



Australian Government
**Department of Education,
Science and Training**
National Skills Shortages Strategy



PROSPECTING FOR SKILLS:

THE CURRENT AND FUTURE SKILL
NEEDS IN THE MINERALS SECTOR

EXECUTIVE SUMMARY OF FINAL REPORT
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In association with



Executive Summary

In 2004, the Australian economy enjoyed circumstances that it had not experienced for an entire generation—low inflation, relatively low unemployment, strong economic growth, and rising commodity prices. Capacity constraints became more evident, notably a chorus of employers reporting difficulties or an inability to recruit and retain skilled labour. Support for this was found in the government's Skilled Vacancies Index which reached a decade long high in 2004.

In the minerals sector this chorus reached a crescendo. Commodity prices rose rapidly, much of it driven by strong demand from China. On the strength of this higher level of demand carrying forward into the future, many new development projects were planned or commissioned, making a significant additional call on skilled construction labour, and an implied forward level of demand for operators significantly higher than at present.

The National Centre for Vocational Education Research, together with the National Institute of Labour Studies at Flinders University, was asked by the Chamber of Minerals and Energy (Western Australia) and the Minerals Council of Australia to investigate the skills shortage issue, so as to provide an evidentiary base for other projects which might help to address the issue. The research was undertaken under the auspices of the National Skills Shortages Strategy. It involved a review of existing research and statistical evidence, site visits at nine mines around the country (covering a variety of locations and commodity groups) and telephone interviews with company managers, and representatives of industry peak bodies, labour hire companies and recruitment agencies, government bodies and training providers. This report contains our findings.

What are the skills needed in the minerals sector and where are the skills currently?

Most people employed in the minerals sector are involved either in the extraction phase or the smelting and refining phase, with relatively few engaged in exploration, quarrying or services to mining. In recent years, there has been rapid employment growth in the sector.

Employment is concentrated in Western Australia (around a third of the total) and in New South Wales and Queensland (both around a quarter of the total). A major feature of the employment is that mine sites are often located in remote areas of Australia, well away from major population centres. The two main solutions adopted by companies to manage this problem is to induce people to settle in remote townships (e.g. Karratha, Roxby Downs), or to arrange transportation between their homes and the mine site (i.e. fly-in, fly-out).

The workforce is overwhelmingly male. It is also the case that relatively few young people are employed, which gives the sector an age profile that is somewhat older than is found in the workforce as a whole.

Outside the professions, surveys conducted by the Australian Bureau of Statistics have identified the most important occupations in the minerals sector as:

- intermediate mining and construction workers
- fabrication engineering tradespersons
- mechanical engineering tradespersons
- intermediate stationary plant operators.

These are broad categories, ones that cover a range of discrete jobs. For example, mechanical engineering trades cover heavy diesel maintainers, mechanical technicians, shovel fitters, drill fitters and schedulers. The other issue is that occupational titles do not capture how work has altered in the minerals sector, a result of changes in work organisation and introduction of new technology. For example, electrical trades workers are primarily involved in diagnosis and problem-solving, not in equipment installation.

All indications are that these trends will continue, as new projects which are more technically advanced and capital intensive come on stream. As a consequence the ratio of skilled trades workers to operators and other workers is likely to rise.

The skills deployed in the minerals sector are highly specialised—in some instances they are held by only a small number of people in Australia—and employers in the sector make comparatively little use of the public vocational education and training system. Apprentice training rates, in particular, are low and have fallen in recent years. Having said that, around a third of the workforce have a skilled vocational qualification.

Are there skill gaps/shortages and, if so, how extensive are these?

Evidence of skill shortages comes from rising vacancy rates which indicate that employers are having difficulty recruiting, and rising relative wages which indicate that employers are looking to improve terms and conditions as a means of attracting more workers. Another indication of skill shortages, one which is less difficult to observe from statistical data, is a lowering in the quality or talent of applicants and new hires.

Our assessment is that the sector is currently experiencing skill shortages but there is a fair level of variability in the extent and impact of them. Across the sector as a whole, there is evidence of rising vacancy rates and of “salary-bidding” leading to relative wages growth.

Among the companies we visited and spoke with as part of this project, one stated they had no shortages at all and did not anticipate any in the future, while others questioned the extent of shortage. For the majority of companies, however, skill shortages were evident. Consistent with the industry-wide evidence, several companies reported a gradual reduction in the quality of job applicants as well as a lessening in the number of job applicants.

The principal factor which accounted for variations in the extent of skill shortages was the site location. Remotely located mines were experiencing high levels of labour turnover (e.g. 20 to 30%) and difficulty inducing people to relocate to nearby settlements.

This study did not focus on skill shortages in the professions, but among the companies we spoke to there was greater concern about skill shortages for this group. Outside the professions, skill shortages were reported across all trade and operator areas. Recruitment difficulties were most acute for technicians and trades areas. An acute skills shortage was noted by almost all companies for front-line managers, such as supervisory shift or site production managers and production foremen.

What might be done to remedy any skill gaps/shortages?

For some companies the lack of skilled labour was seriously impacting on their expansion plans and on immediate productivity.

It is not possible to quickly remedy skill shortages in a sector where the level of skill sought is highly specialised. The short-term response, adopted by many employers in the industry, is to increase wages, potentially leading to a salary bidding war. Many companies reported increased competition for labour, including “poaching” of staff from other companies and contract labour firms.

The minerals sector has long been characterised by boom/bust cycles. Putting into place strategies for remedying skill shortages requires a judgement to be made about the medium-term outlook for the sector. Independent work undertaken by the National Institute of Labour Studies predicts strong employment growth over the next decade, but with annual growth rates to remain quite uneven.

Allowing that skill shortages are likely to be persistent for several years to come, a medium-term response would consist of three strategies being put in place, all of which are being used with some success by one or more of the companies we visited:

- **aim to improve retention rates**, by looking at total remuneration packages, flexible rostering, fly-in, fly-out arrangements, and instituting clear career pathways within companies
- **widen the labour pool**, by employing more women, more young people (especially through pathway programs with schools and training providers), more Indigenous people, more “green” workers (i.e. from outside the industry but with transferable skills), and more skilled migrants
- **enhance capability among the workforce**, by upskilling of existing workers through employer-provided training developed in partnership with government and training providers, and the introduction of more multi-skilling and multi-tasking.

Conclusion

The minerals sector is facing a major challenge going forward. The anticipated level of future demand for its ore and products is such that investment in new development projects are likely to yield a good return. If, however, the skilled labour cannot be secured to construct these new sites and to operate them, these projects may be jeopardised. Having said that, the absolute level of employment in the minerals sector is not high, and it is clearly within the wherewithal of the sector to put in place strategies to recruit, develop and retain the skills that they require going forward.