

Skills Shortage Survey Report

of

Central Highlands Mining Industry



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Skills Shortage Survey Report

Central Highlands Mining Companies and Contractor Firms

Background:

The Skills Shortage survey is an initiative of the Skills Shortage working group established at Mining Forum III, in Emerald on 8th September 2004. Mining Forum III was the most recent in a series of forums bringing together the business community, local and state government, and the mining industry to focus on maximising the potential of the mining industry on the Central Highlands. Mining Forum III participants identified three major issues adversely impacting on the mining industry and associated support businesses. These issues were identified as a lack of affordable accommodation, limited marketing of the Central Highlands region to compliment recruitment activities and a shortage of skilled labour. It was acknowledged that these issues could not be effectively resolved by any one organisation working in isolation and that each issue must be strategically addressed through the collaborative efforts of government agencies, mining industry, business and community organisations.

In response, the Skills Shortage working group was established to examine the skills shortage issue and identify strategies to address these shortages. As a starting point in examining the issue, the working group identified the need to quantify the articulated shortage of skilled labour in the mining industry by conducting a survey of mining companies and contracting firms in the Central Highlands region.

The aim of the survey was to quantify the current types and numbers of professionals, trades people and operators presently employed by the mining companies and contracting firms, as well as approximate the number of employees expected to be employed in these positions in the next 12 months to 5 years.

The survey was conducted from December 2004 to February 2005, submitted for review and comment by the Skills Shortage working group in March 2005 and the final report distributed in April 2005. The report findings will be utilized by the Skills Shortage working group to develop and undertake initiatives to address the skills/labour shortage in the Central Highlands region.

Introduction:

The Skills Shortage working group initiated this survey of the Central Highlands mining industry to quantify the skills/labour shortage being articulated by mining companies and contracting firms.

Existing mines on the Central Highlands were selected for the survey as well as those mines in close proximity that may access initiatives adopted in this region for addressing the skills/labour shortage. Each mine was asked to identify major contractors operating on site to collate a list of contracting firms for participation in the survey. It was identified that several major contractors have operations across several different mine sites. Contracting firms were selected to participate in the survey as it was suggested their operations would be more acutely effected from the skills shortage before that of the mining companies.

A questionnaire was e-mailed to mining companies and mining contractor firms operating across the Central Highlands region and selected periphery locations within the Bowen Basin of Central Queensland. Questionnaires were sent to 21 mines and 20 contractors with an overall response rate of 48.5%. Responses were received from mines and contractors located in the Moranbah, Clermont, Blackwater, Emerald and Biloela areas. It was stipulated to participants that the survey results would be presented as collective data sets and would not specifically identify individual mining companies or contracting firms.

Mining Workforce:

Responding mining companies and contracting firms were asked to detail their permanent staff numbers. Mines were also asked to indicate the number of contractors working at each site. Collated data from respondents indicated the average number of workers per mine site is 479, including permanent and contractors. Approximately 48% of workers at each mine site are permanent employees and 52% of workers at each mine site are contractors. The average number of permanent employees per mine is 262 and the average number of permanent staff employed by each contracting firm is 88.

Contracting firms were asked to identify the types of shift rosters they are currently implementing. Five different shift rosters were identified by responding contracting firms with 44% of contractors working 12 hour shifts, four days on and four days off.

Production Increase / Decrease 2005 – 2010:

Participating mining companies and contracting firms were asked whether their operations / production would be increasing or decreasing by 2010 and if so, to indicate the percentage. 82% of mining company respondents indicated they would be increasing operations / production from 2005 to 2010, and 18 % of mines indicated they would be decreasing production by 2010. By averaging the growth rates from those companies indicating an increase, the approximate overall operations / production increase for mining companies in this region will be 70% by 2010.

67% of contracting firms said they would be increasing operations / production from 2005 to 2010 and 33% of contractors indicated they would be decreasing production by 2010. By averaging the growth rates from those firms indicating an increase, the overall approximate operations / production increase for contracting firms in this region will be up to 84% by 2010. Some contracting firms noted they could only provide accurate data for the term of their current contract and make approximate predictions thereafter.

By averaging the operations / production increase for mining companies (70%) and contracting firms (84%), it can be approximated that the overall average increase in operations / production will be up to 77% for the mining industry in this region by 2010.

To determine how the operations / production increase will impact on workforce numbers in the mining industry up to 2010, the following analysis was made. Assuming that the production increase directly relates to employment levels, then the maximum rate the workforce could increase by is 77% by 2010. Mining representatives have made conservative estimates for workforce increases should the production rate increase by 77%. These conservative estimates

of workforce increases are 15% at existing open-cut mines and 50% at existing underground mines. The average conservative workforce increase for combined open-cut and underground mines is 33% overall, which provides the minimum increase. By averaging the maximum (77%) and the minimum (33%) expected workforce increases, it can be assumed the mining industry workforce may increase by up to 55% by 2010 for existing mines in this region.

Further comparisons can be made between coal production and annual tonnage. If the overall approximate increase in coal mining production is 77% and the 2003 annual tonnage for participating mines was 68.6 million tonne, then it can be approximated that the annual tonnage for 2010 could be up to 121.4 million tonne for existing mines in this region (tonnage sourced from Advance Emerald Report, 2004). It should be noted that these calculations were made on 2003 volumes and do not include mines currently under development or being considered for potential new development.

Apprenticeships and Traineeships:

The mining companies and contracting firms were asked to indicate if they employ apprentices and trainees, full-time and school-based. All mining companies (100%) indicated they employ apprentices and 9% of mining companies employ school-based apprentices. 56% of contracting firms employ apprentices and 11% of contracting firms employ school-based apprentices.

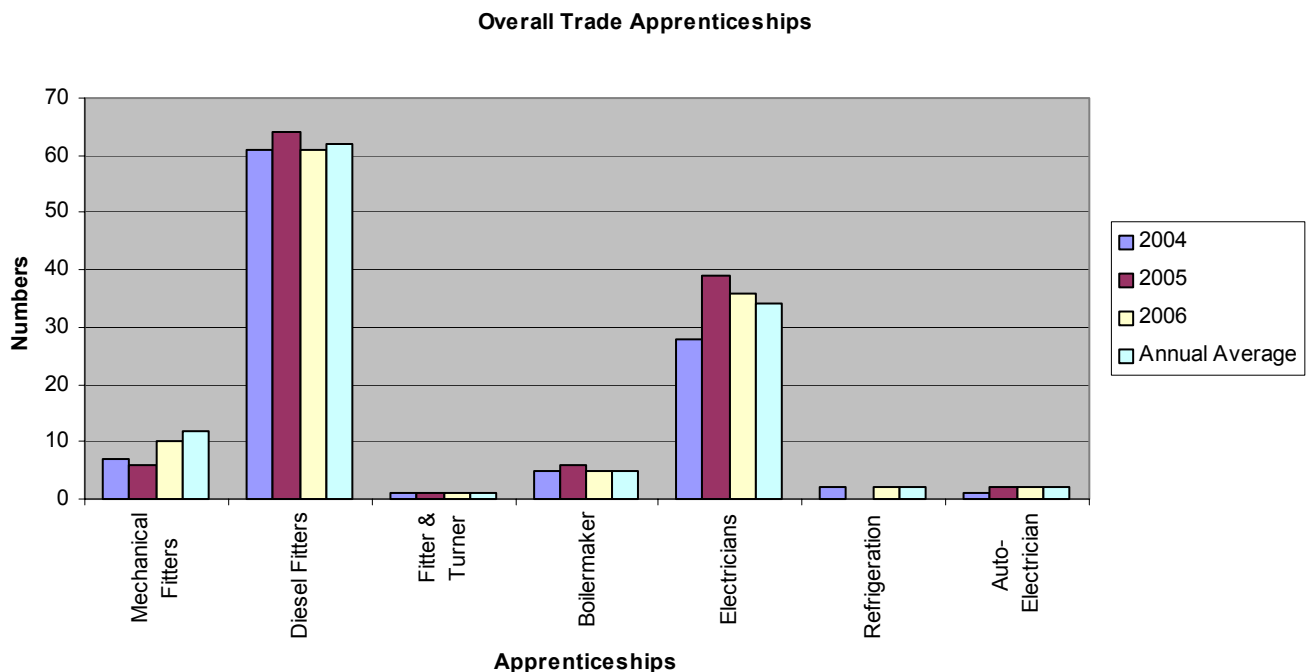
27% of mining companies employ trainees and 18% of mining companies employ school-based trainees. 55% of contracting firms employ trainees and no contracting firms employ school-based trainees.

