



APD

OPERATIONS

- ENGINEERING PROCUREMENT & CONSTRUCTION (EPC)
- EPC MANAGEMENT (EPCM)
- OWNER'S ENGINEER (OE)



ABOUT APD

APD Operations provide a complete turn-key solution to meet our various client needs.

APD can deliver services under an Engineering, Procurement & Construction (EPC), EPC Management (EPCM) or Owner's Engineer (OE) model. We have been responsible for delivering an array of projects covering:

- Power stations (diesel & gas);
- Renewable energy (solar, wind, battery energy storage, bioMass);
- HV substations (11kV-500kV);
- Power lines & cables (OH & UG transmission & distribution);
- MV / LV systems (switchboards, cables & MCC's);
- Control systems, automation & SCADA;
- Telecommunication & data systems (wireless & wireline).

APD have experienced staff in Design, Procurement, Construction and Maintenance to deliver quality projects safely, efficiently and within budget. Acting as Owner's Engineer, we support many clients in achieving business growth and developing strategic plans.

We have built strong relationships with our clients, partners and associated stakeholders including utility networks, nbn, telecommunication providers, accredited service providers (ASPs) and material suppliers.

APD are experts in conforming to a wide variety of utility and mining company standards, allowing a quick and seamless transition to gaining accreditations with additional service providers. APD have completed projects of various service types on the below networks:



KEY SERVICES

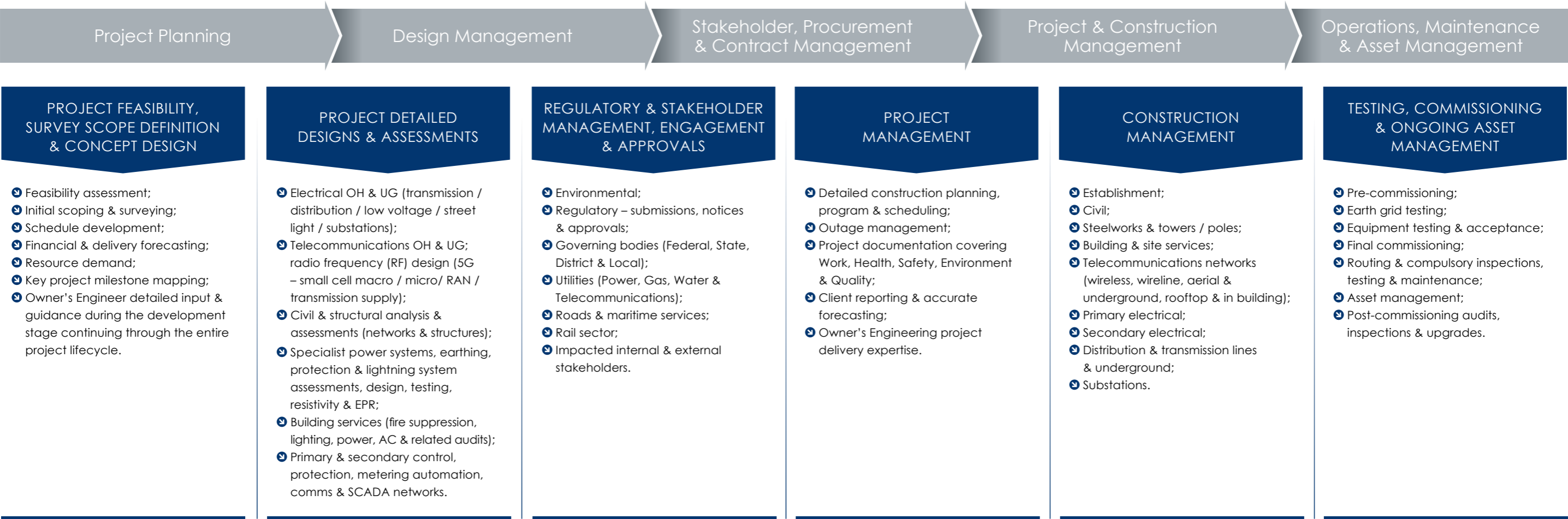
Combined with our engineering, construction, commissioning and operations capabilities, APD offer our clients bespoke turnkey solutions to safely deliver high-risk and complex infrastructure projects.

We cater for the full project lifecycle that extends from the planning phase through to the design, project delivery and ongoing asset operation and maintenance. A snapshot of APD's capabilities are highlighted below:

- Turnkey (customised solutions);
 - Design & Construct (D&C);
 - Engineering Procurement & Construction (EPC) & Engineer Procurement & Construction Management (EPCM);
 - Greenfield & brownfield projects;
 - Design Build & Operate (DBO), Build Own Operate (BOO) & Build Own Operate Maintain (BOOM);
- Operation & Maintenance (O&M);
 - Nationwide utility accreditation;
 - Expertise covering: power generation, renewables, battery systems, mining, telecommunications wireless (rooftop mobile & carrier sites) & wireline (HFC & ADSS fibre), redevelopments & sub-divisions, substations, transmission &
- distribution lines overhead & underground, switchboard upgrades, instrumentation & controls, process plants, water & fuel facilities.



PROJECT LIFECYCLE



PROJECT LIFECYCLE

PROJECT PLANNING

- Feasibility assessments;
- Initial scoping & survey (power, telecommunications, radio frequency, structural, civil);
- Financial & project delivery forecasting;
- Detailed MS project/P6 programs of projected works & resource demand;
- Key project milestone mapping with associated forecasting;
- Detailed Owners Engineering guidance & expertise to deliver efficient solutions for our customers.

