

## 2013 SIPS Project Summaries

### Participating organisations

- AB Mauri Technology and Development Pty. Ltd. North Ryde, NSW
- BHP Billiton Olympic Dam Corporation Pty. Ltd., Adelaide, SA (2 Students)
- BOC Ltd. North Ryde, NSW
- Dow Chemical, Houston, Texas, USA
- Dow Chemical Australia Ltd. Geelong, VIC
- Santos Ltd, Adelaide, SA
- Sydney Water, Parramatta, NSW
- VISY Pulp and Paper, Smithfield, NSW

### Projects

#### Impact of redox potential on copper recovery from copper sulphides

##### BHP Billiton

This experimental study examined the impact of redox potential on copper extraction from bornite, chalcocite and chalcopyrite minerals in low and high chloride leach media. Correlations provide acid consumption from gangue dissolution and the copper dissolution rates for different minerals under various processing conditions.

#### Optimisation of the Kooragang Island Carbon Dioxide Facility

##### BOC

Through simulation studies, measurements on site and historical operational data, the MIPPS student was able to make robust conclusions on how to optimise the performance of the Kooragang Island carbon dioxide plant. She also provided BOC with a complete UniSim model of the plant for future reference and/or plant modifications.

Immediate cost savings of \$130,000 p.a. have also been implemented.

#### Lessons Learned for Procurement for the Polyethylene Envelope for the Sadara Project

##### Dow Engineering Company (DEC)

This project focused on 'Lessons Learned' from procurement of capital equipment for the three polyethylene trains Dow Engineering Company (DEC) were contracted to build at Sadara.

Through analysis and interviews, the student identified the key essential factors for good procurement performance and found that an earned value method (EVM) of reporting procurement progress has to have some inbuilt flexibility to allow for added/deleted orders.