Mining companies and contracting firms were asked to indicate the types and numbers of apprenticeships and traineeships for 2004, 2005 & 2006 as well as the average annual requirement (AAR). Utilising the AAR totals for trades people and apprenticeships provided by both mining companies and contracting firms, the overall level of current apprenticeships compared to qualified trades people is 29%. This percentage may provide an indication of the overall number of trade apprenticeships being completed in 2008, 2009 & 2010.

After consultation with the Skills Shortage working group and training providers it has been suggested mining companies and contracting firms did begin increasing apprenticeship numbers early in 2004, which is perhaps reflected in this apprentice to trade person ration (1:3). Overall, mining companies and contracting firms have a marginal increase in apprentice and trainee employment levels from 2004 to 2006. However, if the mining industry is currently experiencing a shortage of trade’s people and there is potential capacity to increase the workforce by 55%, will the supply of apprentices meet the demand for 2010 and beyond? Natural attrition rates, succession planning and the aging workforce may need to be considered if strategic initiatives are to be undertaken to address the current trade shortage.

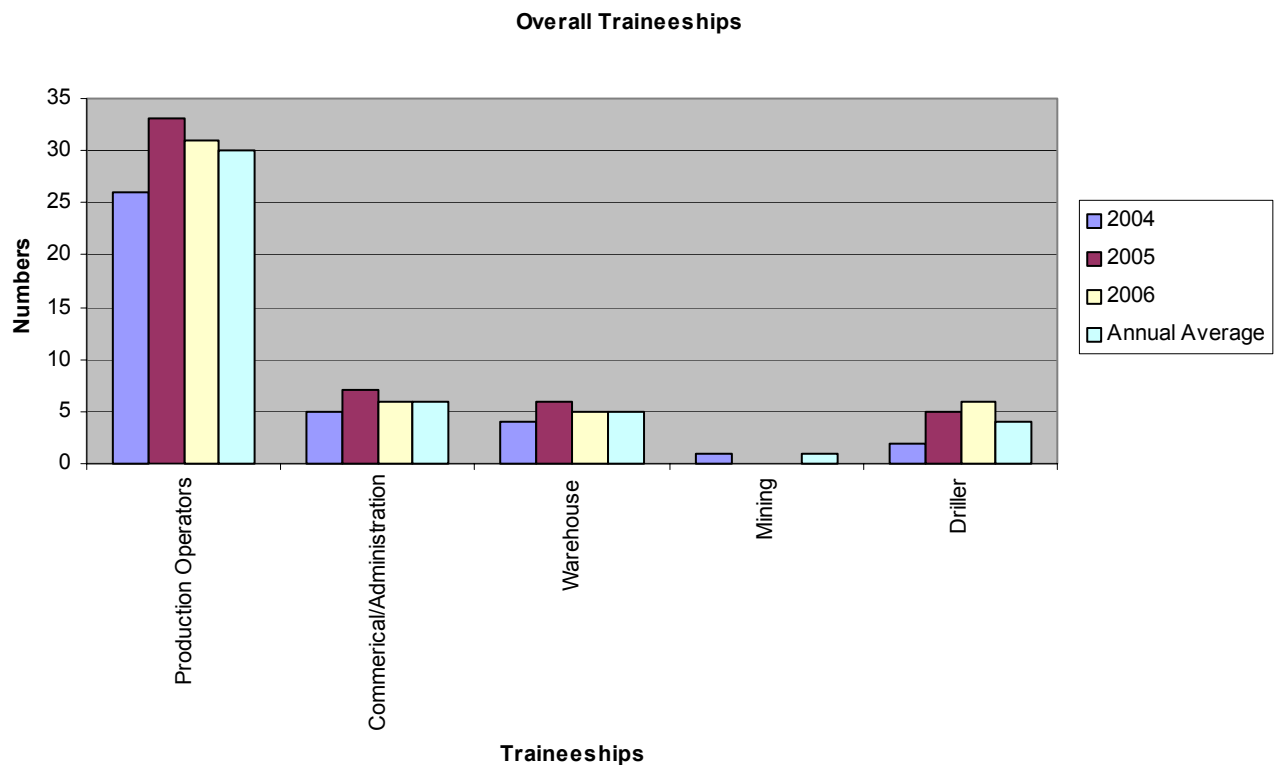
The largest number of apprentices employed by mines and contractors are Diesel Fitters and Electricians. Graph 1 (below) indicates the combined numbers and types of apprenticeships, both full-time and school-based, employed by the mining companies and contracting firms for 2004, 2005 & 2006.

Graph No. 1: Indicates the overall number and types of apprenticeships



The largest number of trainees employed by mines and contractors are Production (plant) Operators. Graph 2 (below) indicates the combined types and numbers of traineeships, both full-time and school-based, employed by the mining companies and contracting firms for 2004, 2005 & 2006. Using the AAR totals for operators and trainees provided by both mining companies and contracting firms, the overall level of current traineeships compared to operators is 3%. It appears the overall employment level for trainees for 2004, 2005 & 2006 will marginally increase for mining companies and contracting firms. Traineeship numbers, both full-time and school-based, may have to be reviewed if the workforce is to meet the expected increase in operations by 2010 and beyond.

Graph No. 2: Indicates the overall number and types of Traineeships

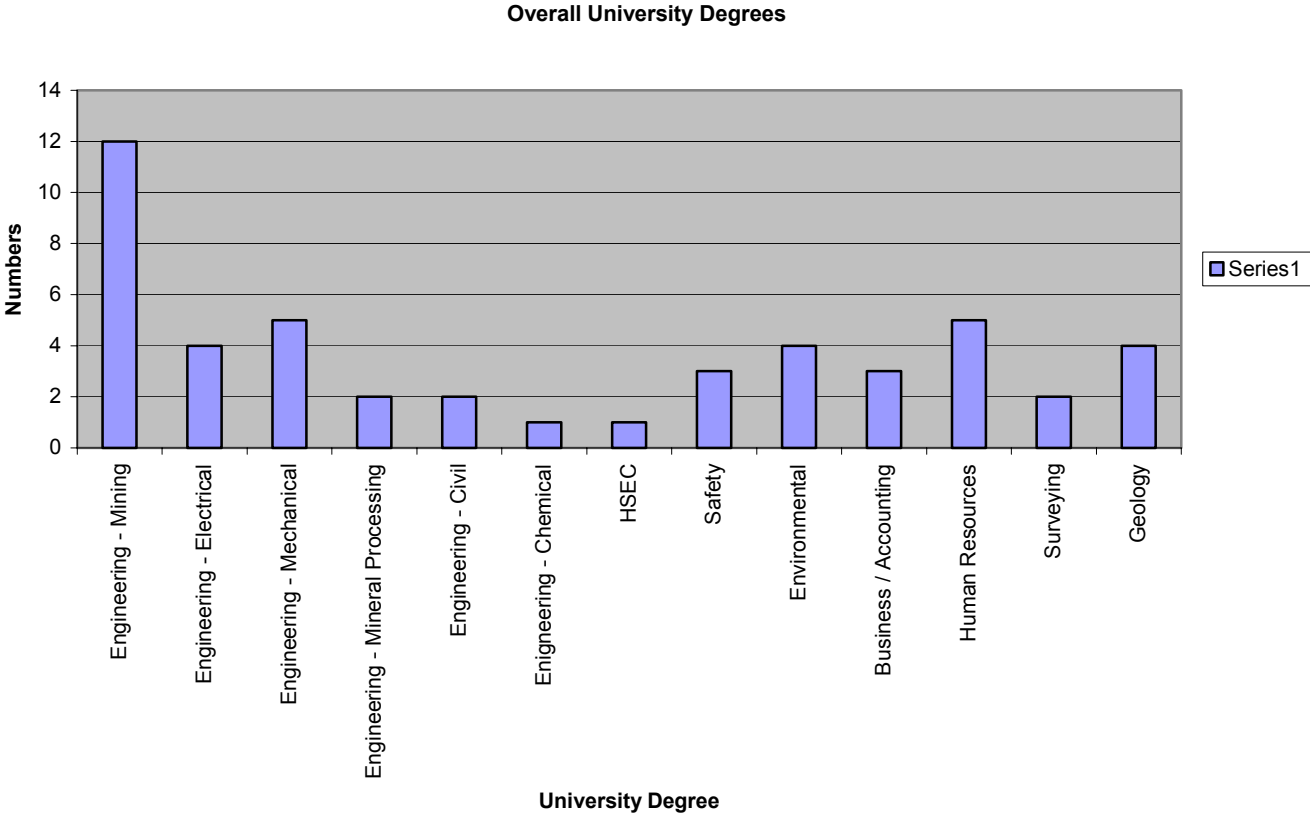


Graduate Programs:

The mining companies and contracting firms were asked if they sponsor vacation students undertaking tertiary studies as well as which degree programs and educational institutions they linked with to provide scholarship support. All mining companies indicated they employ

university vacation students, 73% of mining companies employ university graduates and 73% of mining companies sponsor university scholarships. Responding mine companies indicated they link with a variety of universities and TAFE Colleges in Queensland and New South Wales. 44% of contracting firms employ university vacation students, 33% employ university graduates and 11% sponsor university scholarships. Responding contracting firms linked with a variety of universities in Queensland and Victoria. Mine Engineering is the university degree sponsored by the largest number of mining companies and contractor firms. The following graph (No. 3) depicts the overall numbers and types of degrees sponsored by mining companies and contracting firms. The mining industry should work collaboratively with associated business sectors and the tertiary education sector (including universities and TAFE Colleges) to strategically address the shortfall in mining related degrees as well as promote professional careers in the industry in a bid to meet the demand for industry professionals in the future.

Graph No. 3: University degrees sponsored overall by mining companies and contractor firms



Skills Shortage – Professional, Trade and Operator Categories:

For the purpose of this survey the mining industry workforce has been divided into three major categories including professional, trade and operator.

The mining companies and contracting firms were asked to indicate if they are experiencing a skills shortage in the professional, trade and operator categories. 100% of mining companies and contractor firms indicated YES they are experiencing a shortage in various occupations within all three categories.

The mining companies and contracting firms were asked if they would support the establishment of a trade's skills-centre in the Central Highlands region. 100% of respondents to this question indicated YES they would support a skills centre, either financially or through staff representation. Several respondents indicated they would require a proposal to evaluate the type of support they would offer.

Respondents were asked to provide the average annual requirement (AAR) numbers for occupations within the three categories. From the AAR numbers it appears the average mining company workforce profile is comprised of 17% professionals, 21% trades and 62% operators. Utilising the AAR numbers for the three categories it appears the average contracting firm workforce profile is comprised of 15% professionals, 26% trades and 59% operators. Both mining companies and contracting firms have similar workforce profiles across the three categories.

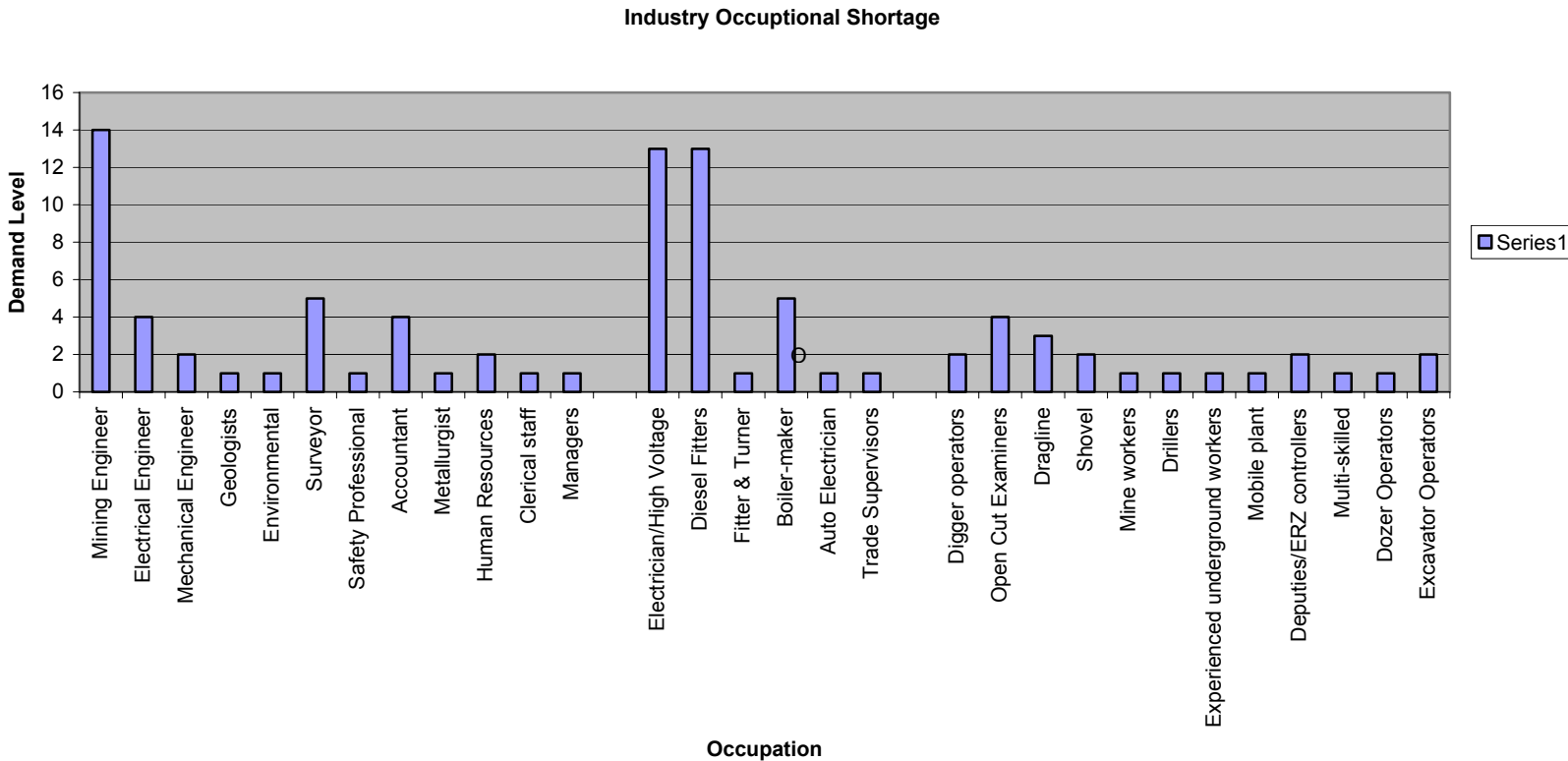
The overall highest demand or greatest shortage being experienced by mining companies and contracting firms in the professional category is for Mining Engineers.

The overall highest demand or greatest shortage being experienced by mining companies and contracting firms in the trade category is for Electricians and Diesel Fitters.

The overall highest demand or greatest shortage being experienced by mining companies and contracting firms in the operator category is for Open-cut Examiners. However, if the number of excavator, dozer and digger operators were combined then plant operators would be in highest demand. Graph 4 (below) indicates the overall shortage or demand for occupations within professional, trade and operator categories.

Please refer to the attached appendix list, which provides a breakdown of the professional category shortage levels for mining companies (Graph No. 5) and contracting firms (Graph No. 6).

Graph No. 4: Overall industry demand for occupations within professional, trade and operator categories

