some questions about the experience you have had with mine inspectors. Again, on the same scale of 0-10, how would you rate the mine inspectors on the following statements?**

*Answer If Attribute "Audit or inspection" from Q10 is SELECTED OR*

*Answer If Attribute "Investigation of a complaint" from Q10 is SELECTED OR*

*Answer If Attribute "Investigation of an incident" from Q10 is SELECTED OR*

*Answer If Attribute "Consultation regarding a safety matter" from Q10 is SELECTED*

**Confirm correct scale**

	0	1	2	3	4	5	6	7	8	9	10	NA	
Ver y poo rly												Extr em ely well	
Have a sufficient level of experience to carry out the inspection	0	1	2	3	4	5	6	7	8	9	10	555	Q15_1
Are knowledgeable about the legislation	0	1	2	3	4	5	6	7	8	9	10	555	Q15_2
Have a good technical knowledge	0	1	2	3	4	5	6	7	8	9	10	555	Q15_3
Approach the inspection with professionalism	0	1	2	3	4	5	6	7	8	9	10	555	Q15_4
Treat staff with respect	0	1	2	3	4	5	6	7	8	9	10	555	Q15_5
Treats staff in a fair and just manner	0	1	2	3	4	5	6	7	8	9	10	555	Q15_6
Have satisfactory interpersonal skills	0	1	2	3	4	5	6	7	8	9	10	555	Q15_7
Provide information in a civil and cooperative way	0	1	2	3	4	5	6	7	8	9	10	555	Q15_8
Are knowledgeable about the type of operation that they are inspecting	0	1	2	3	4	5	6	7	8	9	10	555	Q15_9
Are knowledgeable about the industry that they are inspecting	0	1	2	3	4	5	6	7	8	9	10	555	Q15_10

**Q16. Again on the same scale of 0-10, where 0 is very poorly and 10 is extremely well, how would you rate the mine inspectors on the following statements?**

- Answer If Attribute "Audit or inspection" from Q10 is SELECTED OR*
- Answer If Attribute "Investigation of a complaint" from Q10 is SELECTED OR*
- Answer If Attribute "Investigation of an incident" from Q10 is SELECTED OR*
- Answer If Attribute "Consultation regarding a safety matter" from Q10 is SELECTED*

**PROMPTED.**

	0	1	2	3	4	5	6	7	8	9	10	NA	
	Ver y poo rly												
	Extr em ely well												
Are consistent in the application of the legislation	0	1	2	3	4	5	6	7	8	9	10	555	Q16_1
Ask objective and unbiased questions	0	1	2	3	4	5	6	7	8	9	10	555	Q16_2
Are impartial when undertaking the inspection	0	1	2	3	4	5	6	7	8	9	10	555	Q16_3
Issue improvement notices or compliance actions in an appropriate manner	0	1	2	3	4	5	6	7	8	9	10	555	Q16_4
Are available to visit sites when necessary	0	1	2	3	4	5	6	7	8	9	10	555	Q16_5
Are available to answer queries over the telephone or online	0	1	2	3	4	5	6	7	8	9	10	555	Q16_6
Keep up with new technologies	0	1	2	3	4	5	6	7	8	9	10	555	Q16_7
Acknowledges positive work healthy and safety initiatives in the workplace	0	1	2	3	4	5	6	7	8	9	10	555	Q16_8
Provides staff with examples of how they could comply	0	1	2	3	4	5	6	7	8	9	10	555	Q16_9
Provide useful, actionable information to make operations safer	0	1	2	3	4	5	6	7	8	9	10	555	Q16_10

**Q17. We're almost to the end [Q3]. I'm now going to ask you some questions about the services that the regulator provides. In your knowledge, what services does the regulator provide?**

**PROBE**

---



---

Q17



**Q18. Prior to this survey, were you aware of the following services provided by the regulator?**

*PROMPTED - tick any that apply*

Examines candidates for competencies	1	Q18_1
Develops industry-based work health and safety programs	2	Q18_2
Provides forum for stakeholder consultation and decision making on work health and safety issues	3	Q18_3
Provides evidence-based research and research tools	4	Q18_4
Conducts inspections	5	Q18_5

**Q19. What services do you think the regulator should be providing?**

*PROBE*

---

Q19

**Q20. Based on your experiences with the regulator, do you have any other comments or suggested improvements for the regulator?**

*PROBE*

---

Q20

**Q21. That brings us to the end of the survey. Thank you for your time and feedback today. Have a great day**

**End**



## Appendix 2: Pre-survey letter/email



May 11<sup>th</sup> 2015

### Mine Safety Regulator Perception Survey

The Mine Safety Regulator, an agency of NSW Trade and Investment, is focussed on continuously improving the Work, Health and Safety of mining employees and contractors in this state. To assess our performance and identify any potential areas for improvement, we would like your help.

Over the coming weeks we will be conducting a survey among mine staff, contractors and other stakeholders. Based on what you say, we will continue to modify what we do to ensure that we meet your needs.

The survey is being conducted with the endorsement of the NSW Minerals Council that includes Mine Safety Advisory Council, Cement Concrete and Aggregates Australia, CFMEU and AWA.

I encourage you to take this opportunity to 'have your say'. The survey should only take around 10-15 minutes to complete.

An independent research company, Jetty Research, has been appointed to conduct the survey on our behalf. Jetty Research operates in accordance with the Australian Market and Social Research Guidelines, which among other things guarantees the confidentiality of any information you provide.

If you do not wish to be contacted for this survey or would like further information, please contact [john.flint@trade.nsw.gov.au](mailto:john.flint@trade.nsw.gov.au) and quote the Mine Safety Regulator Perception Survey.

Yours sincerely,

John Flint  
Executive Officer | Mine Safety Advisory Council | Governance Branch Resources and Energy  
Trade & Investment, Regional Infrastructure & Services NSW |  
T: 02 4931 6636 | E: [john.flint@trade.nsw.gov.au](mailto:john.flint@trade.nsw.gov.au)

PO Box 344, Hunter Region Mail Centre NSW 2310  
Tel: 02 4931 6636 Fax: 02 4931 6790  
ABN 72 189 919 072  
[www.nswminesafety.com.au](http://www.nswminesafety.com.au)

## Appendix 3: Factor analysis

### Purpose of factor analysis

Factor analysis is typically undertaken for the following purposes;

- ⇒ Data reduction: Replace a large number of variables with a smaller number which reflect most of the original data.
- ⇒ Test and scale construction: Develop tests and scales which are “pure” measures of some construct.
- ⇒ Operational definition of theoretical constructs: To what extent different observed variables measure the same thing? Validity: Do they all measure it equally well?
- ⇒ Theory construction: Several observed measures for each theoretical construct (factors). How are the underlying factors related?
- ⇒ Factorial invariance: Test equivalence of factor structures across several groups.

### Is factor analysis appropriate in this instance?

Factor analysis will be appropriate when one wishes to address one of the above objectives and the data set allows for the analysis to be undertaken. In this circumstance, factor analysis is appropriate as we wish to;

- a) Understand where relationships exist within the data to assist with questionnaire design in repeat studies. Factor analysis will assist us to identify variables which are repeated within the questionnaire (as the analysis will determine which variables are effectively measuring the same aspects of another variable in which case only one, but not both, is necessary).
- b) Understand which constructs are evident within the data set, which will assist with interpretation of the data and potentially in the development of training and learning material going forward.

Factor analysis is also appropriate due to the nature of the data: scale variables are more easily analysed than other data types. However, initial data quality tests suggested that the inclusion of all scale variables in the factor analysis was not appropriate<sup>6</sup>. For this reason, two separate factor analyses have been undertaken;

- 1 The first with Q13-Q14 (questions relating to the MSR in general)
- 2 The second with Q15-16 (questions relating to the mine inspector)

The following analysis therefore undertakes separate factor analysis across questions relating to the MSR and then relating to the mine inspector.

Note that factor analysis requires a degree of experimentation to uncover an outcome that is reasonable and makes sense. The following analysis outlines the result of undertaking a number of different structure types.

---

<sup>6</sup> Initial tests indicated that analysis of Q13-Q16 was inappropriate as SPSS identified that “the matrix is not positive definite.” This warning suggests that something is intrinsically wrong as covariance matrices are always positive (semi) definite and you cannot factor-analyze a matrix that is not positive (semi) definite.

**The MSR: identifying factors**

The following analysis was conducted on questions 13 and 14 which relate to the MSR.

First, the descriptive data (mean scores and standard deviation) were reviewed to ensure no problems within the data set. Review of the descriptive statistics is useful for checking the data for consistency and possible data entry problems. Given the mean scores are within approximately two points of each other and all standard deviations are under 3, we can assume that there are no outliers in the data set.

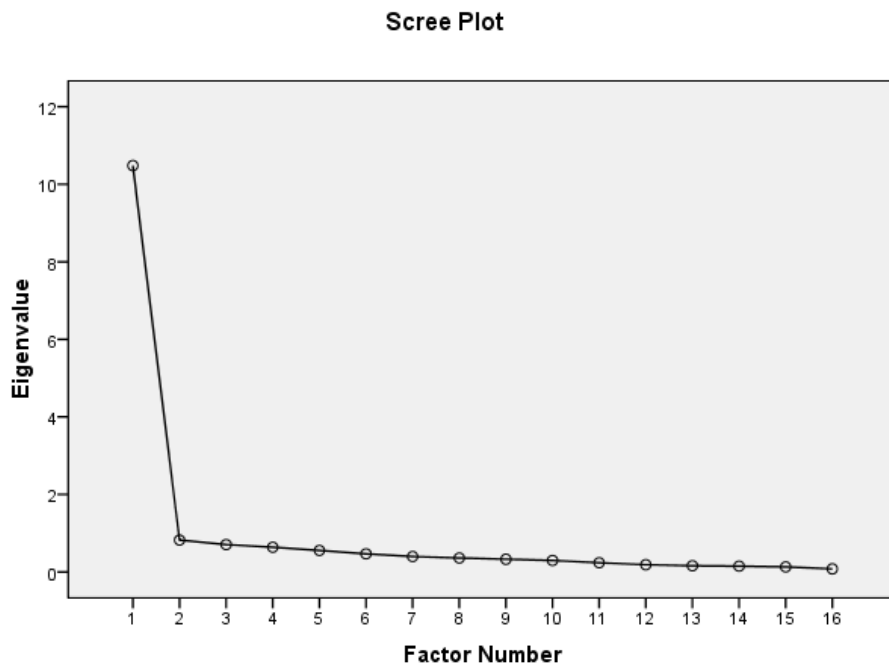
The commonalities table indicated high levels of correlations within the data suggesting the data set was adequate for factor analysis.

**Table A2.1: Test for appropriateness of factor analysis**

KMO and Bartlett's test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.937
Bartlett's Test of Sphericity	Approx. Chi-Square	954.964
	df	120
	Sig.	.000

The Kaiser-Meyer-Olkin measure of sampling adequacy tests the adequacy of the data for factor analysis. In this case the significance of this test (scoring 0.881) suggests that factor analysis is appropriate.

**Diagram A2.1: Scree plot – identifying the number of factors evident in the structure**



The scree plot indicated that only one, maybe two, factors existed within the structure. Factor analysis was undertaken utilising a number of methodologies and testing the structure by forcing a number of factors. Essentially the structure was stretched to achieve a result that made sense, had high correlations within each factor and passed reliability testing.

