

# Executive Summaries

## 2008-2009 Bursary Vacation Placements in Western Australia

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**STUDENT:** Shehab Haque (Curtin University of Technology)  
**COMPANY:** Verve Energy

My vacation employment at Kwinana Power Station for Verve Energy started on the 5th of January 2009 and ended on the 20th of February 2009. In this generation field of power engineering I was placed in the maintenance workshop and worked with electricians, fitters and instrumentation personnel. During this period, I have learnt works and processes, from the actual generation of electricity to how the tradespeople approach and complete their tasks.

I have observed some of the challenges faced by the generation field of power engineering. The major challenge for Verve Energy is coping with the demand for electricity, particularly during the summer, and keeping production costs low. Low production costs require the plant to be as efficient as possible. During my time at Kwinana Power Station, one of the stages was being decommissioned and upgraded to a combined cycle gas turbine. This was one of the ways Verve was ensuring that it remained efficient. Another way plant efficiency was being improved was ensuring the reliability of the components in the plant. For this reason, the maintenance personnel would regularly test the equipment around the plant.

One of the many problems encountered was a dated actuator which required replacement. The actuator controlled a valve that opens to let the air coming out of the boiler pass. Before fitting the new actuator, several isolations had to be made. This included removing the relay switches for each of the commands on the valve (open and close for example).

After the actuator had been wired up internally, we had to attach it to the valve. The actuator then had to be programmed and this involved setting the open and close limits by turning the wheel to when the valve was fully opened or closed and then storing this in the actuator.

In the seven weeks at Kwinana Power Station, I have learnt a number of processes in the plant. I have also observed how the employees interact and work with each other to fix a problem in the plant. I am happy with my experiences and the knowledge I have gained at Verve Energy and look forward to hopefully returning at some time in the future.

**STUDENT:** Declan Atkinson (Curtin University of Technology)  
**COMPANY:** Verve Energy

The organisation that I gained work experience from was Verve Energy which is based in the field of power generation. The Kwinana Power Station is one of several power stations operated by Verve Energy, and it was this particular power station that worked I worked at. The Kwinana Power Station focuses on power generation through the combustion of coal, gas and oil.

The experience proved invaluable in presenting a strong impression of the challenges presented in the area of power engineering. The work experience demonstrated the complex power generation system that has been formed to allow for large amounts of power to be generated at the best possible efficiencies. Furthermore, the balance of meeting the demand of electricity when fuel supply is limited, or when components of the power station were being maintained or fixed, was another issue that appeared to be an ongoing challenge.

I found working at Verve Energy to be a very rewarding experience. By working in the power station I was able to gain an in depth view and understanding of power engineering which would be hard to achieve from reading a book or website. This was due to being able to physically interact with the workings of the station, and always having a supervisor or work colleague nearby to consult if I needed an explanation to aid my understanding.

From what I learn this was the first time Verve Energy had taken part in the API vocational work experience program. While working there, I found the whole process of my integration into their workforce was smooth and handled professionally. I personally did not encounter any problems with the work experience program. The good level of communication held between the supervisors and myself eliminated any misunderstandings or problems. I enjoyed participating in the work experience and I believe it gave me a good taste of the industry which will aid in deciding upon my future.



**STUDENT:** Natalie Cushion (University of Western Australia)  
**COMPANY:** Western Power

I recently undertook vocational work at Western Power in the Distribution Standards, Policy and Data Quality division at the Jandakot depot. This division is responsible for providing technical excellence in plant equipment, provide frameworks for others to manage capital and to provide public safety and electrical safety compliance.

The project that I worked on was to create sag and tension tables for different conductors used on overhead power lines. I was also given the opportunity to spend a week on site. On site experiences allowed me to experience real life applications to the theory learnt at university. Furthermore, being able to physically see various different components and structures makes visualising and understanding the theory much easier.

Being on site also introduced me to a lot of the safety concepts that are in place in the power industry. The requirement to wear all the safety gear showed the potential danger that is involved in working in the power industry and how important it is to fully understand about the dangers and consequences involved.

My experience at Western Power was extremely valuable to my degree and also allowed to gain some insight into what the power industry is about. The people in my department were always willing to answer any questions that I had and it is thanks to them that I was able to go on site and learn so much in one week. The whole experience will definitely aid my future studies.