



CAA ENGINEERING

Delivering Infrastructure of the Future

Capability Statement

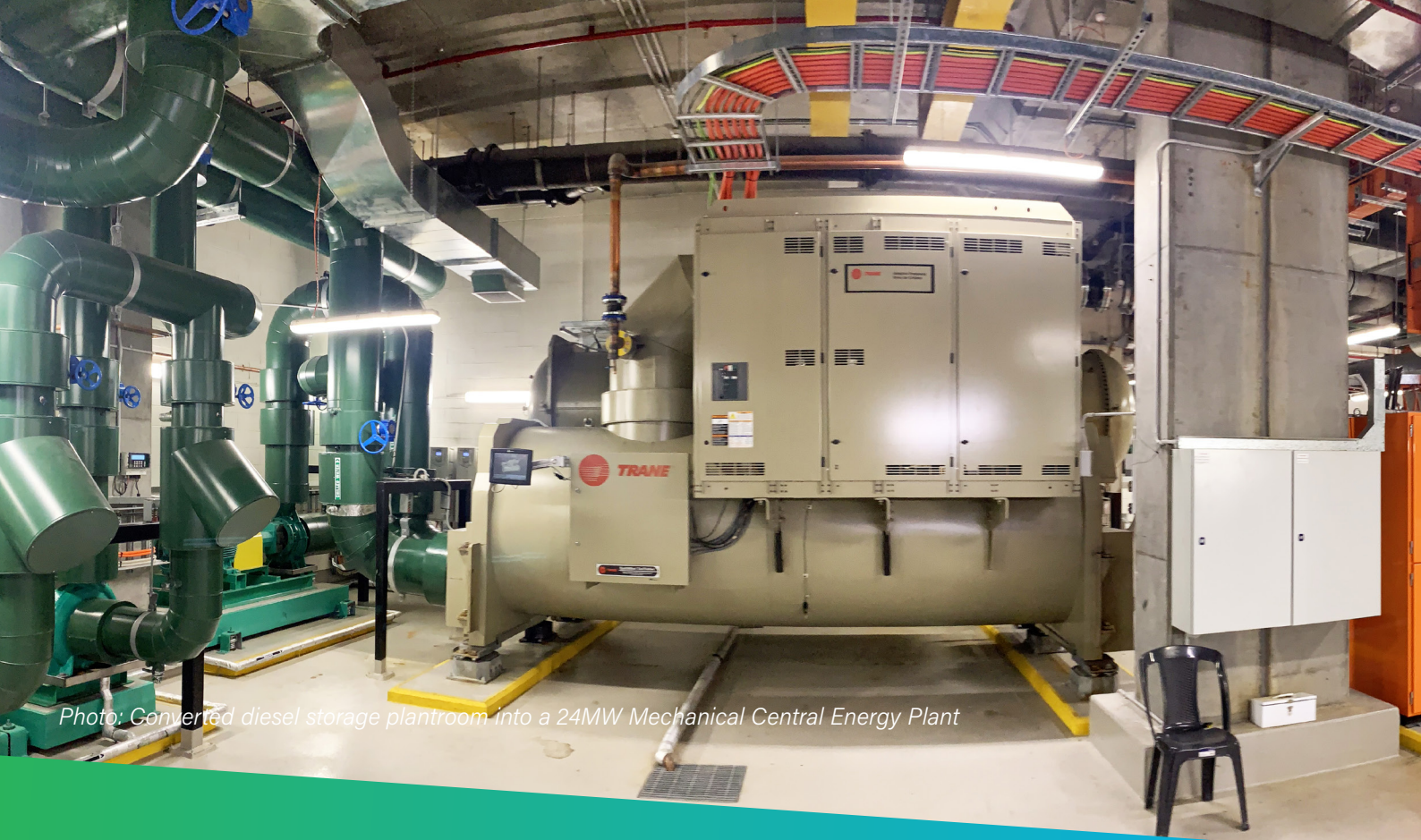


Photo: Converted diesel storage plantroom into a 24MW Mechanical Central Energy Plant

About Us

CAA Engineering Services is a technical Project Management company that specialises in the end to end delivery of Building Services and Engineering Infrastructure Projects.

Working with Developers, Builders, Property and Asset Owners, CAA Engineering Services can provide business case development services, feasibility advice and complete project lifecycle services for complex engineering projects.

CAA has experience working on projects at any stage of development from conception, design, construction or on existing operational buildings. CAA has a proven track record of successfully executing projects in 24/7 operating live environments such as casinos, hospitals and data centres and can deliver projects in all locations along the East coast of Australia.

