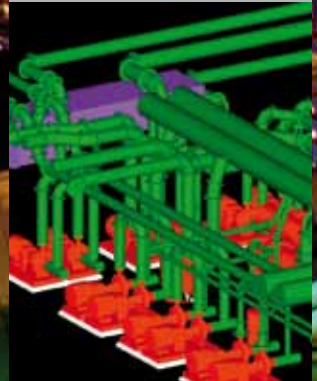


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BUILDING EFFICIENCY

2011 EDITION



- > A year of national growth and development
- > The Royal Children's Hospital countdown
- > Night and day at the Arts Centre
- > Lighting up the National Portrait Gallery
- > Data Centres for tomorrow
- > Exhibiting the best in office fire safety
- > Improved Star Rating for 44 Market Street
- > A Green Star commissioning success story

FEATURED STORIES



A.G. Coombs

Together we achieve the extraordinary

CHAIRMAN'S MESSAGE



CLIVE
APPLETON
Chairman

Welcome to this year's edition of A.G. Coombs' publication, *Building Efficiency*.

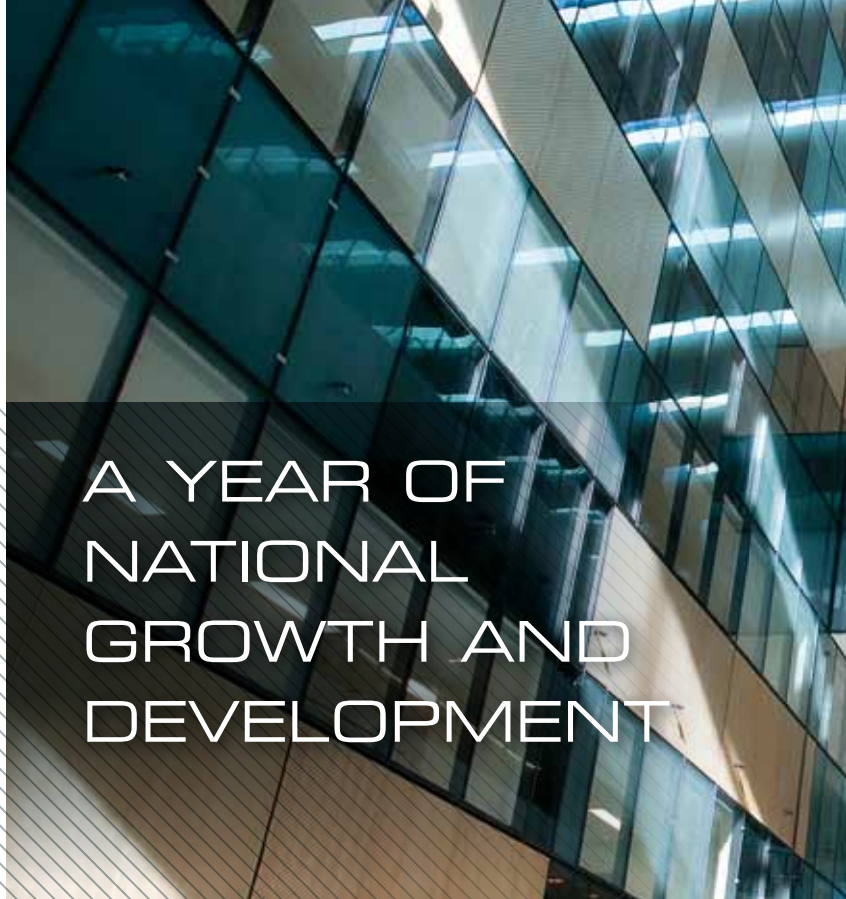
The 2010–2011 year has been particularly significant for the A.G. Coombs Group, with long term strategic initiatives progressed, including the further strengthening of our technical expertise, multi service capability and geographic presence.

What has also been pleasing is that the substantial growth experienced over recent times has been accompanied with an ongoing commitment to the A.G. Coombs values based culture.

Continued investment in the development of our people, their safety and well being, and providing an environment that supports the teamwork required to deliver at the highest level are essential attributes of our integrated business model.

Also supporting growth is strong governance, with a Board comprising Executives and Non Executives with a wealth of diverse experience and a strong focus on the long term success and prosperity of the A.G. Coombs Group.

The A.G. Coombs Group *Building Efficiency* magazine is testament to just some of our many achievements this year, and I recommend this publication to you.



A YEAR OF NATIONAL GROWTH AND DEVELOPMENT



RUSSELL
TELFORD
Managing Director

MANAGING DIRECTOR'S MESSAGE

The 2010–2011 year has been a challenging period for most businesses operating in our industry sectors. Despite a tightened economic environment post GFC and a very competitive market landscape, the A.G. Coombs Group has continued to grow and develop during this period to enter the 2011–2012 year in a strong position.

Throughout 2010–2011 we have been very focused on our medium to long term plans including the further strengthening of capabilities and geographic presence. At the same time, the business has remained exceptionally nimble, flexible and responsive in supporting our valued clients in the delivery of a broad range of outcomes across the life cycle of facilities.

It is not surprising that this year's edition of *Building Efficiency* again highlights our industry leading capabilities in both innovative and performance based solutions that continue to set the Group apart from our competitors. Whether it is a large scale collaborative Public Private Partnership (PPP) arrangement like the Royal Children's Hospital Redevelopment project or warranted performance outcomes for Green Star and NABERS Energy rated upgrades utilising our Carbon Roadmap® solution, the A.G. Coombs Group is at the forefront of the industry and leads the market in so many ways.



Equally exciting has been the strengthening of the Group's in-house capabilities including the leveraging of our Building Information Modelling (BIM) skills and the integration of pre-fabrication strategies that have provided significant client benefits including cost savings and program reductions.

