

THE UNIVERSITY OF ADELAIDE

ENERGY INITIATIVES CASE STUDY

LIGHTING TO NAPIER BUILDING

COMMON TEACHING AREAS

Cause and Effect

The Vice-Chancellor's Conference sited at the Adelaide University in April 2006 provided an opportunity for significant modernisation of the Napier Building Common Teaching Areas.

Lighting issues were identified as critical early in the design process, as the existing lighting used considerable uncontrolled energy, and did not provide lighting in compliance with Code Requirements.

The project brief was that the installation should be 'state of the art', providing a means of automatic control, the ability to control the installation off-site, ability to interface to the audio-visual control system, and energy control to automatically adjust for any available natural light.

High Level Interface

The University had previously been investigating methods of high level interfacing between audio-visual and electrical control systems, and had successfully replaced existing 'relay' type controls with a proprietary programmable lighting control system employing a serial data connection. For the first time this allowed lecturers to control lighting in teaching spaces using a data connection rather than discrete 'clunking' relays. This provided further benefits of increased reliability and reduced maintenance.

Control Strategy

The new fluorescent lighting systems in the Napier Building use 'T5' lamp technology, having high frequency electronic controllers that allow effective and reliable dimming of the lighting.

The perimeter Tutorial and Seminar Rooms in the Lower Napier Building have access to natural light. These rooms are provided with illumination sensors, which are able to

automatically adjust and control the lighting system to achieve a pre-determined level of light at desk level.

All teaching spaces are provided with ultra-sonic movement detection, which automatically switches off lighting after the space is vacated.

With the external monitoring and control ability, the lighting control system has the intelligence to advise the University Security Office or air conditioning building management system which areas are occupied and if services should be made available. With the system programming available, the University would be able to remotely control systems from a central location such as the Security Office.

Whilst the systems were established for their technical edge and ability to communicate with the audio-visual control system, they also provide significant and ongoing energy saving and add to the University's Energy Initiatives.