Our Services

CAA thrives in the delivery of complex Engineering projects in live environments where minimising business impact is key to project success. Excellent stakeholder engagement is front and centre in achieving this outcome.

Concept and Feasibility Stage

Business Case development

Strategic Brief development

Project Brief development and analysis

Engineering Infrastructure Masterplanning impact assessments

Assessment of all Plant and Equipment historical data

Project staging analysis to ensure no business disruption

Cost report and control and ensure client approval at each stage in line with governance

Preparation of any consultant engagement documents (as required)

Identification of Infrastructure interfaces and their impact on project scope and budget

Program Management (in partnership)

Program creation from first principles

Program status updates

Target and Actual Programming

Commissioning Programming

Procurement Strategy

Procurement Analysis to determine which Building Services procurement model is most efficient. Design & Construct (D&C), Early Contractor Involvement (ECI), Managing Contract (MC) or Construct Only

Is a Builder required or do we appoint Engineering Contractors as the Principal Contractor?

Supplier and Contractor analysis

Determine the long lead items and preparation of the Procurement Schedule

Pre-fab Electrical and Mechanical Engineering solutions to reduce program

Manage Expression of Interest (EOI) process, tender packages, tender evaluation and Contractor selection

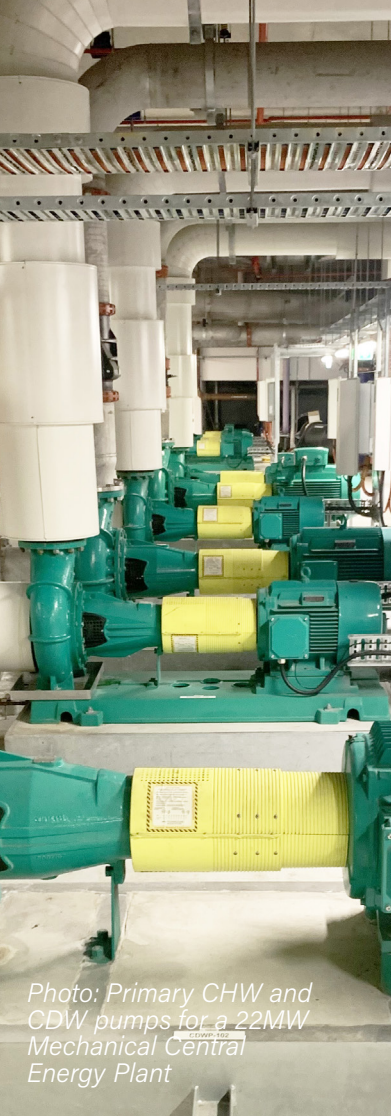


Photo: Primary CHW and CDW pumps for a 22MW Mechanical Central Energy Plant



Photo: New sea-water condenser system installed during off season. 35MW of heat rejection capacity via super duplex S/S pumps



Photo: New Generator Control and SCADA System for 12MW of back up power across 7 No. New and existing engines.



Photo: 32MW of Cooling tower constructed in a restricted site between a main road and canals

Design Management

Consultant team selection and tendering

Steer design team to eliminate all HSE risks where possible

Development of return briefs in line with client requirements

Ensure specification and drawings comply with stakeholders briefs and budgets

Design documentation review with a focus on plant access, maintenance and commissionability

Liaising with service providers and authorities

Project Management

Risk analysis and management

Value engineering

Authorities integration into project timeline (inc. ASP 1 contractor management and commissioning)

Construction program monitoring and auditing

Project Budget, Commitments, Actuals and Estimate at Completion (EAC) tracking and auditing

Quality assurance

Conduct project initiation meetings with the Building Services Contractors

Active management of RFI's, Variation's, ITP's, SWMS

Conduct contractor design & construction meetings

Stakeholder reporting during all stages of the process

Project commissioning and handover

Facilities Management

Maintenance Contracting Strategies

Plant and Equipment Condition Assessments

FM Data analytics of "Big data" to streamline processes and make recommendations for next steps

Management of Energy analytics processes to convert opportunities into realised savings

Our Key Projects

CAA Engineering Services has delivered multiple project types that span all disciplines of the Building Services and Infrastructure Engineering Industry.