Also particularly pleasing has been the further development of our business infrastructure to support our growing customer base in service and technical facilities management across Australia. Our National Customer Service Centre (NCSC) is not only providing 24/7 365 days a year national coverage, it also offers the highest levels of personal service whilst utilising a well developed technology platform for fast response and detailed tracking of requests. Importantly, the feedback from our customers since the company transitioned to the NCSC model has been exceptional.

This year has also seen a significant investment into the Walker Fire Protection business with the expansion of the office and warehouse facilities in Williamstown Road, Port Melbourne, including the establishment of a new training area to support our technical centre of excellence model. The training facility is well utilised by the team at Walker Fire Protection ensuring our personnel are regularly upskilled on all types of fire protection systems and

technologies. As well as our inhouse training programs, the centre has also hosted a number of client seminars and training sessions which have been very well received by all concerned.

For some time now, a number of national clients have encouraged the A.G. Coombs Group to develop a stronger presence along the eastern seaboard of Australia to complement our comprehensive range of service offerings. Following the successful expansion into New South Wales, the Group was well placed to further grow our capabilities geographically.

In early 2011 A.G. Coombs Pty Ltd established its operation in Queensland. With strong client support and a great team of local staff, together with our unique structure leveraging our national centre of excellence model, we have been very successful in establishing the business ahead of our original plans.

The A.G. Coombs Group point of difference continues to be our unique breadth and depth of specialist capabilities across building services that encapsulates a 'Whole of Life' approach. Underpinning this leading capability are our talented people, strong core values and organisational culture that ensures the A.G. Coombs Group will continue to deliver both innovative and performance based solutions of the highest standard for our valued clients.

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A.G. Coombs
Together we achieve the extraordinary

UNVEILING THE NEW ROYAL CHILDREN'S HOSPITAL: THE COUNTDOWN IS ON



PREFABRICATING THE FUTURE

Prefabrication of building services offers many advantages. Often applied in the UK, the off-site manufacture of plant rooms, services risers and runs and system assemblies requires a different approach to design. The application of manufacturing techniques improves quality and lessens OH&S risks. On-site, it significantly reduces installation times.

A.G. Coombs' large Integrated Pre Fabrication facility is in full swing. Ductwork and flue assemblies for the Royal Children's Hospital project were an important output and current projects include components for the Melbourne Markets Relocation Project and 735 Collins Street development.

The Markets project has seen the manufacture of 124 heat exchanger assemblies mounted on individual skids. Containing a heat exchanger, valves, meters and electrical control panel, they are fully insulated before leaving the factory.

The 16 storey building services riser for the first 735 Collins Street tower is constructed in 3 storey sections each weighing 5 tonnes and containing chilled and condenser water, heating water, natural gas, fire sprinkler and hydrant pipes, together with air-conditioning and exhaust ductwork risers.

The new Royal Children's Hospital is just weeks away from opening, with the first patient transfer scheduled for mid-November 2011. As project completion draws near, the benefits of forward planning, integrated service delivery and a highly skilled commissioning team are quickly being realised.

Following four years of pre-planning, preparation, design and installation success, the Royal Children's Hospital (RCH) project moved into the intensive commissioning and completion phase in mid 2010.

Responsible for the complete air conditioning, mechanical services, central energy plant and specialist hospital systems, A.G. Coombs and their RACAH joint venture partner AE Smith have been a key contributor to the success of this final phase of the project.

Commissioning and testing has been completed on all systems and equipment, including air and water balances and integration tests such as the building's fire mode operation. Across a building area of 188,000sqm and with over 290 air handling and fan coil units, setting up the extensive air conditioning and ventilation systems to work as required by the complex fire matrix was one of the most challenging commissioning tasks.

A number of specialist systems needed particularly stringent testing regimes, including clean areas requiring strict pressurisation zones, medical gas systems, the pneumatic tube system, laminar flow equipment and over 50 bio-hazard and fume cupboards. The successful commissioning of these systems is critical to contamination mitigation and infection control.

Conventional commissioning can often be commenced during the final stages of installation. However, many areas of the hospital needed finalising before commissioning work could commence, to ensure that temperature, humidity and other requirements were precisely set to suit stringent healthcare standards. Zone pressurisation in critical areas such as operating theatres for example, required the completion of all building fabric to enable the accurate setting and testing of system controls to achieve the required pressure differentials.

A particular commissioning challenge was faced with the bio-mass boiler. The installation was the first of its kind in Australia and, to ensure best results, an expert from the Swedish boiler manufacturer was flown in to assist with the set up. It was vital to achieve the boiler's operational efficiency, it being a key contributor to the hospital's 5 Star Green Star target.

Commissioning of the central plant required exceptionally high levels of skill and expertise.

Installation of the bio-mass boiler was the first of its kind in Australia... An expert from the Swedish boiler manufacturer was flown in to assist with commissioning. It was vital to achieve the boiler's operational efficiency, it being a key contributor to the hospital's 5 Star Green Star target.



During installation



Completed project

This includes 15,000kW of cooling, 13,800kW of heating and a 2,320kW tri-generation power system. All this energy is circulated in water systems using 32.3 km of installed pipe work by over 76 pumps. The natural gas powered tri-generation engines also form part of the hospital's emergency stand-by power solution; they must synchronise electronically with the diesel powered back generators in the case of a power failure, adding to the complexity of the commissioning task.

Whilst A.G. Coombs will have an ongoing maintenance responsibility, the effective handover of the plant and systems to the hospital's operators is essential and has been

a focus with A.G. Coombs training RCH staff and facility managers on the new systems.

Technical Completion was achieved by Lend Lease and A.G. Coombs in September 2011, almost exactly five years from A.G. Coombs' commencement on the project. This has been a tremendous achievement considering the scale and technical complexity of this project and prepares the way for the new state-of-the-art facility to open its doors in November this year.

"Our commissioning success is underpinned by A.G. Coombs' whole-of-life approach, this takes into detailed consideration the ongoing management of the facility and its assets

to ensure the building is set up to operate efficiently throughout its lifecycle," said Kevin Wilson, A.G. Coombs RCH Project Manager. He added, "The sheer size and scope of this project has posed many commissioning challenges, all of which have been met by A.G. Coombs and the RACAH team. The skill and expertise displayed over the last 14 months of commissioning has been outstanding, with the focus always on ensuring that the hospital fulfils the needs of its patients and staff. We are proud to have entered into our partnership with Lend Lease on this project and look forward to seeing the results of our hard work when the hospital opens later this year."



Image courtesy of the Arts Centre

NIGHT AND DAY AT THE ARTS CENTRE

The Arts Centre is the focal point of Melbourne's cultural precinct. Night and day, the thriving complex at the start of the St Kilda Road Boulevard is Melbourne's main arts, music and theatre destination.

Under the iconic spire are the three principal performing venues being the State Theatre, Playbox Theatre and the George Fairfax Studio, together with other performing and exhibition spaces, restaurants, cafes and even a digital learning centre. The second building situated by the Yarra is Hamer Hall, which is currently undergoing a major refurbishment. Across St Kilda Road in the King's Domain is Melbourne's famous outdoor concert venue, the Sidney Myer Music Bowl.

Engaged at The Arts Centre since the major upgrade to central plant in 1999, A.G. Coombs Service is responsible for the maintenance of mechanical, air conditioning, electrical and architectural and general lighting systems throughout the complex.

The large central energy plant includes 15MW of cooling plant, natural gas fired boilers, and high voltage and stand by electricity supplies. These systems are designed on energy

efficiency principles and also provide heating, cooling and electrical energy for the adjacent National Gallery of Victoria.

The NGV itself was completely refurbished in 2003. All mechanical services plant was replaced by A.G. Coombs with state of the art close tolerance air conditioning systems providing controlled conditions 24 hours a day for the significant artworks and artefacts on display and in storage.

Hamer Hall is currently closed for a two year redevelopment which will see it re-opening in mid 2012 with improved facilities for audiences and artists. A.G. Coombs has been selected as the mechanical services provider for this project.

A.G. Coombs also maintain the lighting and electrical systems throughout the complex, with strict requirements for performance, appearance and safety compliance which

NATIONAL CUSTOMER SERVICE CENTRE – OPEN FOR BUSINESS

A.G. Coombs National Customer Service Centre provides a streamlined solution to lodge service or work requests. With a focus on personal service and in excess of 1,000 calls per day, the NCSC utilises state of the art technology to help deliver fast response times and provide detailed tracking of requests. Recognising the customer as a person, not just a telephone call or a job, is what makes the difference.

The NCSC team provides 24/7 365 days a year Australia wide coverage capability which allows for different time zones and fully meets the needs of our national customers.

Being responsible for a myriad of facilities, including 000 Call Centres, hospitals, data centres and large public buildings, the NCSC is shaped around customer requirements. We provide a large, knowledgeable and flexible team made up of customer service representatives and experienced management. Customers have direct access to their records via a web portal that provides service status and asset histories on demand.

The NCSC team also plays an important role in monitoring the safety of our field staff. They draw upon A.G. Coombs core values including 'value to others,' 'results not excuses,' and 'excellence through people' to deliver quality customer service.



is fundamental to the operation of the complex, and 'The Arts Centre experience.' These systems include the substantial architectural lighting systems, all back and front of house systems, exit, emergency, stairwell and aisle lighting.

There are over 10,000 lights throughout the complex. Specialist technologies include artwork and feature lighting, dressing rooms and makeup, 'blue' as well as work lighting for stage areas. Distributed 24, 32 and 240 volt Direct Current systems served by battery banks provide the emergency and exit lighting for the venues, the stairwells, back of house and foyers and these are unique to the site.

Our services also have an environmental focus. Energy saving measures have been implemented including Light Emitting Diode strip and display lighting in feature areas. All used fittings, lamps and tubes are accounted for and processed for extraction of components and recycling.

With over 1.8 million visitors a year to ticketed performances and exhibitions, the need to attract world class performers and a requirement to support the conservation of priceless art collections the seamless operation and maintenance of building services at The Arts Centre is a truly critical concern – night and day.

"A.G. Coombs have a close affinity with arts facilities and understand the critical role we play in their success," said John Plowman, A.G. Coombs Senior Contract Manager.

"Involved at The Arts Centre and many of the other arts related buildings in the precinct for a number of years, we have a strong appreciation of the particular needs of these buildings and the activities within them and have structured our capabilities and resources accordingly."



CHALLENGE HOUSE UPGRADE

Challenge, a major not-for-profit provider of programs and services for children who are living with cancer, has once again approached A.G. Coombs as a long-standing supporter to assist in the redevelopment of its headquarters and Family Centre located in West Melbourne.

Seven years ago, A.G. Coombs took on a similar project for Challenge, providing new air conditioning systems and undertaking an upgrade of other systems at the same site.

This year's project, with an equivalent value of \$120,000, saw the A.G. Coombs team delivering complimentary design and construction services to the Challenge building, with voluntary assistance from A.G. Coombs employees, suppliers and specialist contractors.

The redeveloped purpose-built facility delivers support services to the children and their families, including counselling, group activities and childcare facilities.