The end result was the pattern matrix below, which identifies the factors that load most highly and realistically onto each structure.

**Table A2.2: Factor pattern structure**

**Pattern matrix<sup>a</sup>**

	Factor	
	1	2
Responding to complaints about safety	.999	
Undertaking safety inspections	.741	
Supporting work health and safety representatives	.728	
Carrying out independent investigations of incidents	.686	
Supporting unions and employer organisations to promote improvement to safety and health practices	.635	
Responding to requests in a timely manner	.613	
Monitoring safety performance data	.609	
Resolving disputes about safety in the workplace	.551	.415
Setting appropriate safety standards	.517	.306
Providing advice and information about safety		1.001
Providing guidance on development of documentation to meet legislative requirements		.754
Publishing appropriate industry safety performance indices		.693
Issuing safety alerts		.626
Promoting health management programs		.563
Clarifying where legal responsibilities lie		.537
Encouraging consistent application of safety standards across all operations	.317	.437

Extraction method: principal axis factoring.

Rotation method: promax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

**The mine inspector: identifying factors**

An identical analysis procedure was undertaken to understand the factors within the questions relating to the mine inspectors and is outlined below.

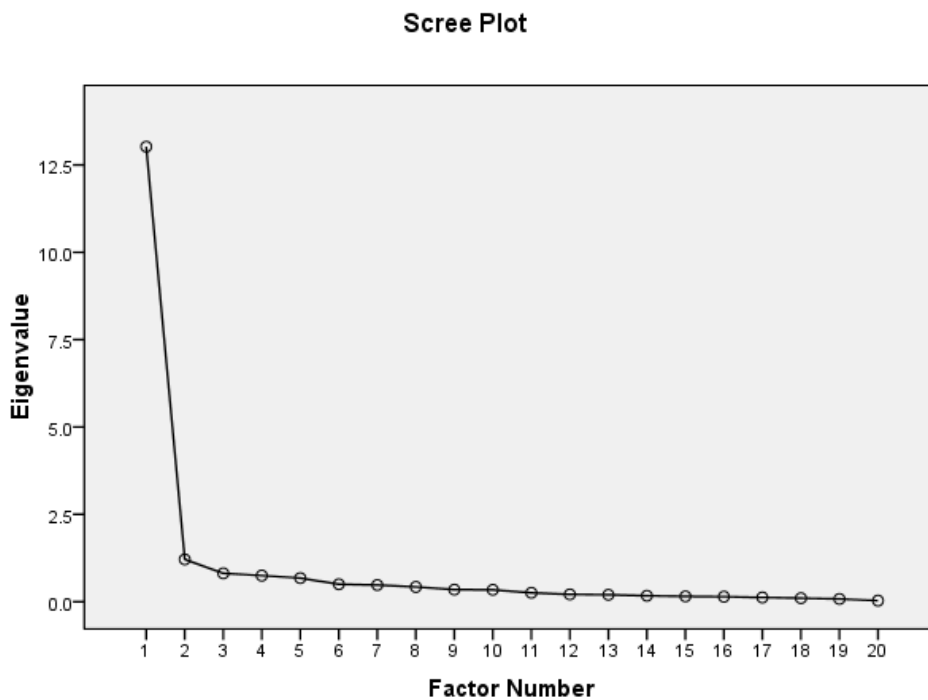
Again, the variables all indicated high communality scores suggesting a high level of correlation within the structure. Furthermore the KMO and Bartlett’s test indicated a high sampling adequacy (0.934) again suggesting that factor analysis was appropriate (as outlined in table A2.3).

**Table A2.3: Test for appropriateness of factor analysis**

KMO and Bartlett's test		
Kaiser-Meyer-Olkin measure of sampling adequacy.		.934
Bartlett's Test of Sphericity	Approx. Chi-Square	2990.064
	df	190
	Sig.	.000

While analysis of the eigen values suggested there was 1 factor within the structure, the scree plot identified four.

**Diagram A2.2: Scree plot – identifying the number of factors evident in the structure**



Again, factor analysis was undertaken utilising a number of methodologies and testing the structure by forcing a number of factors. Essentially the structure was stretched to achieve a result that made sense, had high correlations within each factor and passed reliability testing.

The end result was the pattern matrix below which identifies the factors which load most highly and realistically onto each structure.

**Table A2.4: Factor pattern structure**

**Pattern matrix<sup>a</sup>**

	Factor			
	1	2	3	4
Provides staff with examples of how they could comply	1.037			
Provide useful, actionable information to make operations safer	.816			
Acknowledges positive work healthy and safety initiatives in the workplace	.643			
Keep up with new technologies	.573			
Are available to visit sites when necessary	.499			
Are available to answer queries over the telephone or online	.425			
Treats staff in a fair and just manner		1.003		
Treat staff with respect		.953		
Have satisfactory interpersonal skills		.754		
Approach the inspection with professionalism		.560	.309	
Provide information in a civil and cooperative way	.338	.460		
Are knowledgeable about the industry that they are inspecting			.827	
Are knowledgeable about the type of operation that they are inspecting			.797	
Have a sufficient level of experience to carry out the inspection			.765	
Have a good technical knowledge			.589	
Are knowledgeable about the legislation			.548	
Are impartial when undertaking the inspection				.861
Ask objective and unbiased questions				.722
Are consistent in the application of the legislation				.679
Issue improvement notices or compliance actions in an appropriate manner				.601

Extraction method: principal axis factoring.

Rotation method: promax with Kaiser Normalization.

Pattern matrix<sup>a</sup>

	Factor			
	1	2	3	4
Provides staff with examples of how they could comply	1.037			
Provide useful, actionable information to make operations safer	.816			
Acknowledges positive work healthy and safety initiatives in the workplace	.643			
Keep up with new technologies	.573			
Are available to visit sites when necessary	.499			
Are available to answer queries over the telephone or online	.425			
Treats staff in a fair and just manner		1.003		
Treat staff with respect		.953		
Have satisfactory interpersonal skills		.754		
Approach the inspection with professionalism		.560	.309	
Provide information in a civil and cooperative way	.338	.460		
Are knowledgeable about the industry that they are inspecting			.827	
Are knowledgeable about the type of operation that they are inspecting			.797	
Have a sufficient level of experience to carry out the inspection			.765	
Have a good technical knowledge			.589	
Are knowledgeable about the legislation			.548	
Are impartial when undertaking the inspection				.861
Ask objective and unbiased questions				.722
Are consistent in the application of the legislation				.679
Issue improvement notices or compliance actions in an appropriate manner				.601

Extraction method: principal axis factoring.

Rotation method: promax with Kaiser Normalization.

a. Rotation converged in 8 iterations.