MECHANICAL SYSTEMS
\$91M OVER 7 PROJECTS



HV / LV
ELECTRICAL SYSTEMS
\$96M OVER 8 PROJECTS



OT/ICT
\$16M OVER 9 PROJECTS



FIRE SYSTEMS
\$15M OVER 8 PROJECTS



CONSTRUCTION
\$20.5M OVER 5 PROJECTS

Photo: Replaced 7 No. MSB in a live 24/7 facility with minimum disruption and 160 cut overs

Major Infrastructure Plant and Equipment

Client	Confidential – Vienna and Madrid
Project Title	Data Centre Deployment
Value	Euro 80m
Role	Design Management, Procurement Management
Description	Managing Global Engineering Design Consultancies from RIBA Stage 2 to 4 along with the direct procurement of Electrical and Mechanical Plant and Equipment such like incoming MV and MSB Boards, TX's, Integrated E Houses, UPS, Generators, Evap. Cooling Units

Client	Star Casino – Sydney Integrated Resort
Project Title	Sea Water Plant Replacement (Condenser Water System)
Value	\$12m
Role	Client Representative, Project Management, Design Management, Program Management
Description	Replacement of the Sea Water Condenser systems with a capacity of 1500 l/s (35MW cooling capacity). 3 x 500 l/s Grundfos, Super Duplex SS with 1200mm primary header, controls and bernolli filters. All constructed 4 levels below the Ground floor and 7 meters under sea level at Darling Harbour.



Client	Star Casino – Gold Coast Integrated Resort
Project Title	Chilled Water Central Energy Plant Replacement
Value	\$19m
Role	Client Representative, Project Management, Design Management,
Description	Replacement of 15MW of water cooled chillers with 22MW (5 x 4MW units) including HX for condensers water system and 30MW Cooling Tower farm



Client	Star Casino – Gold Coast Integrated Resort
Project Title	Electrical Central Energy Plant Replacement
Value	\$10m
Role	Client Representative, Project Management, Design Management,
Description	Replacement and upgrade 3 x HV Boards, RMU's, 7 x 4000amp MSB's and replacement of all cabling to DB's and 12MW of back power generation. This involved 160 electrical shutdowns throughout the property.

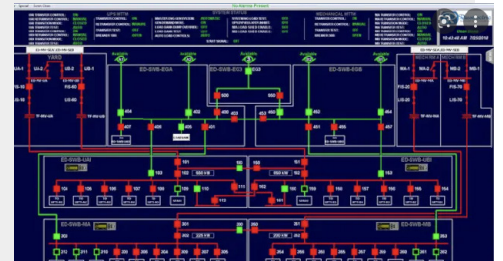


Operational Technology (OT)



Client	Confidential
Project Title	Site Wide BMS Upgrade (multiple)
Value	\$1.5m
Role	Client Representative, Project Management, Design Management,
Description	Upgrade of a 15 year old Honeywell BMS systems to new EBI software with 6000 points. Included upgrading 10 BMS panels and installation of 11 new BMS panels, Comms upgraded to Converged ICT network, Graphics up-dated, CEP COP analysis tools added.

Client	Star Casino – Gold Coast Integrated Resort
Project Title	Site Wide SCADA / EMS installation (multiple)
Value	\$1m
Role	Client Representative, Project Management, Design Management,
Description	Installation of a Schneider Eco-structure software systems for Load control and Energy Management System. Included deep analysis of HV and LV Electrical loads to establish a new load shed table and installation of 20 PLC boards throughout the property.



Client	Star Casino – Gold Coast Integrated Resort
Project Title	Fire System Upgrade
Value	\$1.5m
Role	Client Representative, Project Management, Design Management,
Description	Replacement of a site wide 20 year old Fire System which included Fire Fan Control Panel, EWIS control systems, new FIP Graphics. Included complete redundant system in security control room, new Fire Control Room, Staged integration throughout facility and liaison with authorities.

Client	Star Casino – Gold Coast Integrated Resort
Project Title	Energy Analytics Integration into IT and OT systems
Value	\$0.2m
Role	Client Representative, Project Management, Design Management,
Description	Deployment and Integration of an Energy Analytics platform into our secure ICT network. We established a remote secure interface to the converged network and integrated 3 software systems(Honeywell, Schneider, Bueno) to transfer data on a 6 mins basis. This allowed us to get near-live data for energy monitoring, fault analytics and detailed monthly reports.

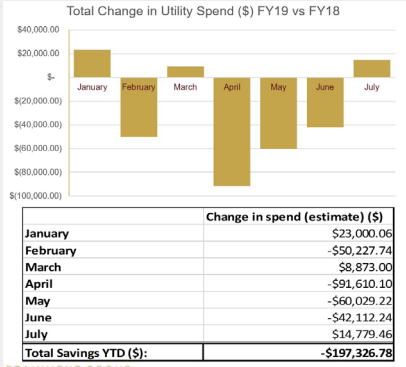


ICT systems

Client	Confidential – Sydney
Project Title	ICT installation
Value	\$8m
Role	Client Representative, Project Management, Design Management, Program Management
Description	Installation of Active and Passive ICT solution for an 80MW data centre. The passive solution included the structured cabling (SCS), Fibre Cabling, MDF's, interconnect rooms and dual path redundant solution. The active solution included Agg racks, Servers, copper cabling, FOBOT's, virtual servers and 5 months of integration work with Security, SCADA, BMS contractors and internal stakeholders.