A.G. Coombs is, once again, proud to be supporting such a worthwhile cause.



FUTURE WELL LIT FOR NEW NATIONAL PORTRAIT GALLERY

The National Portrait Gallery in Canberra, renowned for its architectural excellence, has become a popular destination in the nation's capital. Since the high profile facility opened in 2008, over 1.5 million visitors have walked through its doors, adding to the challenges faced by the Integrated Technical Management electrical maintenance team.

The National Portrait Gallery is now well recognised for its architectural excellence, receiving a series of awards including the 2011 Property Council of Australia John Holland Award for Best Public Building, the 2009 Australian Institute of Architect's Sir Zelman Cowen Award for Public Architecture and the National Architecture Award for Interior Architecture.

Designed by Sydney-based architects Johnson Pilton Walker and developed by the Commonwealth, the striking building encloses over 17,000sqm of contemporary display space that demands very specific conditions to both showcase and preserve Australia's portrait art heritage. The electrical systems in the Gallery are fundamental to its success.

The facility's lighting contributes significantly to the viewing experience, with the large range of art displays demanding various levels and types of light. Also recognised with numerous awards, the integrity of the lighting design must be protected whilst the systems are maintained and kept up to date. One of the most critical requirements for the facility is precise air temperature and humidity settings. Delivered by sophisticated air conditioning equipment, this in turn relies on an uninterrupted supply of power.

With 364 public viewing days a year, appropriate and well planned maintenance and proactive technical support is essential for the high performance of these systems. As electrical maintenance service provider, Integrated Technical Management Pty Ltd is responsible for developing and managing the strategic electrical maintenance plan, identifying potential risk areas and delivering maintenance works. These are carried out in close coordination with the Gallery to ensure minimal disruption to the display spaces. For the team, this also means remaining invisible to the Gallery's one thousand plus visitors a day.

Reflecting its position as a national facility, the Gallery is exploring ways to provide leadership in environmental responsibility for this type of building. Integrated Technical Management is assisting the Gallery with research into energy efficient lighting alternatives for display spaces and other options to reduce the facility's environmental footprint.

The National Portrait Gallery has also become a very popular function venue, hosting a wide range of activities from senior corporate events, conferences and seminars through to weddings. The provision of Audio Visual services is also one of Integrated Technical Management's responsibilities, supporting these events with seamless AV through expert advice, skilled technicians and professional service management.

"Electrical maintenance needs to be proactive, well planned and of a very high standard for a facility such as the National Portrait Gallery," said Alan Fremantle, Facilities & Building Services Manager at the Gallery. He added "Ensuring uninterrupted distribution of power to the site is critical to the Gallery's everyday operations and to protecting its artworks. It requires a high level of technical ability and expertise, with an intrinsic understanding of what it takes to work in an operational environment that is open to the public. Integrated Technical Management is with us all the way. They have worked beyond the scope, assisting with an initial lighting and AV upgrades, then providing ongoing high-level technical advice to help address issues as they come up in what is still a new building. Their ability to be a building services expert along with an experienced maintenance service provider has helped to ensure that we remain proactive and fully operational."

Integrated Technical Management is proud to be providing valued services to this new and already iconic site in the national capital.



"Their ability to be a building services expert along with an experienced maintenance service provider has helped to ensure that we remain proactive and fully operational."

Alan Fremantle, Facilities & Building Services Manager, National Portrait Gallery





Integrated Technical Management is assisting the Gallery with research into energy efficient lighting alternatives for display spaces and other options to reduce the facility's environmental footprint.



Image courtesy of Brett Boardman and the National Portrait Gallery

A.G. COOMBS IN THE SUNSHINE STATE

A.G. Coombs Pty Ltd (Projects) operation is now well established in Queensland with two major projects underway and senior management, engineering, drafting, project management and site supervision in place along with office and factory facilities.

A.G. Coombs have commenced on what is believed to be Australia's most advanced Oral Health Centre. Lend Lease has been awarded the construction contract for the University of Queensland's new \$120 million facility in Brisbane. Design is underway using advanced Building Information Modelling (BIM) techniques. A.G. Coombs are responsible for HVAC, mechanical services and central plant,

tri generation and specialist laboratory systems installation, together with a BIM coordination role across all services.

Work is also progressing for A.G. Coombs on a major commercial and mixed use development in Fortitude Valley. Occupying effectively the city block between Ann and McLachlan Streets and developed and constructed by Laing O'Rourke, the complex will include 3 buildings; a 12 storey 5 Green Star office tower, retail centre and residential apartments. A.G. Coombs have design and construction responsibility for the HVAC, central energy plant and mechanical services.

Things are looking bright for A.G. Coombs in the Sunshine State.





DESIGNING DATA CENTRES FOR TOMORROW'S COMPUTING REQUIREMENTS

Over the last five years there has been a big shift in data centre design, with owners seeking innovative power supply and cooling solutions for accommodating high density Information and Communications Technology, whilst improving scalability, energy efficiency and availability.

Data centres have an overall lifespan of approximately 15 years, with major upgrades undertaken typically every 3-5 years owing to changes in the business requirements and changes in the Information and Communications Technology (ICT) power and cooling needs. Floor space, power and cooling are critical data centre resources all affected by new software rollouts, business acquisitions, consolidation of facilities and technology developments. The successful data centre facility must be flexible to accommodate these changes.

The key to ensuring ongoing operational performance and facility longevity is in data centre design.

Availability remains a top priority for data centre owners, particularly those where ICT is critical to the business operation and those who operate commercial data centre facilities for the provision of offsite or out sourced ICT infrastructure (e.g. CoLo and Cloud services). Concurrent maintainability should be a major real goal in the design process as it enables the ongoing maintenance of the facilities plant and other key infrastructure allowing upgrades and improvements to be undertaken with no disruption to the live data centre site.

Scalability is another critical element to be included in the design process. New data centres must be designed to account for business growth and the ongoing development in technology and software applications.

With the growing emphasis on environmental responsibility, the introduction of the Carbon tax and the increasing cost of power, the data centre operator strongly benefits from a focus on energy efficiency in design. Initiatives, including high efficiency Uninterrupted Power Supply (UPS) systems, innovative hot and cold aisle containment solutions, free-cooling solutions, and precision cooling systems are being more widely adopted by data centre owners wanting to reduce their Carbon footprint and lower their energy bills.

Many data centre owners are also seeking dependable remote management solutions to enable high levels of operating efficiency. Building this capability into the overall design enables real-time monitoring and remote management of a 'lights out' operation.

A.G. Coombs is helping clients design and construct, both new Data Centre facilities and significant upgrades. A recent example is a Victorian Government agency, where A.G. Coombs was appointed as head contractor to deliver design and fit-out services for the facility. The scope includes design, project management, equipment procurement, building works, mechanical, electrical, fire protection and controls works, commissioning, integrated testing, documentation and training services for the data centre.

As a vendor independent data centre solution provider, A.G. Coombs was entrusted to design the facility incorporating industry best practice for high availability, scalability, energy efficiency and remote management. A.G. Coombs was able to offer industry best-of-breed technology, specialist subcontractors and in-house expertise to deliver a solution tailored to the client's requirements.

The detailed design anticipates the site's growth in high density ICT as well as any unplanned outages in electrical and mechanical infrastructure. The facility supports concurrent maintainability as well as remote monitoring and management. In addition, the design incorporates an energy efficient UPS and cooling infrastructure together with cold aisle containment that all contribute to a lower Carbon footprint and reduced operational costs.

The detailed design process was very inclusive of the client's IT and property team, ensuring that A.G. Coombs' mechanical, electrical and fire protection design engineers captured the ICT and business requirements correctly.

The strong focus on detailed design has helped to ensure that, as the project moves into its construction and installation phase, the new data centre is well-positioned to achieve its operational objectives across the facility's lifecycle.



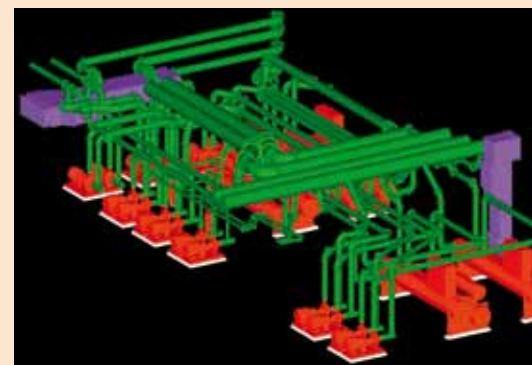
IT'S A BIM WORLD

Building Information Modelling (BIM) is the development of a 3D model for a building and its services. Used for design, project programming, cost control and facilities management it is not a piece of software but a process that creates a digital representation of physical and functional characteristics.

And, it is currently the hottest topic in the building services industry.

A.G. Coombs has played a leading role with the Air Conditioning and Mechanical Contractors Association (AMCA) to establish BIM-MEP^{AUS}, an industry-led initiative that addresses many of the challenges in realising the potential of BIM.

At the forefront of the industry with the development of BIM in Australia, A.G. Coombs is looking to fully leverage this exciting new technology to improve services design, installation efficiencies and ultimately the life cycle performance of buildings.



The strong focus on detailed design has helped to ensure that, as the project moves into its construction and installation phase, the new data centre is well-positioned to achieve its operational objectives across the facility's lifecycle.



242 EXHIBITION – EXHIBITING THE BEST IN COMMERCIAL OFFICE FIRE SAFETY

In a world where building owners, managers and tenants are striving for green ratings, Carbon footprint reduction and other environmental credentials, basic building requirements can be overlooked.

However, going back to the basics and properly addressing obligations such as fire safety is as important an investment as maintaining leadership status in the environmental field, particularly when it has the potential to save lives.

The prestigious 242 Exhibition Street building in Melbourne’s CBD has been recently refurbished by Lend Lease and is a leading example of a building that hasn’t lost sight of the basics.

Lend Lease Project Management and Construction appointed Walker Fire Protection to undertake a major fire services upgrade as part of the refurbishment. To maintain essential fire safety standards and adopt the best fire safety solutions for its occupants, the upgrade covered all 43 levels of office space, plant rooms and the 346-space car park, initially including sprinkler head relocations, Emergency Warning & Intercommunications System (EWIS) modifications and a major Fire Indicator Panel (FIP) replacements.

Following a thorough investigation of the existing fire system and innovative engineering input from Walker Fire Protection, the project was broadened to also include smoke detection across all floors, the rewiring of all new

EWIS speakers as well as the rewiring and replacement of all warden phones. The result – effectively a complete fire system upgrade.

In a fully occupied, A-grade high rise office building, the major challenge is carrying out an upgrade while keeping the fire system live. The replacement of the FIP was a critical task that carried a high level of potential risk, given it is fundamental to initial fire notification. The transfer to the new panel was progressive, incorporating a large amount of rewiring work across the 65,913sqm building. A stringent step-by-step plan was essential for an issue-free replacement, ensuring that a system remained live at all times.

Following a thorough investigation of the existing fire system and innovative engineering input from Walker Fire Protection, the project was... effectively a complete fire system upgrade.