## Appendix 4: Other suggestions for the regulator

- ⇒ Additional staff for the investigation unit and additional staff for inspecting coal mines.
- ⇒ All the regulators that I have dealt with are straight up and they do a good job and I am happy with the services.
- ⇒ Ask for feedback and opportunity for companies to comment on new requirements.
- ⇒ Because I deal with three different regions in NSW, I notice an inconsistency in the approach to carrying out the legislation in each region, very uneven
- ⇒ Clear up any understanding of the new legislation. They have written the new legislation but do not have any forms or anything to back it up. They take time in getting back to us about these new legislations and what we are supposed to be doing.
- ⇒ Codes of practice and guidance material are sometimes difficult to comprehend. Easier to understand information maybe give examples of legislation instead of referring to the legislation.
- ⇒ Compared to where they were 20 years ago, they are a great asset to have behind me.
- ⇒ Concern with a major incident - on initial consultation appeared to be very reluctant to use people on site with experience to assist them. Maybe they could look at working with management and workers more with an issue, they understand the worksite and info they provide could be useful,
- ⇒ Consistency needed.
- ⇒ Didn't like the fact they turn up unannounced. They should make an appointment but it's hard to speak to them when you're busy.
- ⇒ Do a good job.
- ⇒ Doing a good job already.
- ⇒ Generally they are okay all my dealings [with MSR] are constructive and positive.
- ⇒ Good working relationships are key and they need to continue to foster these. The regulator perspective regarding fitness for testing (drug and alcohol testing) when entering site should be re-considered as well as their powers to not undertake inductions. This sends a poor message in that they are here to check our safety systems but won't partake in them.
- ⇒ I believe they should regulate all businesses on a level playing field.
- ⇒ I deal with both WorkCover and (the Department of Industry) and I find that the (Department of Industry) are more proactive. They are more helpful.
- ⇒ I find having worked outside the mining sector, when you compare them to WorkCover reps, the inspectors are a much more aligned with industry to effect change which is much more positive.
- ⇒ I found them to be very proactive and helpful.
- ⇒ I think they interact a lot better to try and improve the standard of the industry and more of that would be good just the sharing of practice and experience.
- ⇒ Improvement in how some of the inspectors approach different issues and interact with people at the site.
- ⇒ Information from incidents from other mines being provided in a quicker timeframe. If there is a fatality you don't see reports for some time, and info is too vague to be of use. Also better co-operation between states – e.g. fatalities at a mine site in WA - we know nothing about it. Sometimes it can be difficult to contact (inspectorate) if they're out of town, may take a couple of days to get hold of them, and should be an alternate contact point. Slow practice with issuing guidelines and publications. Can be frustrating.

- ⇒ Inspectors are generally very experienced. There are extra departments in departments and don't know if we are getting value for money and some don't have a mining background. Seems to be growing with a lot of public servants who haven't got a mining background as the pay is better but don't have the experience in mining.
- ⇒ Inspectors do a good job but the legislation stops them working together with us on health and safety issue within our industry.
- ⇒ Introduce us to improvements we can do.
- ⇒ It would be good if they were more visible on site, make more interaction with the work force.
- ⇒ It's a workable model.
- ⇒ It's been a positive experience ... same challenge as WorkCover ... Maybe they need some younger graduates.
- ⇒ Keep up the good work.
- ⇒ Lack of consistency between the different inspectors as I deal with three different inspectors and they all have different opinions on an incident. Maybe inspectors talk to each other before advising and make sure the right inspector comes to report.
- ⇒ Legislation just takes too long to review and implement.
- ⇒ Limited dealings I have had has been good and issues we have had we have been given onsite advice which has been great and dealt with.
- ⇒ Make it accessible.
- ⇒ Making sure they get rid of cowboy operators, because they are small, they tend to fly under the radar, and get away with things - should look out for them.
- ⇒ Maybe in terms of new legislation more workshops or education, how the regulator will apply the new regulations.
- ⇒ More consistency between inspectors ... Need to be more involved in advanced technology ... Or trials that are occurring ...more reviews as a team.
- ⇒ More consistency required on interpretation of the legislation.
- ⇒ More contact with and education of health and safety representatives.
- ⇒ More feedback on investigation progression.
- ⇒ More interaction with workforce.
- ⇒ More publicity and a better understanding of how we can use them. We have no contact at all.
- ⇒ More regular seminars for health and safety reps to build a relationship with the regulator.
- ⇒ Need a more consolidated approach the way they examine candidates ... a more consistent approach.
- ⇒ Need more staff ... Staff look overworked.
- ⇒ Need to be consistent between inspectors and deal with the conflict between the investigation branch and the safety branch.
- ⇒ Occasionally, there will be a notice about a machine ... it has a wide ranging impact financially ... be careful how things are rolled out ... need reasonable time to react.
- ⇒ Our bloke is fantastic but his area is too large which makes him unavailable sometimes.
- ⇒ Our local inspectors treat staff with respect ... but travelling inspectors do not show respect ... Talk down to staff.
- ⇒ Pretty good. The regulator we have is very experienced and knowledgeable.
- ⇒ Provide more industry feedback, could supply a mining forum to discuss general safety issues with management. Happy with relationship with my inspector and regulator.
- ⇒ Reduce the area size for the inspectors to cover.
- ⇒ Regulator to have more periodically auditing of safety management systems e.g. consultation, investigation and the way they use their WHS reps.

