

<b>Petroleum and Gas Plant Operator</b>		<b>New South Wales (NSW)</b>
<b>ASCO Code:</b> 4987-13	September 2006	
<b>Labour market rating</b>	No shortage	
<b>Comment</b> <i>No significant shortages were reported in Sydney or regional NSW.</i>		

### **Occupational demand**

Employment in this occupation is dominated by a small number of oil refining and gas distribution companies. The consensus of employers contacted for this report was that demand for petroleum plant operators has been subdued in recent years while there has been an increase in demand for gas plant operators due to the expansion of the network of pipelines in NSW. However, as almost all natural gas used in NSW is generated interstate, the extent of this increase has been limited.

### **Occupational supply**

While an Australian Apprenticeship exists in process plant operation, most workers who undertake this training are existing workers rather than new entrants to the industry. Employers surveyed for this report stated that entry to the occupation is usually through on-the-job training and new entrants are recruited as they are needed. The consensus of employers was that low wastage from the occupation had limited entry-level recruitment in recent years. Immigration is also a minor source of supply. Data from the Department of Immigration and Citizenship show that net overseas immigration of chemical, petroleum and gas plant operators to NSW averaged only three persons a year over the last five years.

Employers stated that wastage and turnover from the occupation was low, especially for petroleum plant operators, as wages were above the average for occupations requiring a similar skill level. However, employers noted that the age profile of the occupation was above average and that wastage was likely to increase significantly over the medium term.

### **Employer and industry comments/current labour market**

All surveyed employers who had recently advertised vacancies for this occupation were successful in filling them. Positions for gas plant operators proved slightly more difficult to fill as remuneration was generally lower than in the petroleum sector. Therefore, while the surveyed vacancies in the gas distribution sector each attracted a number of suitable applicants, employers were not always able to negotiate a mutually satisfactory remuneration. Nevertheless, employers were able to successfully recruit applicants with an aptitude for the work and experience in a similar field, such as tradesmen or production workers from other industries.

### **Labour market outlook**

The consensus of employers was that any growth in demand for this occupation over the short term would be limited. Although wastage from the occupation is likely to increase in the future, this is unlikely to have a significant impact in the short term. As a result, no significant shortage of petroleum and gas plant operators is expected in 2007.

<b>Petroleum &amp; Gas Plant Operator</b>		<b>Victoria</b>
<b>ASCO Code:</b> 4987-13	October 2006	
<b>Labour market rating</b>	No shortage	
<b>Comment</b>		

### **Occupational demand**

The demand for Petroleum and Gas Plant Operators (PGPOs) is determined by the size of the gas production and reticulation infrastructure and the number and size of petroleum production and processing installations. The labour market is split into three broad sectors – offshore gas and petroleum production in Bass Strait, on-shore petroleum processing and refinery operations and gas distribution. Demand is expected to remain stable in the short to medium term.

### **Occupational supply**

Plant operators in all three sectors generally require trade level skills. The most common career path is completion of a trade, commonly electrician, electronic instrument maker, fitter or diesel mechanic. Operators based offshore are required to complete post-trade training in Transport and Distribution Marine Engineering. This training isn't currently available in Victoria, but can be undertaken in NSW and Tasmania.

There are some installations where high levels of automation and less complicated processing see employers use semi-skilled operators. Employers generally accept that they will be lucky to find the exact skill set they require for a vacancy, and generally aim to recruit applicants with trade qualifications and experience in production environments. Employers then provide on-the-job training and contract Registered Training Organisations to deliver onsite training from the Chemicals, Hydrocarbons and Oil Refining Training Package, or the Gas Industry Training Package.

### **Employer and industry comments/current labour market**

The degree of specialisation in the workforce appears to depend on the skill differential between the operation and maintenance roles. A number of employers interchanged staff with workers rotating between the two roles. Where the production process was more complex, control room operator positions were seen as a career progression from the maintenance shift. Where the production process was simpler, operators were less likely to be trade qualified and repairs were left to specialist maintenance staff. The consensus amongst employers was that although it was difficult to find the exact skill sets required, it was not a major obstacle. They concentrated on providing on-the-job training to trade qualified staff with experience in a production environment.

Employers reported good responses when they attempted to recruit, even for positions in regional Victoria. Positions were sought after as the industry has a reputation for paying well and providing an opportunity for overseas travel once experienced.

### **Labour market outlook**

The demand determinants and supply characteristics of the occupation are relatively stable compared to other industry sectors. This, combined with the fact that trade qualified applicants actively seek out positions in the industry, should see most employers able to fill vacancies in the short term.

