ABSTRACT
The introduction of competition into the power generation industry has created many new challenges for engineers working in the field of fossil-fueled power plant control. Plants that were originally designed to be operated at full-load are now required to dynamically alter their generation capabilities to exactly match demand. Plants must operate at optimum efficiency at all times to be economically viable in the new competitive market. Simple and accurate models for power plants are extremely valuable tools to engineers for analysing control system problems and developing and testing new control techniques. This thesis details the creation of a model to simulate the Wallerawang power plant in NSW and the use of this model in analysing control problems.

CONCLUSION
Major alterations were performed on the original Åström-Bell model including the conversion to forced circulation and addition of cylindrical drum characteristics. Simulations such as that above were created and used to design and investigate control systems. Input and output characteristics were evaluated for the Wallerawang plant and an effective model of both the plant and its control systems was created and verified against data logged from the plant. This model can now be used to simulate real control problems.

REFERENCES: