

energy MATTERS

Issue No.5 AUGUST 1996

Orbital Engine Corporation

**PATIENCE AND PERSISTENCE
PAY OFF**

Powering Remote Communities

CONQUERING COMPLEXITY

WA Energy Efficiency Awards

ACCOLADES FOR INNOVATORS

Commercial Buildings Award

WINNER

**Baverstock and Associates
and the Perth Zoo...
...for an innovative small
commercial building.**



FINALIST

**City of Melville...
...for an energy efficient
recreation centre.**

For the Perth Zoo's new operations building, designers with experience in energy efficiency and the ability to balance proven techniques with new approaches were sought. Baverstock and Associates, a Western Australian architecture firm with extensive experience in passive solar design, took up the challenge. The new building consists mainly of office space, staff amenity rooms and workshops.

Passive solar design principles were incorporated into the building design, supported by carefully planned electrical and mechanical systems. The temperature of the building is managed through active night cooling in summer, an indirect evaporative cooling system and a small direct expansion cooling system. The hybrid design allows the direct expansion air-conditioner to be one third of that typically specified for a building of the same size.

Ventilation fans are sized to consume the minimum amount of energy



This project was also selected as a finalist for the Innovation award.

required for their task. In addition to the passive solar features, heating to the office building is supplied by Western Australian made active solar air heaters situated on the roof. Back-up for these heaters is supplied from the direct expansion air-conditioning unit operating in reverse. Local company Healey Engineering worked with the architects to design the air-conditioning system. An extensive building management system has been incorporated in the building to ensure that energy savings are optimised.

Extensive use of passive solar design principles, combined with the latest technology has produced an energy efficient building where the architectural and mechanical systems are designed to complement one another. The innovative and comprehensive approach taken by the Zoo, the designers and the construction contractors was commended by the judges.

(See article in Energy Matters, Issue 2, December 1994)

Leeming Recreation Centre, operated by the City of Melville, is a multi-purpose sports facility catering for the sporting and recreational needs of Leeming Senior High School as well as the local community. A five stage plan was implemented over three years with savings achieved from day one. Staff training is a major strategy in the program that is lead by a strong management commitment to improve energy efficiency and reduce costs.

The final stage of the plan involved the installation of a solar pool heating system. As a result, program savings are expected to increase to a massive 44% per annum. Based on these projections the capital cost of the program will be recouped in full by the end of 1996. The Centre's outstanding achievement in reducing energy consumption with careful management and innovative ideas creates a good working model for similar centres.

(See article in Energy Matters, Issue 2, December 1994)

FINALIST

**Richard Ellis (WA) Pty Ltd...
...for the efficient
management of the City West
complex.**

(See page 15 for details)



Top: Perth Zoo's Mike Collett and architect Garry Baverstock receiving their award from Colin Barnett.

Middle: Garry Baverstock.

Bottom: Perth Zoo's new operations building.