<b>Petroleum and Gas Plant Operator</b>		<b>Queensland</b>
<b>ASCO Code:</b> 4987-13	September 2006	
<b>Labour market rating</b>	No Shortage	
<b>Comment:</b>		

### **Occupational demand**

The ever-growing energy needs of Queensland and Australian transport and industry have resulted in steady growth in demand for petroleum, refined petroleum products and gas over recent years. This has led to rising demand for skilled petroleum and gas plant operators. The occupation itself can be difficult to identify, with a variety of job-specific titles that depend on the particular operational practices and terminology of the workplace, and may be located near the point of extraction of the raw product or in city-based industrial plants. Petroleum and gas plant operators may have a key role in planning for and managing production runs and the skills they employ can expose them to competing demand from aligned industries, such as other chemical production.

### **Occupational supply**

Formal training for this occupation in Queensland is available through a three year traineeship based on the Certificate III in Process Plant Operations. The traineeship is not a compulsory requirement and most employers are willing to train their operators less formally on the job if they are unable to recruit experienced workers. Data from the Queensland Department of Employment and Training indicate that there were thirty-three commencements of new traineeships and two completions in 2005, and only some of these would be working in the oil and gas industry. Generally speaking, a lack of formal training is not a barrier to employment in this occupation, while practical experience is valued by employers. The pool of experienced operators in Queensland remains overwhelmingly male-dominated.

### **Employer and industry comments/current labour market**

Employers contacted for this year's survey reported that there had been a very strong response to most of their advertisements for petroleum and gas plant operators. On average, there were more than twenty suitable applicants per vacancy. Despite this, more than half of all applicants were regarded as unsuitable due to a lack of relevant qualifications or experience or, in some cases, a lack of basic literacy and numeracy skills. Employers were not able to fill some positions due to specific job requirements but, overall, over 92% of the surveyed vacancies were filled within four weeks of advertising. Industry contacts were concerned about the future supply of new entrants to the occupation when the emphasis on recruiting experienced workers is leading to an ageing of the workforce. They claimed that a lack of marketing of the occupation has meant that young people have not chosen it as a career. Employers also identified the present resources boom as both increasing demand within the occupation and enticing skilled workers away from the oil and gas industry and into more lucrative positions in mining and minerals processing.

### **Labour market outlook**

Continuing growth in exploration, extraction and refining of petroleum and gas in Queensland should mean that demand for skilled petroleum and gas plant operators will grow at a steady pace over the next few years. Competing demand from the growing mining and minerals processing sector will also continue to absorb experienced workers and potential new recruits. Uncertainty surrounding the Papua New Guinea gas pipeline has seen the prospects for domestic gas strengthen in Queensland, with several major coal seam gas projects secured. However, if employers maintain their present attitudes and approach to recruitment, the lack of barriers to supply makes it unlikely that shortages will appear for this occupation in the near term.

<b>Petroleum &amp; Gas Plant Operator</b>		<b>South Australia</b>
<b>ASCO Code:</b> 4987-13	September 2006	
<b>Labour market rating</b>	No Shortage	
<b>Comment</b>		

### **Occupational demand**

Australian Bureau of Statistics Census data show that there were around 300 petroleum and gas plant operators employed in South Australia in 2001. Many of these were employed at the Port Stanvac oil refinery, which closed in mid-2003. Consequently, both employment opportunities and demand for petroleum and gas plant operators have declined. Nonetheless, South Australia has significant reserves of oil and gas in the Cooper Basin, and petroleum and gas plant operators are employed at production facilities in remote areas of the state. The extent of recent demand for such workers is unknown, although DEWR's count of skilled vacancies indicates that overall demand conditions for petroleum and gas plant operators within South Australia appear weak.

### **Occupational supply**

Apart from a one-off spike in 2003, annual training completions for petroleum and gas plant operators were minimal during the period between 1995 and 2005. It is therefore assumed that employment growth and/or replacement demand has been satisfied largely via informal training arrangements (eg on-the-job) or skilled migration, or a combination of the two.

### **Employer and industry comments/current labour market**

Only four recently advertised vacancies for petroleum and gas plant operators were identified for this report, and there were no reported recruitment difficulties for any of these positions. Suitability for employment was dependent on applicants possessing electrical or mechanical qualifications and/or previous plant operator experience – around 40 per cent of applicants were able to meet these criteria. Unsuccessful applicants were rejected due to lack of recent/suitable work experience or an inability to work the required hours (that is, shift work). Vacancies arose due to a mixture of new and replacement demand. While the above results suggest that there is currently no shortage of petroleum and gas plant operators in South Australia, it should be noted that one of the state's major employers could not be contacted for this report.

### **Labour market outlook**

Expenditure on petroleum exploration within South Australia grew 65 per cent over the four quarters to June 2006, reaching its highest level in almost two decades. Increased exploration activity could potentially lead to higher petroleum production output and an associated rise in demand for petroleum plant operators. However, it may be several years before the latter occurs, assuming that new commercially viable oil deposits are actually discovered. In the short-term, demand conditions are expected to remain stable and therefore a shortage of petroleum and gas plant operators is unlikely to emerge.