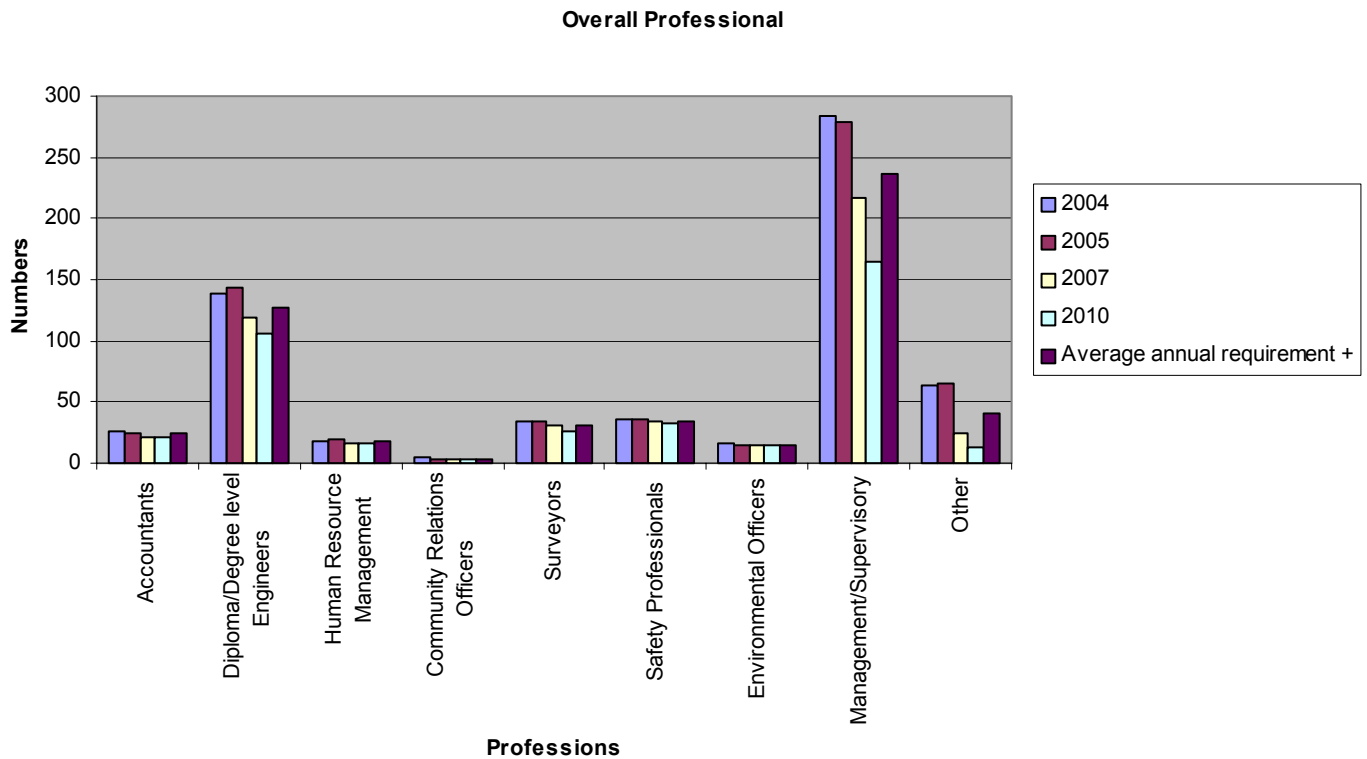


Mining Employment Levels:

The mining companies and contracting firms were asked to indicate the types of occupations and numbers they will be employing in 2004, 2005, 2007 & 2010 as well as the AAR within the three categories of professional, trade and operator. Respondents noted that projected employment figures for 2010 are influenced by the completion of contracts and the inability to predict how future price trends in the international coal market will impact on mining operations / production levels.

The overall highest professional employment levels for mining companies and contracting firms are for Management/Supervisors and Engineers for 2004 to 2010. Graph No. 7 (below) indicates the overall occupations and numbers employed in the professional category in 2004 & 2005 as well as numbers expected to be employed in 2007 to 2010 for mining companies and contracting firms.

Graph No.7: Overall – Professional: occupations and numbers employed 2004, 2005, 2007 & 2010

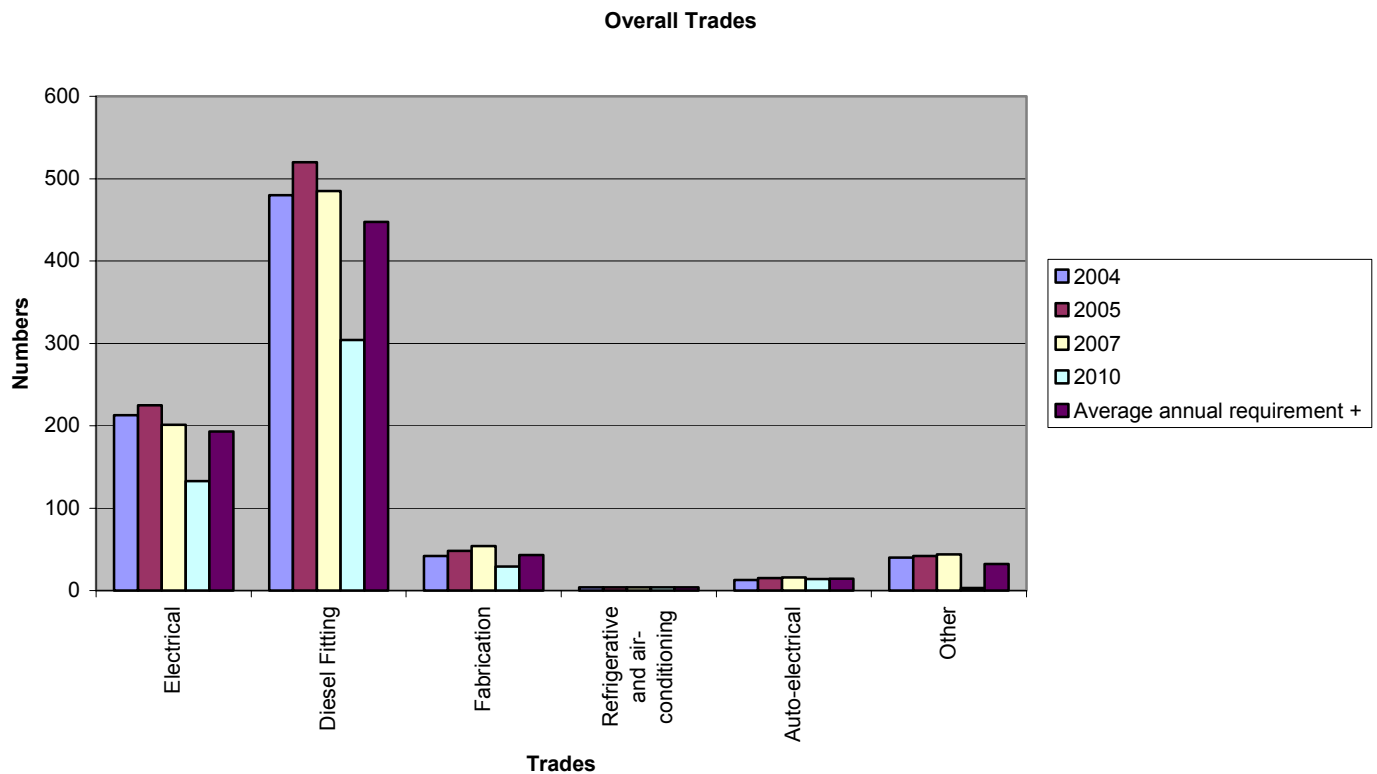


Other includes: Geologist, Administration/Clerical

The forecasted employment levels for occupations in the professional category from 2004 to 2010 as indicated by mines and contractors, does not appear to reflect the overall expected increase in production / operations levels. Please refer to the attached appendix list, which provides the overall employment level for occupations and numbers in the professional category for mining companies (Graph No. 8) and contracting firms (Graph No. 9).

The overall highest employment levels for mining companies and contracting firms in the trade category is for Electricians and Diesel Fitters. Graph No.10 (below) indicates the overall occupations and numbers employed in the trade category in 2004 & 2005 as well as those expected to be employed in 2007 to 2010 for mining companies and contracting firms.

Graph No.10: Overall – Trades: occupations and numbers employed 2004, 2005, 2007 & 2010



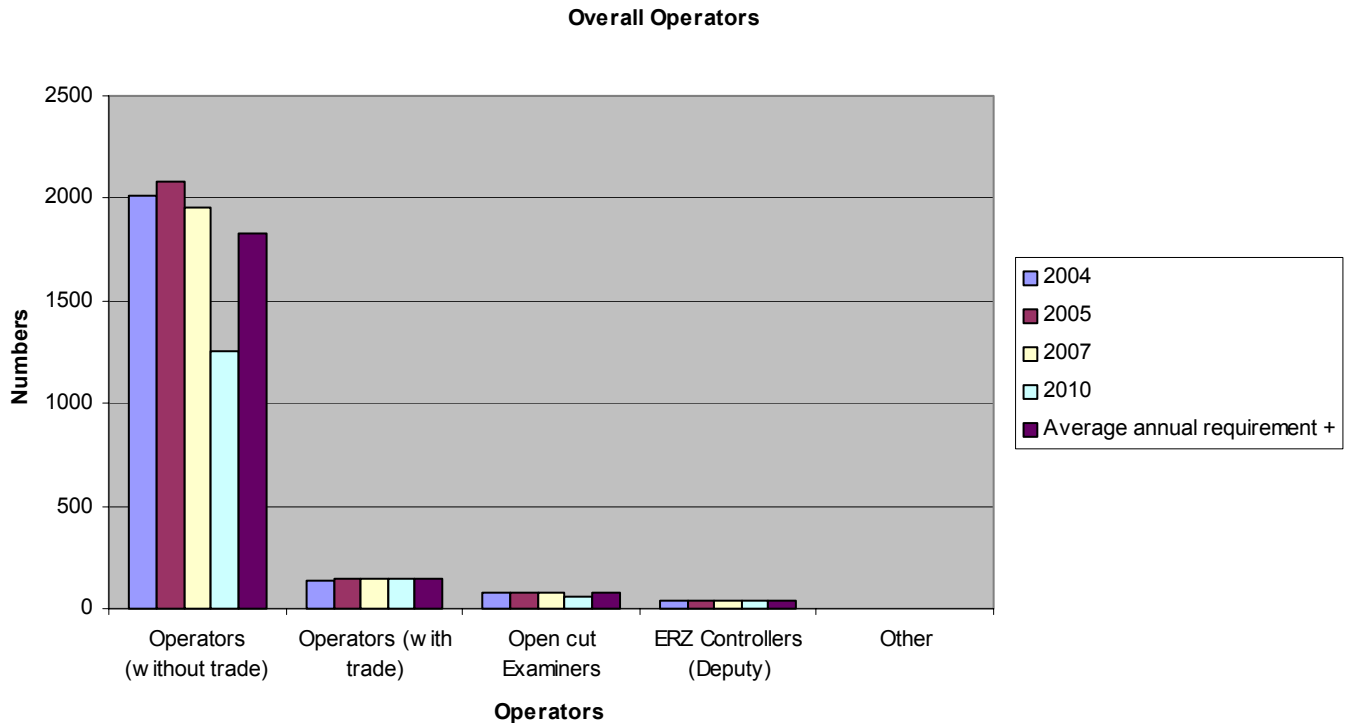
Other includes: Service persons, Tyre fitter, Trades Assistant, Prep Plant Operators, Carpenter, Plumber.

The forecasted employment levels for occupations in the trade category from 2004 – 2010 as indicated by mines and contractors, does not appear to reflect the overall expected increase in

operations / production levels. Please refer to the attached appendix list, which provides the employment level for occupations and numbers in the trade category for mining companies (Graph No. 11) and contracting firms (Graph 12).

The overall highest operator category employment levels are for operators (without a trade). Graph No.13 (below) indicates the occupations and numbers employed in the operator category in 2004 & 2005 as well as those expected to be employed in 2007 to 2010 for mining companies and contracting firms.

Graph No. 13: Overall Operators: occupations and numbers employed 2004, 2005, 2007 & 2010



The forecasted employment levels for occupations for the operator category from 2004 to 2010 as indicated by mines and contractors, does not appear to reflect the overall expected increase in production / operations levels. Please refer to the attached appendix list, which provides the overall employment level for occupations and numbers in the operator category for mining companies (Graph No. 14) and contracting firms (Graph No.15).

Conclusion:

Results from this survey highlight the following key issues and considerations for the mining industry in the Central Highlands.

Key issues:

- ***Confirmed Skills Shortage:*** All responding mining companies and contracting firms (100%) indicated they are experiencing a shortage of skilled labour across a range of occupations within the professional, trades and operator categories
- ***Workforce Increase:*** It appears the mining industry workforce could increase by up to approximately 55% between 2004 and 2010
- ***Review Apprenticeships, Traineeships and Tertiary Programs:*** Current employment levels for apprenticeships and traineeships may need to be reviewed and assessed if the predicted increase in mining operation / production is not going to be adversely impacted by the skilled trade/labour shortages. A similar review may need to be conducted with the universities and TAFE colleges, and associated business sectors to evaluate mining related degrees
- ***A Trade Skills Centre:*** All responding mining companies and contractor firms (100%) agreed a trades skills-centre should be located on the Central Highlands region and are prepared to offer support to establish this resource
- ***Key skills shortages:*** Respondents have indicated their current greatest shortage is for mining engineers in the professional category, diesel fitters and electrical in trades category, open-cut examiners and various plant operators in the operator category
- ***Highest employment levels:*** The highest employment levels presently in the mining industry are management/supervisors and engineers in the professional category, diesel fitters and electricians in the trades category, and operators without a trade in the operator category.
- ***Expansion plus:*** The expected increase in mining operations / production indicated in this survey have been accessed from existing mines and does not incorporate mines currently under development or being investigated for potential new mines

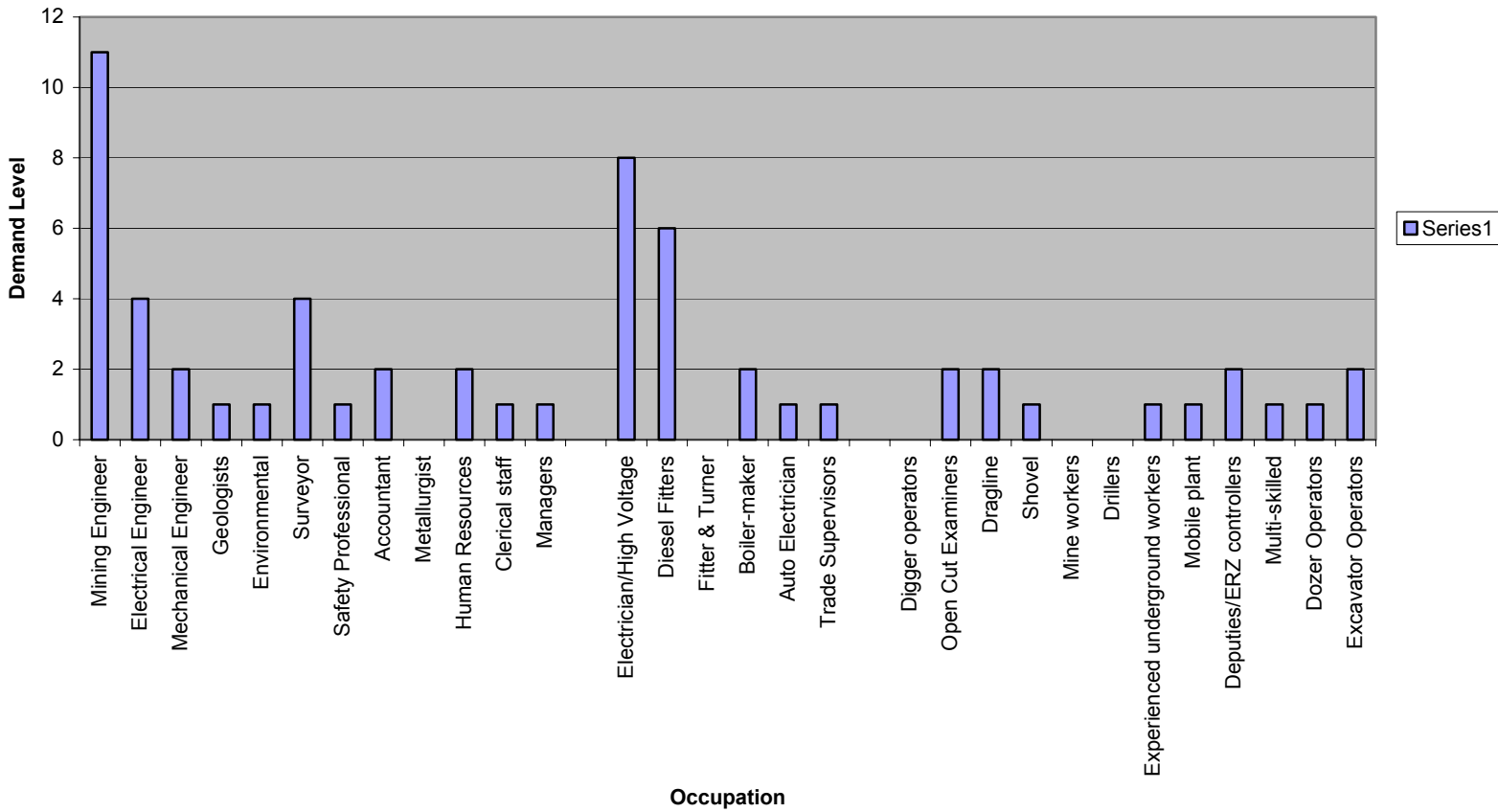
Considerations:

- **Triple Impacts:** Natural occupational attrition levels, succession planning and the aging workforce may need to be strategically and collaboratively investigated if the skills shortages in mining industry is to be effectively addressed
- **Mining Career Promotion:** Mining companies and contracting firms may need to identify alternative strategies for promoting mining careers options if the industry is to attract a larger workforce across the professional, trade and operator categories
- **Joint Responsibility – Joint Response:** Mining companies, contractor firms, associated industry businesses, government and educational institutions should work collaboratively to address mining industry labour shortages across the all occupations within the professional, trades and operator categories
- **Short-term gain Long-term Planning:** Initiatives to address labour shortages in the short term for the mining industry should consider the long term effects in relation to over-supply or surplus skills in specific occupations
- **Locality, locality, locality:** Mining companies and contractors as well as other rural businesses may need to identify strategies to attract employees to inland mining areas (away from coastal regions and/or overseas), particularly with national and international trades and labour shortages

APPENDIX LIST

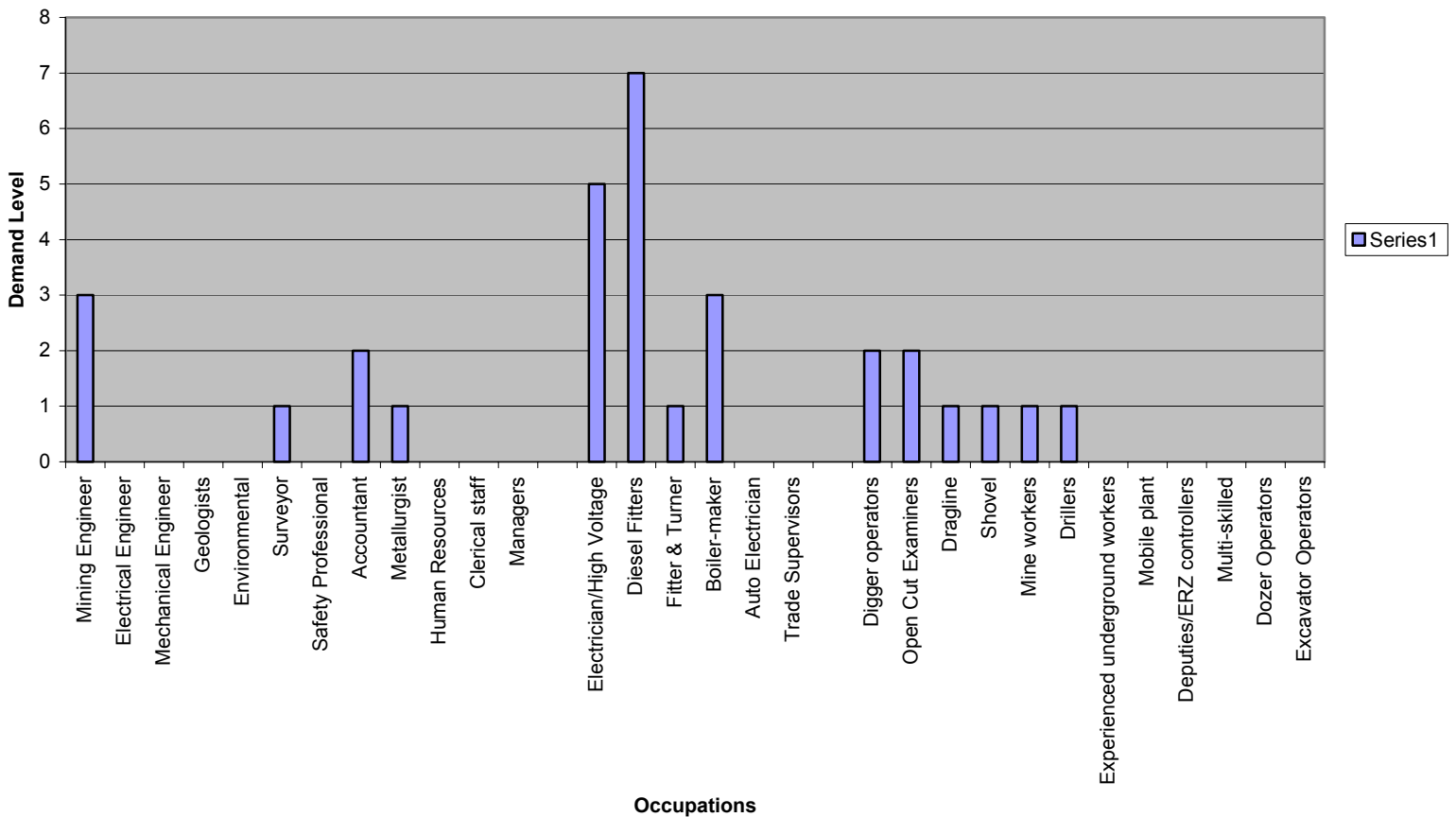
Graph No. 5: Mines - Demand for occupations within professional, trade and operator categories

Occupation Shortage - Mines

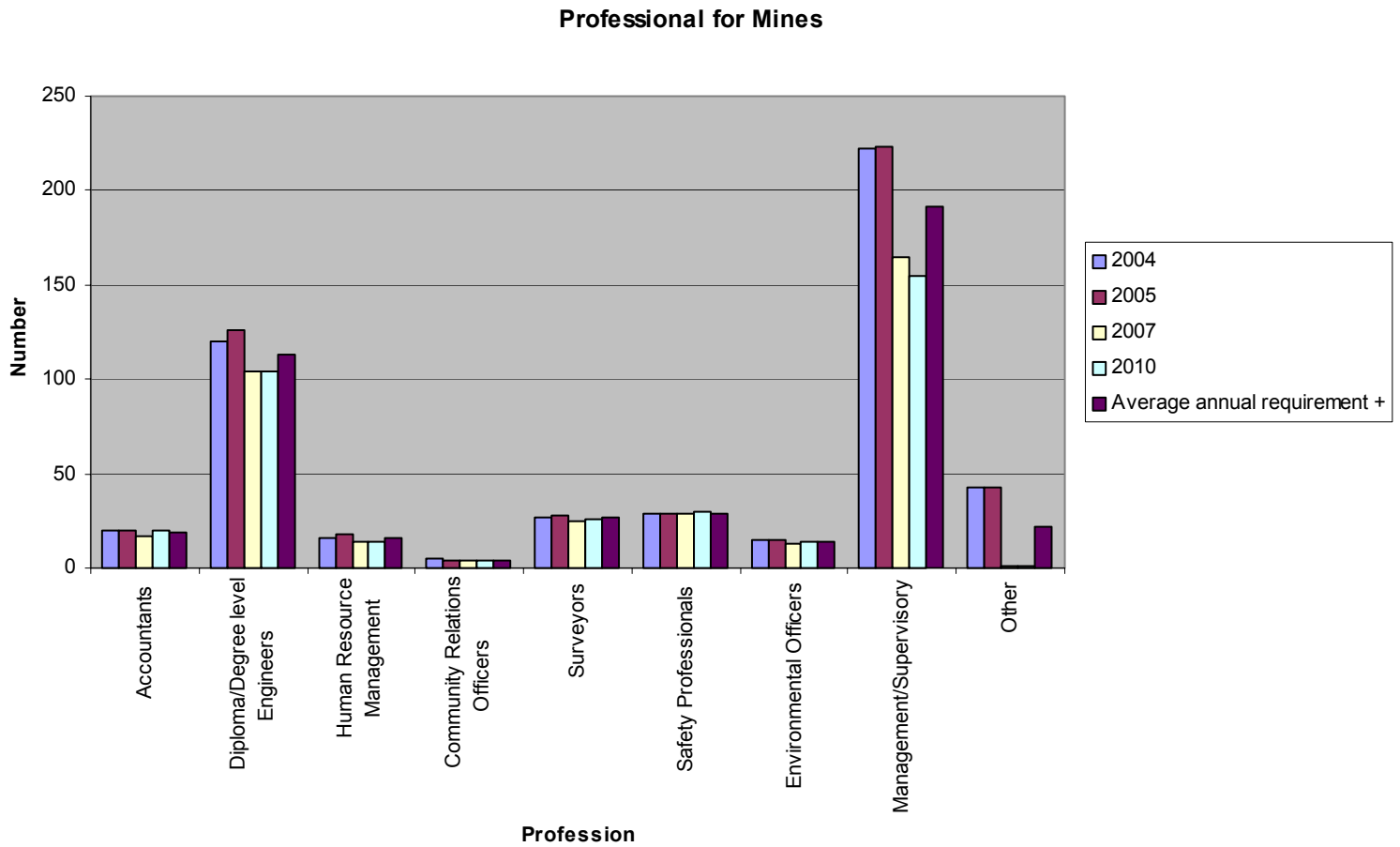


Graph No. 6: Contractors - Demand for occupations within professional, trade and operator categories