Restrictions with space meant that the new panel was installed in the same location as the old panel. All replacement works therefore had to be undertaken at the same time, creating a changeover period that was extremely demanding. The panel infrastructure was set up with the new cabling, with cables disconnected and reconnected together. The replacement was carried out over a weekend, with minimal building occupancy, to reduce the risks associated with potential system drop-out.

“As Project Managers for 242 Exhibition Street, we welcomed the innovative fire safety improvement solutions offered by the Walker

Fire Protection team,” said Gary Matlock, Specialist Project Engineer of Lend Lease. “Fire safety system upgrades are about delivering the best outcome for building owners, project managers and tenants alike. The best solutions come from those who are proactive technical experts and, particularly for a live operational site, those who can work professionally, efficiently and safely. There is no room for mistakes.”

“Walker Fire Protection has the added benefit of its proven in-house engineering capability, on-site technical support and a strong understanding of project management that aligns with Lend Lease’s project ethic.

They also have the backing of the wider A.G. Coombs Group and embrace a safety first culture. Together with Investa, the 242 Exhibition team has successfully delivered a comprehensive fire protection and detection solution to this large, fully occupied commercial office building, achieving a key goal of fire safety improvements for its occupants.”



SUSTAINABLE BUILDINGS

BEST CONTRACTOR AWARDS

For the second year running, Walker Fire Protection has received the "Award of Excellence for Best Performing Contractor," for works undertaken at Melbourne's 530 Collins Street site.

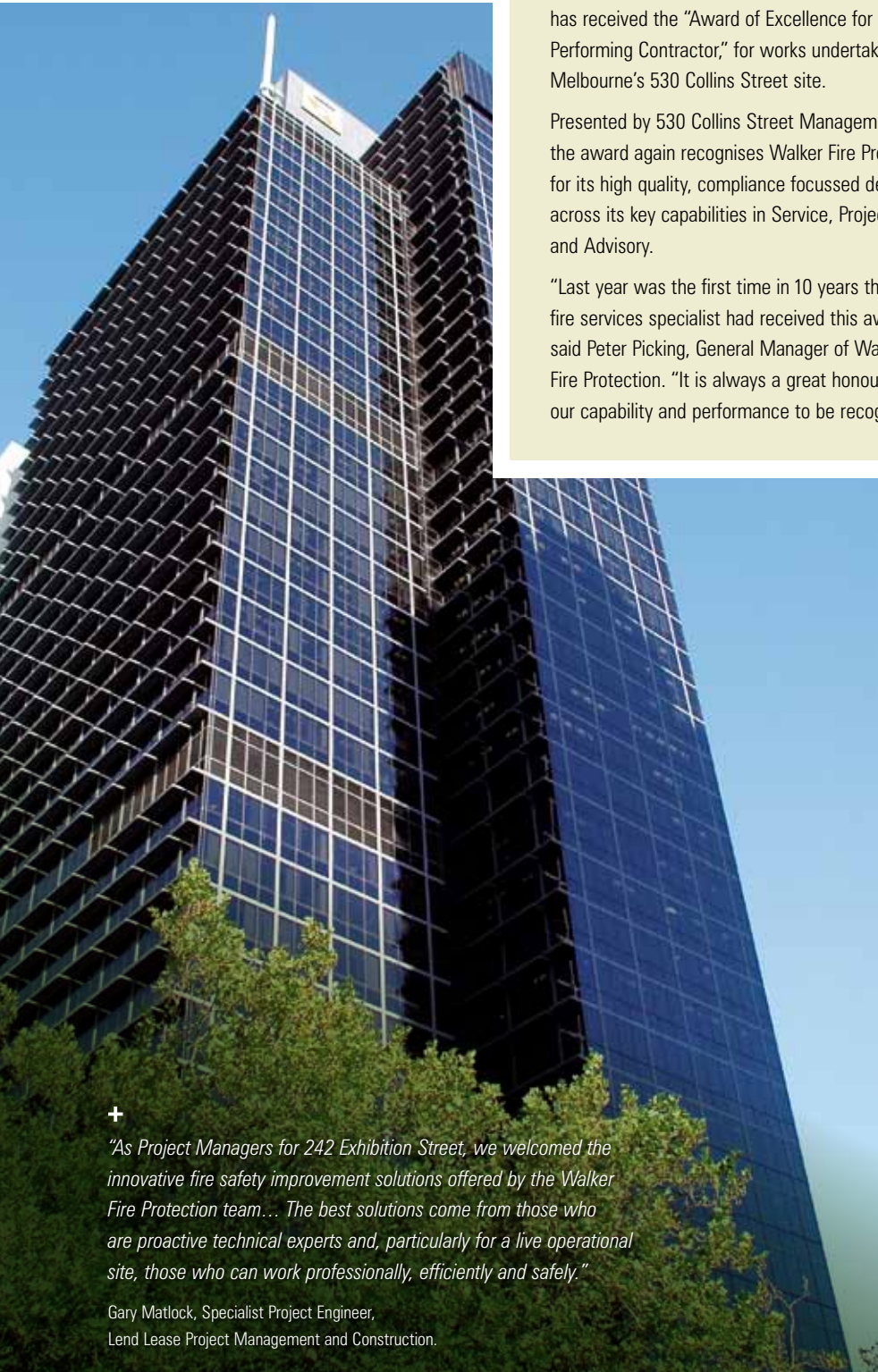
Presented by 530 Collins Street Management, the award again recognises Walker Fire Protection for its high quality, compliance focussed delivery across its key capabilities in Service, Projects and Advisory.

"Last year was the first time in 10 years that a fire services specialist had received this award," said Peter Picking, General Manager of Walker Fire Protection. "It is always a great honour for our capability and performance to be recognised."

Justin Newcomb, A.G. Coombs' Service Technician, has also once again received an award for his outstanding contribution to the 530 Collins site.

Justin was presented with the "Award of Excellence for Outstanding Commitment to the Incident & Injury Free Program" by 530 Collins Street Management, acknowledging Justin's hard work and dedication to on-site OH&S.

Last year, in addition to this award, Justin also received the "Teamwork Award" for his 'selfless contribution and assistance' to other 530 Collins Team Members.



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"As Project Managers for 242 Exhibition Street, we welcomed the innovative fire safety improvement solutions offered by the Walker Fire Protection team... The best solutions come from those who are proactive technical experts and, particularly for a live operational site, those who can work professionally, efficiently and safely."

Gary Matlock, Specialist Project Engineer,
 Lend Lease Project Management and Construction.

TRAINING AWARDS

A.G. Coombs drafting trainee Nicholas Trevorah has been awarded the prestigious Air Conditioning and Mechanical Contractors' Association (AMCA) Victorian Drafting Training Achievement award for 2011.

Nicholas was named as the winner of the award by the Hon. Peter Hall, MLC, Minister for Higher Education and Skills at the AMCA Industry Dinner and Training Achievement Awards, with a large number of industry guests in attendance. In announcing the award, the Minister said Nicholas had been selected as the Trainee of the Year from a particularly strong field.

The AMCA Training Achievement Award was also presented at the event. Justin Banbury, A.G. Coombs plumbing apprentice, was a finalist in this award. In 2010 Justin was the recipient of the A.G. Coombs 'Allan Coombs Training Award.'

These achievements are testament to A.G. Coombs' long and proud history of investing in the development of trainees and apprentices as the future of our organisation and the industry. This outstanding result is a credit to the strength of the A.G. Coombs Apprenticeship Program and the individuals involved.



44 Market Street



100 St Georges Terrace

44 MARKET STREET WELL ON ITS WAY TO STAR RATED IMPROVEMENTS

Market pressures and government legislation continue to drive 'green' requirements across the property industry, with the demand for NABERS Energy rated quality office space continually on the rise. DEXUS Property Group currently has over 86% of its office portfolio classed as Premium or A-grade and a commitment to achieve an average 4.5 NABERS Energy rating across its portfolio by 2012. The Group is taking a strong lead to achieve this target, including a refurbishment project at 44 Market Street, Sydney, which is well on its way to improving its NABERS Energy rating.

DEXUS is a property market leader in Australia, owning, managing and developing a world-class portfolio. The group has a history of developing leading sustainable buildings, including 1 Bligh Street, Sydney and 123 Albert Street, Brisbane – the first 6 Star Green Star buildings in their respective cities, and owns the award-winning 30 The Bond in Sydney, which was the first 5 Star Green Star office building in Australia.

Originally constructed in 1978, 44 Market Street is a 26-level 30,000sqm freestanding office tower. Owned by DEXUS and located at the corner of Market, York and Clarence Streets, the A-Grade building was substantially

upgraded in 1993. In November 2010, DEXUS appointed A.G. Coombs (NSW) to act as head contractor in delivering improved mechanical services and a new Building Management Control System (BMCS) to increase the building's NABERS Energy rating.

A condition report prepared by A.G. Coombs identified a wide range of additional opportunities to improve system performance and energy efficiency, including the configuration and operation of air and water distribution systems and enhancements to the building services control in general.

44 Market Street features central air handling plant with two main air handling units (AHU) and 414 variable air volume mixing boxes in ceiling spaces controlling air flow to the occupied floors. Modifications to the AHU's configuration, their conversion from pneumatic to direct digital control and the recalibration and balancing of each mixing box has significantly reduced energy consumption and improved conditions for tenants.

Installing control valves and rebalancing the building's chilled and heating water systems has also resulted in energy reductions and improvements in performance. However, the process was far from simple, with the design of the original system throwing up challenges for isolation and dictating that much of the works be undertaken outside of standard office hours to support the operation of the occupied building.

The specification for the new BMCS incorporated the integration of new and existing air conditioning controls and mechanical plant via a new dedicated network communication

system. A Schneider BMCS was selected and its front end functionality now means the building manager is able to monitor all air conditioning, mechanical, lighting, fire and hydraulics systems from one location. Sophisticated project management was required and the system installation was carried out in stages to avoid disruption to the tenants.

Additional works are planned for the building to further improve the property's NABERS Energy rating.

"Improving a site's NABERS Energy rating can be challenging, particularly in an existing occupied building, but is a sound investment. As well as reducing a building's Carbon footprint, energy efficiency improvements can drive other improvements including better internal conditions with increased tenant comfort and satisfaction levels," said Paul Wall, Engineering Manager at DEXUS.

"This is particularly the case with this project where A.G. Coombs have had the right people to target and deliver NABERS and other improvements, and they have worked diligently to undertake the works within a live building. By successfully delivering these energy saving improvements A.G. Coombs is ultimately helping DEXUS to build its future."

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Paul Wall, Engineering Manager, DEXUS Property Group.

100 ST GEORGES TERRACE PERTH – A GREEN STAR COMMISSIONING SUCCESS STORY

Owned by ISPT Super Property Core Fund, 100 St Georges Terrace / enex100 is one of Perth's newest mixed use commercial and retail developments. Incorporating the latest technology and designed to set a benchmark for environmental performance, the building's construction followed a Green Star commissioning process to exceed its targets.

ISPT, as owner and developer, set clear objectives for the prestige commercial component of the project, including the achievement of a target NABERS Energy rating. Whilst the building features various technologies, a strong focus on best practice project delivery, including the use of Green Star strategies such as the appointment of an Independent Commissioning Agent (ICA) and integrated commissioning and building tuning methodologies, set this project apart from others and underpinned the achievement of its environmental goals.