<b>Petroleum and Gas Plant Operator</b>	<b>Western Australia (WA)</b>
ASCO Code: 4987-13	September 2006
<b>Labour market rating:</b>	No Shortage
<b>Comment</b> <i>Research has not identified any significant difficulty filling vacancies although the proportion of suitable applicants was low.</i>	

### **Occupational demand**

State Government Budget papers for 2006-07 show that the WA economy grew by 4.8 per cent in 2005-06, almost twice the 2.7 per cent growth recorded in 2004-05. Further growth of 5.3 per cent is forecast for 2006-07. The Department of Industry and Resources has released preliminary statistics showing that the value of WA petroleum and mineral resources in 2005-06 increased by 29 per cent to \$43.2 billion. The overall rise in value of sales for 2005-06 is mainly attributable to the significant increases in the value of the petroleum and iron ore sectors (23 per cent and 56 per cent respectively), accounting for almost two-thirds of the total value of production. Petroleum exploration rose by 12.7 per cent in 2005-06 compared with the previous year.

This occupation is too small for quarterly Australian Bureau of Statistics' Labour Force Survey figures to be reliable, however, the number of petroleum and gas plant operators recorded in WA increased by an annual average of 3.5 per cent to 526 over the five years to the 2001 Census. Industry data and industry and employer contacts would suggest that this number has increased significantly.

### **Occupational supply**

The 2001 Census indicated that just over one-third (37.8 per cent) of petroleum and gas plant operators held Certificate III or IV qualifications, however, this proportion is continuing to increase. Most of those entering the industry now would undertake either a Certificate II or III (entry level and operator level respectively) at the Australian Centre for Energy & Process Training. The number of completions from these courses increased by 162.5 per cent to 63 persons in 2005, and increased commencements (including 135 persons in 2005), suggest that qualified supply should increase even more strongly in the next few years. However many of these would be working as a chemical plant operator. There is considerable crossover between the streams of process manufacturing.

Whilst overseas migration has traditionally not been a major source of supply, there was a net migration of 43 chemical, petroleum and gas plant operators to WA in 2005-06.

### **Employer and industry comments/current labour market**

All positions advertised in the last six months by companies contacted were filled. For most positions there were 10-15 applicants, however the proportion of suitable applicants was very low (10.6 per cent), with on average 1.5 suitable applicants per vacancy. Because there are so many applicants for the available positions, employers generally seek candidates with either direct processing experience and/or a mechanical, instrument or electrical trade background. Some employers recruit for these positions from within their internal labour market of qualified tradespersons. The WA Labour Economics Office has not previously assessed this occupation.

Entrants to the industry are now generally employed initially through a group training company, with practical experience gained on-site. The trainee positions attract hundreds of applicants.

### **Labour market outlook**

Although the demand for petroleum and gas plant operators is likely to continue to increase with the growth of oil and gas processing facilities, it is likely that potential supply will continue to exceed this demand. There is expected to be no shortage for at least the next six months.

<b>Petroleum &amp; Gas Plant Operator</b>		<b>Tasmania</b>
<b>ASCO Code:</b> 4987-13	October 2006	
<b>Labour market rating</b>	No shortage	
<b>Comment</b>		

### **Occupational demand**

At the 2001 Census a total of 34 petroleum and gas plant operators were identified. As there are no oil or gas refineries, nor oil or gas wells in Tasmania, it is most likely that these people were primarily involved in the transfer of oil or gas from ships to onshore terminals. When 2001 Census data for this occupation is cross-classified by industry, there were nine petroleum and gas plant operators who were classified as being employed in the petroleum product wholesaling industry, but no more than three people employed in any other individual industry. With such small numbers scattered across a wide range of industries it is very difficult to generalise about demand factors.

### **Occupational supply**

Data from the 2001 Census shows that around 75% of people employed in this occupation in Tasmania had no formal qualifications. According to industry sources, most people working in the industry have transferred from another State with pre-existing skills, acquired on the job.

### **Employer and industry comments/current labour market**

There is a high degree of automation involved in the transfer of petrol or gas both from tankers to on-shore storage facilities, and from the storage facility to the road tankers. There are only small numbers of people employed at the storage facilities, with most of the major petrol companies employing around three people, and in some cases actually sharing the storage facilities with other companies. Most recruitment to these facilities is handled interstate. The natural gas network in Tasmania is still relatively new, and there are no major gas plants in Tasmania. The distribution is largely automated, in terms of pressure adjustment and maintenance of the pressure adjustment equipment is undertaken by around six sub-contractors on a periodic basis.

### **Labour market outlook**

There do not appear to be any major recruitment problems at petrol storage facilities in Tasmania, with vacancies often filled by people employed by the major oil companies transferring from interstate.