Occupation Shortage - Contractors

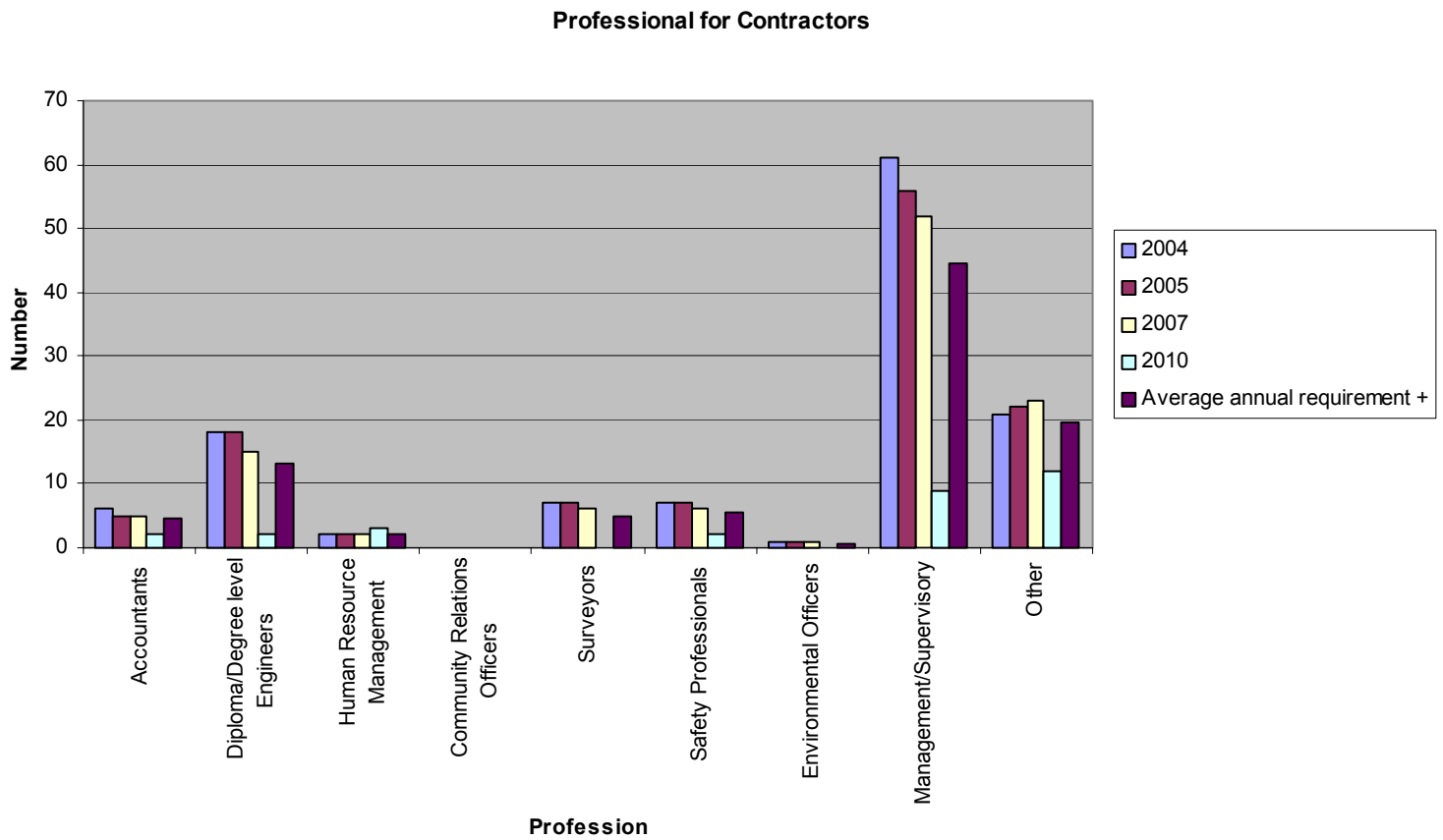


Graph No. 8: Mines – Professional: occupations and numbers employed 2004, 2005, 2007 & 2010



Other includes: Geologists, Administration/Clerical

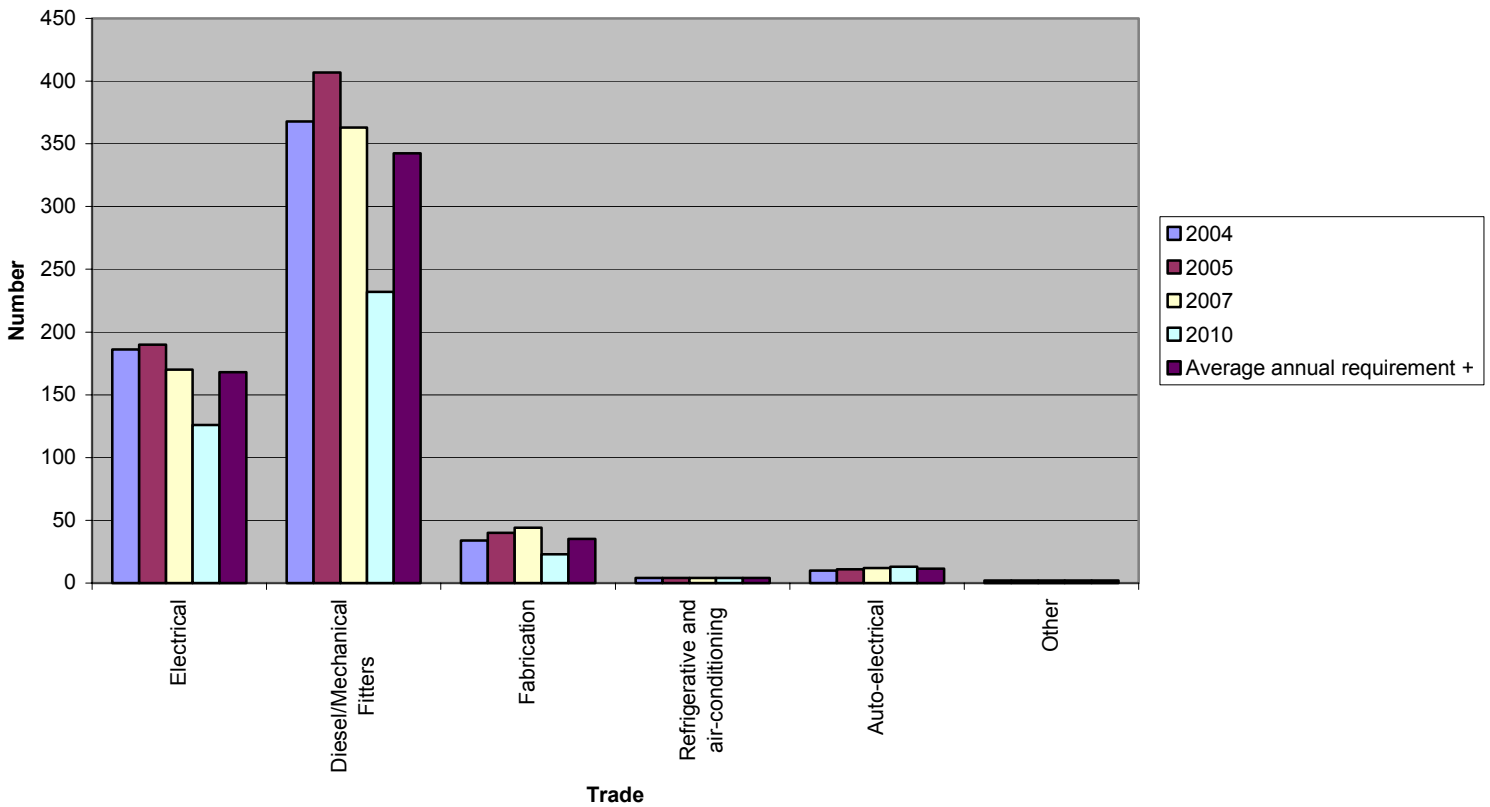
Graph No. 9: Contractors – Professional: occupations and numbers employed 2004, 2005, 2007 & 2010



