| **Electrical Engineer** | **Queensland** |
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| **ANZSCO Code:** 2333-11 | March 2009 |
| **Labour market rating** | Shortage |
| **Comment:** *Shortages were prevalent in control and power engineering* | |

**Occupational demand**

Electrical engineers design, construct, operate and maintain electronics and electrical energy infrastructure, working mostly in power generation and distribution, electrical installations in building and mining, telecommunications, aerospace and defence, medical imaging systems, industrial and scientific instrumentation and control. Due to high levels of population growth, industrial development and ongoing activity in the mineral resources sector, demand for electricity in Queensland has grown by 26 per cent over the last 5 years. At the same time the Australian Bureau of Statistics reports that the volume of construction work done in Queensland strengthened in the last 22 quarters. These factors have combined to ensure a steady demand for electrical engineers.

**Occupational supply**

Entry to this profession is via the completion of a four-year Bachelor of Engineering (Electrical). It is mandatory that electrical engineers working in Queensland be registered with the Board of Professional Engineers of Queensland. Specific commencement figures for electrical engineers are difficult to ascertain as some universities offer a year of generic engineering subjects prior to students choosing a discipline. However, data from the Department of Education, Employment and Workplace Relations show that enrolments in electrical engineering courses have been falling with142 students commencing in 2007 compared with 203 in 2004. The number of students graduating has declined accordingly. Historically, the number of students leaving the courses before completion has averaged around 55 per cent and if completions stay commensurate with enrolments, it is anticipated that around 76 newly qualified electrical engineers will graduate at the end of 2009. Arrivals and departures data from the Department of Immigration and Citizenship show that overseas migration may be a significant contributor to supply for this profession as132 self-identified electrical and electronics engineers migrated to Queensland in 2007-08.

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

Based on this year's study, 33 per cent of vacancies for electrical engineers in Queensland were filled within six weeks of advertising. Approximately 50 per cent of employer and recruitment contacts reported that most applications stemmed from overseas, but these applicants were not given serious consideration because they lacked experience in Australian standards. Overall, employers considered 83 per cent of applicants as unsuitable because they lacked relevant experience, particularly in control and electrical power engineering. Regional employers in the power generation and manufacturing sectors advised that they had acute difficulty attracting suitable local candidates and attributed this to their inability to compete with the wages on offer in the mineral resources sector. Regional employers reported they had advertised repeatedly without success, and in the future they would look to approach electrical engineering students directly as a means of recruiting. Recruitment specialists advised that a number of positions in the building services and energy sectors had been postponed until funding had been secured. Notwithstanding the deferments, few suitable applicants had been identified. They also reported that employee clients are now seeking permanency and job security over high paying contract work.

**Labour market outlook**

Generated by the State's growing population, sustained demand for air-conditioning and ongoing infrastructure and industrial development, demand for electricity has been forecast to increase annually by 3.6 per cent year over the next decade. Although overseas migration may be contributing to supply for this profession, the number of new graduates is declining and overall demand is not being met. It is therefore likely that the current shortage of electrical engineers in Queensland will continue apace throughout 2009-10.