- ⇒ Should be more proactive ... not giving the perception of a helper.
- ⇒ Some mine inspectors are too close to mine managers, remembering that a few are ex-mine managers. The lack of proper investigations into incidents and bullying and harassment is a major concern.
- ⇒ Stop changing their name!
- ⇒ Streamline documentation.
- ⇒ The contractors should follow the guidelines and treat everyone the same.
- ⇒ The inspectors are quite willing to talk to you, work with you that helps our relationship.
- ⇒ The reopening of complaints - that are being reopened, should not be opened, and we find this should not happen.
- ⇒ The regulator is great. We have a good relationship with our inspector and he is very good at his job.
- ⇒ The regulators do a very good job.
- ⇒ Their approach is to fit a square peg into a round hole in their non-ability to be flexible. More supportive of contractors. The whole system is built around mine sites and every mine site has contractors and their approach to looking after contractors could be better, all questions asked today were mine-based and don't relate to contractors as much. We need help as well maybe an area more in tune with contractor's requirements.
- ⇒ There is an opportunity to engage themselves in early operation, where possibly they could have intervened earlier before incidents happen.
- ⇒ They are going quite well towards a proactive approach.
- ⇒ They are there to help. And not to be police ... have had only good experiences.
- ⇒ They do a good job.
- ⇒ They have a requirement to hold their position to every so often work in the industry to refresh themselves as an operator (approx. 12 months stint).
- ⇒ They need to adopt a leadership role rather than a role of shepherd ... they tend to round them up. Instead of setting the direction and getting them to follow.
- ⇒ They need to focus on more proactive health and safety programs and they should be maintaining consistency in application of the regulations or legislation.
- ⇒ They need to review the emphasis on hazards vs risk ... somewhat out of touch with current best practice in risk management ... the regulator paces an emphasis on hazard management plans ... Workers are dying from risks on a regular basis. Formal focus on risk management, and risk mitigation.
- ⇒ They should follow up on results of inspections ... all the notices.
- ⇒ Think they could give more clarification to their interpretation with the new regulations.
- ⇒ To be a little more involved in industry forums.
- ⇒ To be fair across the board for all quarries...possible favouritism ... Thinks he gets more inspections than other operators.
- ⇒ Tougher regulations.
- ⇒ Uniformity within the safety and regions.
- ⇒ We a great relationship with all of them.
- ⇒ We have a good partnership, and I am happy with how the operation is.

- ⇒ We have a new mine management plan and there was one whole section where there wasn't any information to help us. There should have been a forum to advise and inform instead we were audited on that section without knowing if we were wrong or right. I still can't accept that extractive industry is in the same basket as mines etc and we still come under the legislation as the big mines. There should be different categories for sizes and whether underground or not, and as a small business it is unfair to regulate us the same as large underground mines as we are a small above ground quarry. Quarries should be separate from mines. We are small and don't have the resources of bigger mines. Most people in our quarry are doing a few jobs. Legislation seems to be aimed at the big boys - maybe more help for smaller companies.
- ⇒ We need to be regulated, but we need to prove ourselves not guilty which is bad in law.
- ⇒ We need to ensure there is a level playing field.
- ⇒ Whenever I want to find something they are always very helpful.
- ⇒ With the changes in the Legislation have they done any road shows on legislation.
- ⇒ Would hope the organisation continues to assist industry to improve health and safety and whilst the legislation is acknowledged, enforcement should not be the primary objective.