Projects Targeting Net Zero

Client	Star Casino – Gold Coast Integrated Resort
Project Title	12 months Energy Reduction Program via analytics platform
Value	savings of \$0.2m per annum
Role	Client Representative, Project Management, Energy Management
Description	Business Case required a savings of \$200,000 in 12 months. Collaborating with Operational departments, analytics company and OT companies we identified 35 opportunities that could with \$350,000 of savings. Of these projects we converted 20 opportunities into live projects with realised savings of \$197,000 in 12 months combined across Power, Water and Gas utilities when comparing FY 18 and FY 19 data.



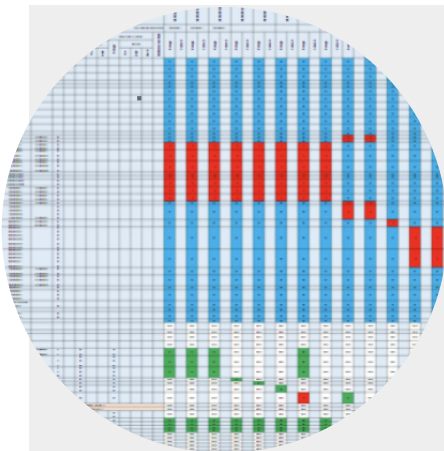
Client	Star Casino – Gold Coast Integrated Resort
Project Title	Electric Heat Pump Project
Value	\$1.6m
Role	Client Representative, Project Management, Program Management
Description	400kw Electric Heat Pump installation to replace 25 year old Gas calorifiers for Domestic Hot Water Generation for the property level 4 to Basement 4. Comprised of water cooled units connected to site wide condenser water system. Produced annual saving of \$130k on Gas and a 20% reduced in gas intensity.

Incoming Utilities/ Authorities

Client	Multiple
Project Title	Incoming HV (Energen) and Gas upgrade
Value	\$4m
Role	Client Representative, Project Management, Design Management
Description	Upgrade from 12Mva to 16Mva incoming HV supply via 11kV network with new metering stations and reconfiguration of local Zone Sub with Energen. This provided full redundant HV supply and designed in conjunction with the masterplan. And upgrade of Gas transe to allow more gas flow to the property



Fire Systems Compliance and Accreditation



Client	Confidential
Project Title	Legislative Fire Systems Compliance (QLD)
Value	\$3m
Role	Design Management, Project Management, Program Management
Description	Managing a multi-disciplinary Design and contracting team in Creating a new Cause and Effect Matrix for a large complex property. Creating new baseline data, identifying scope gaps, creating new 9 super zones and 75 sub zones while coordinating Annual interface testing, identifying, scoping and tendering all defects to market

Client	Confidential
Project Title	AFSS Compliance (NSW)
Value	\$3.5m
Role	Concept and Feasibility Analysis, Design Management, Project Management, Program Management
Description	Analysis, collation, and market Tendering of 2000 Active and Passive fire system defects across the following Essential Services disciplines: Sprinkler, Fire Detection, Passive Fire, Fire Doors, Hydrant, EWIS all in time for Annual Statement. Worked collaboratively with City Of Sydney, C10 Fire safety professional, Fire Engineers and Contractors.



Photo: Replaced a 90,000 lit fuel system with new, 7 floors below street level in CBD

Martin Simpson | Director

Analytical and performance-driven professional with extensive experience leading high value, Mission Critical 24/7 Engineering Projects for many sectors of the Industry working for Clients, Developers, Main Contractor and FM Service Providers. Demonstrated expertise within Critical Engineering Environments such as Data Centres, Casinos, Hospitals and Integrated Resorts.

Can deliver projects in totality as Senior PM or provide Senior MEP leadership from Design Development, Pre-Construction, On-site delivery, all Commission stages and well versed in handover to Organisations with many stakeholders where Stakeholder Engagement is key. Expert in executing projects within timely and budgetary constraints with an ability to recommend effective solutions to reduce costs. Adept at forecasting costs within budgets, resolving technical issues, negotiating contracts, and fostering relations with key stakeholders.

Skilled in preparing and presenting internal Business Cases, Strategic Briefs, and VE options. Excellent interpersonal skills; capacity to get along with diverse personalities while exhibiting versatility, adaptability, and professional attitude within multicultural environments.

Lead the Planning and Development of Engineering Infrastructure Strategy for multiple properties for the largest Casino / Integrated resort developer in Australia.

Contact

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