Other includes: Administration/Clerical

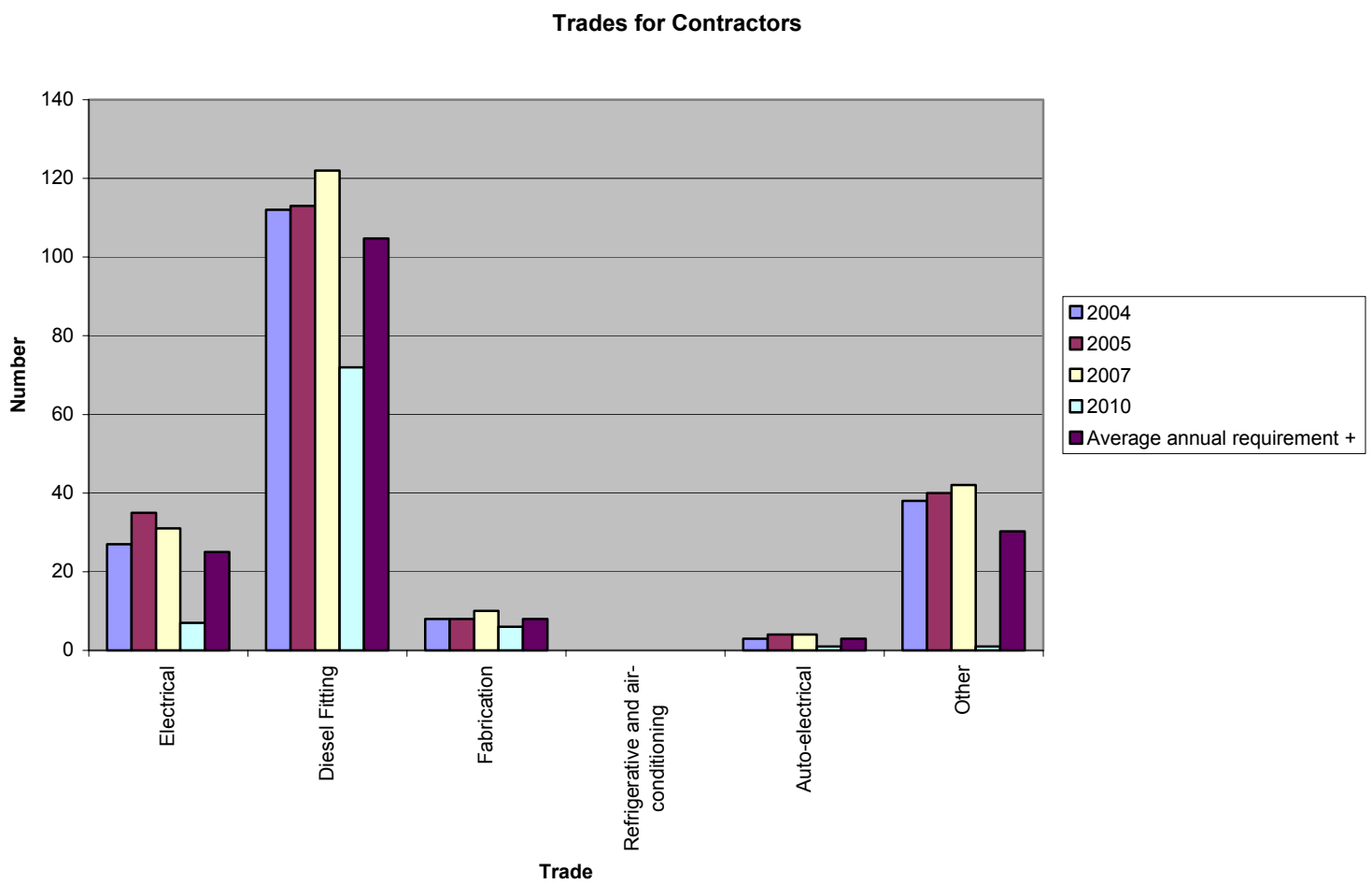
Graph No. 11: Mines – Trades: occupations and numbers employed 2004, 2005, 2007 & 2010

Trades for Mines



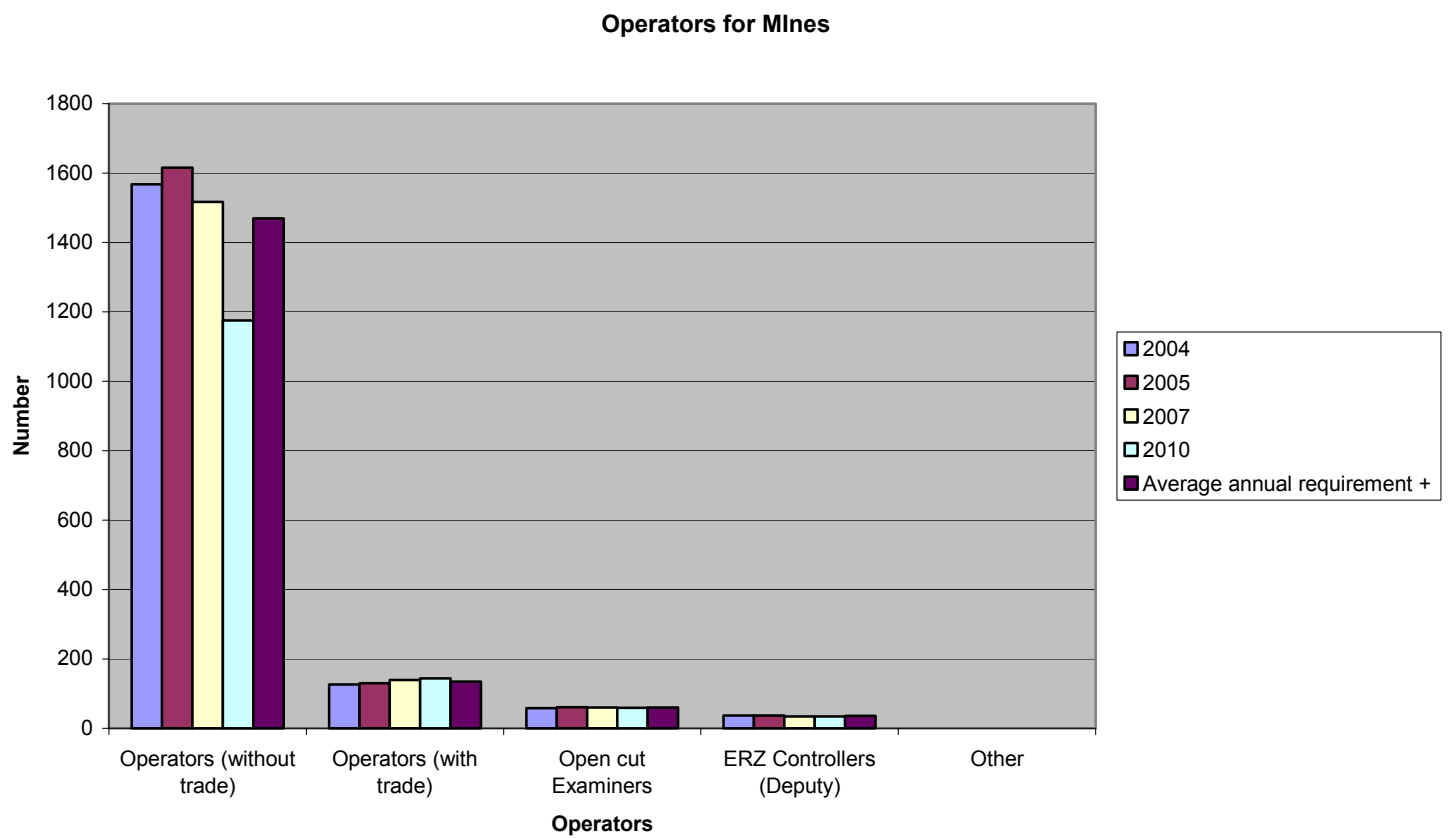
Other includes: Carpenter, Plumber

Graph No. 12: Contractors – Trades: occupations and numbers employed 2004, 2005, 2007 & 2010



Other includes: Service Persons, Tyre Fitter, Trades Assistant, Pre Plant Operators

Graph No. 14: Mines – Operators: occupations and numbers employed 2004, 2005, 2007 & 2010



Graph No. 15: Contractors – Operators: occupations and numbers employed 2004, 2005, 2007 & 2010

Operators for Contractors