A.G. Coombs were engaged early in the process by Jones Lang LaSalle's Energy & Sustainability Services team to provide ICA technical services. Working collaboratively with the design, construction and management team, A.G. Coombs Advisory completed a number of independent design, constructability and commissionability reviews drawing on the depth and broad range of expertise available to it. Opportunities were identified to reduce project risks and strengthen the commissioning strategies to deliver performance outcomes.

Under construction, A.G. Coombs worked with the Brookfield Multiplex construction team to develop integrated commissioning plans incorporating comprehensive and detailed procedures and the reporting formats needed to meet Green Star requirements.

Key to these plans was the embedding of the energy modelling into each phase of delivery. This impacted on many parts of the project including the detailed design of services switchboards, metering system and energy

reporting as well as the commissioning and building tuning strategies.

In addition to the energy focused commissioning requirements, a number of Green Star related commissioning work method statements were developed including new lighting level and power density tests to confirm the performance of the lighting installation. ICA witnessing of commissioning made important contributions ensuring that the installation was configured to minimise energy use.

The building tuning plan included a sophisticated energy monitoring, analysis and reporting strategy, allowing the optimization of systems before the formal NABERS rating period. The building is now operating at a 5.5 Star NABERS Energy rating, significantly exceeding its design target.

Whilst translation of the energy model into actual performance was a key project driver, A.G. Coombs Advisory's ICA services also aimed to assist the construction team deliver the project as efficiently and cost effectively as possible. New reporting formats, developed as management tools, helped the team track commissioning progress, foresee and close out issues as they arose.

The commissioning process for 100 St George's Terrace set a new benchmark in Green Star commissioning, making a valuable contribution to the project and its long term environmental performance. A.G. Coombs Advisory is now able to bring this expertise to future projects.

"It was critical to ISPT's sustainability and development principles for our NABERS and Green Star targets to be delivered," said Commercial Portfolio Manager Peter James.

"We required, and our builder, Brookfield Multiplex committed to, the delivery of a NABERS rating above the design rating. The innovative and unique Green Star related approach to commissioning has significantly contributed to improved best practice for project delivery. A.G. Coombs ICA has provided invaluable expertise with a strong focus on energy performance setting this project apart from others. We are pleased with the outcome and, in particular the delivery of the 5.5 Star NABERS Energy and 4 Star Green Star environmental ratings. These ratings have

been achieved through a disciplined review and delivery approach for each element of the asset and without costly alternative technology solutions or power sources."

"We wanted to engage a truly independent ICA to achieve the intent of the role and to help secure 100 St Georges Terrace's targeted NABERS rating," said Chris Wallbank, Head of Energy and Sustainability EOS at Jones Lang LaSalle. "A.G. Coombs Advisory's expertise and track record in providing specialist commissioning and engineering advice, applying Green Star strategies, and delivering technical support for similar buildings, made them our partner of choice for this project. Working together, we successfully achieved the environmental targets outlined in ISPT's brief."

ENVIRONMENTAL PROGRAM MARKS 7 YEARS

In place since 2004, the A.G. Coombs Group Environmental Program aims to reduce the environmental impact of the Group's operations, and assist our clients with reducing their environmental impacts.

The Program is overseen by management and staff drawn from all elements of the Group and has seen significant improvements in our usage of fuel, energy, water, refrigerant and paper. Waste and rework minimisation have a continuing focus.

Our Environmental Management System helps us manage the environmental aspects on projects and in maintenance contracts. Developed to comply with the requirements of International Standard ISO14001, it also includes for the preparation of detailed Environmental Management Plans. Recent examples are EMP's for the Energy Performance Contract for GPT at 580 George Street Sydney, the Integrated Technical Management multi services maintenance contract at GMH's Victorian facilities and the 2 Constitution Avenue Canberra A.G. Coombs installation Head Contract for ISPT.

A.G. Coombs has now become well recognised as a leader in providing specialist technical capabilities and programs to assist building owners, managers and occupiers improve their environmental performance.

A.G. COOMBS GROUP

The A.G. Coombs Group is a privately owned Australian group of companies that provides an integrated range of technical services for all systems in buildings, from design through to installation, commissioning, maintenance and ongoing operation and management. Operating for over 65 years, A.G. Coombs has a national capability with major operations on Australia's eastern seaboard.

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A.G. COOMBS PROJECTS

A.G. Coombs Projects leverage a National Centre of Excellence approach, where teamwork and project management skills set the company apart. This approach also provides high-end engineering, project management and site personnel to deliver successful projects throughout Australia.

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A.G. COOMBS SERVICE

A.G. Coombs Service is a specialist provider of air conditioning, mechanical services, building controls and bundled services maintenance. Delivering 24/7 building support, the company is a preferred supplier to the Facilities Management Industry and provides professionally managed, highly qualified technical staff to achieve improved reliability, lower costs and regulatory compliance in commercial, retail and industrial buildings.

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A.G. COOMBS ADVISORY

A.G. Coombs Advisory provides quality advice and consulting services across numerous disciplines including mechanical, electrical, hydraulics and fire protection services. A.G. Coombs Advisory is Australia's leading provider of Green Star Independent Commissioning Agent (ICA) services for projects requiring Green Star 'As Built' Certification.

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WALKER FIRE PROTECTION

Walker Fire Protection provides a range of fire protection and detection services, from high-end project engineering advice and consultancy through to concept and detailed design, installation of all types of fire detection and suppression systems, and ongoing inspection, testing, maintenance and regulatory compliance support.

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