DESIGN MANAGEMENT

- Power – electrical OH & UG designs (transmission / distribution / low voltage / streetlight / substations);
- Telecommunications OH & UG design, radio frequency (RF) design (5G small cell macro / micro/ RAN / IBC DAS / IBC repeaters / transmission supply);
- Renewables designs (solar, wind, batteries & alternative energy solutions);
- Civil & structural designs (networks & structures) ;
- Earthing & lightning designs (assessments);
- Building services designs (fire suppression, lighting, power, AC & related audits);
- Primary & secondary control, protection, metering automation, comms & SCADA networks designs;
- Railway asset & equipment designs.

STAKEHOLDER, PROCUREMENT & CONTRACT MANAGEMENT

- Environmental assessments & management;
- Site, land access & easement acquisitions;
- Regulatory – submissions, notices & approvals;
- Governing bodies (Federal, State, District & Local);
- Utilities (Power, Gas, Water & Telecommunications);
- Roads & maritime services & rail sectors;
- Impacted internal & external stakeholders;
- Financial management (bonds / retentions / warranties / stat declarations);
- Sub-contractor onboarding & verifications (insurance & staff certification monitoring);
- Performance management (Quality / delivery / resource optimisation & cost).





PROJECT LIFECYCLE

PROJECT & CONSTRUCTION MANAGEMENT

SUPPORT FUNCTIONS

- Financial management (progress claims, variation, EOT & RFI management);
- Hold witness points / appropriate approvals to proceed;
- Detailed planning MS project / P6 programs for delivery of works;
- QA reports / safety incident reports / self audits – delivered daily, weekly and monthly;
- Project documentation covering work, health, safety, environment & quality (JRA / SWMS / Take 5 / WHSMP / CEMP / QTP / ITP / FAT testing);
- Detailed processes, tools, software & equipment used – customised web portals & field apps & devices;
- Outage management covering customer notifications / DBYD verifications;
- Agile monitoring (live / accurate real-time reporting);
- Delivery partner / sub-contractor Management;
- Embedment onsite / offsite (client / delivery partners locations);
- Professional project delivery (Owner's Engineering);
- PPIR (Post Project Implementation Review) / lessons learnt / continuous improvement.

SPECIALISED POWER (ASP1 & NATIONAL EQUIVALENT)

- Construct & modification of energy authorities networks poles, wires & assets;
- Electrical Infrastructure construction works (transmission / distribution / low voltage), overhead & underground works;
- TR, HV & LV cabling & jointing, street lighting upgrades;
- Transformer upgrades – new padmount substations & polemount substations;
- Transmission, distribution & zone substation upgrades;
- Temporary power – supply & installation of generators as required;
- Infrastructure & asset relocations;
- Civil trenching & excavation works (shared services);
- Earthing works;
- Traffic control services;
- Design & construction turnkey solutions.

SPECIALISED POWER (ASP2 & NATIONAL EQUIVALENT)

- Construct & modification of energy authorities service network covering overhead service main poles or underground pillars to the customer point of attachment;
- Commercial, industrial & residential sectors;
- Single to three phase installations;
- Traffic control services;
- Metering, testing & certification prior to energising;
- Design & construction turnkey solutions.

PROJECT LIFECYCLE

PROJECT & CONSTRUCTION MANAGEMENT (CONT.)

MAJOR & MINOR CIVIL INFRASTRUCTURE/ SUBSTATION CONSTRUCTION

- Commercial, industrial, electrical, telecommunications sectors;
- Access tracks upgrades & new builds;
- Directional drilling, trenching & excavation;
- Earthworks & grading;
- Foundations, formworks;
- Drainage, ducting & conduits (services hauling);
- Structural & steelworks;
- Building services constructions (including fencing, security systems, fire suppression, AC, electrical, telecommunications, water, gas & associated services);
- Secondary & Primary systems (substations);
- Carrier rooms & fit-out (telecommunications);
- Certified restoration works;
- Certificates of completion & compliance.

TELECOMMUNICATIONS CONSTRUCTION & ASSOCIATED CIVIL

- Telecommunications infrastructure installation (aerial & underground);
- Wireline & associated (OPGW, ADSS, HFC, SAS, FSL, STE, customer interface equipment);
- Wireless & associated (microcells, macrocells, rooftop carrier installations);
- Telecommunications installations & equipment (customer interface equipment, point of connection);
- Telecommunications infrastructure installation (aerial & underground);
- Conduits (trenching & directional drilling);
- Cable hauling / direct buried;
- Pit / manhole construction;
- Underground cable jointing & testing;
- Primary / Secondary & associated cable installations;
- Tunnel work (confined space certified);
- Exchange modifications (installation of ironwork, cable tray systems, associated equipment & racks, Installation & termination of copper cables – AC & DC power systems);
- Fibre splicing, terminations & commissioning. (Insertion loss, link loss testing, ODTR, all associated workbooks & reports).

OPERATIONS, MAINTENANCE & ASSET MANAGEMENT

- Pre-commissioning, earth grid testing, equipment testing & acceptance;
- Final commissioning, routing & compulsory inspections, testing & maintenance;
- Asset management;
- Backup generation & alternative supplies;
- Asset management plans & resource optimisation;
- Automated systems for client asset management;
- Detailed audits & check in compliance with current / applicable standards, acts & legislation;
- Post-commissioning audits, inspections & upgrades.





SAFETY

Our safety culture is evident in the exceptional record we have maintained since inception. Safety is approached in a pragmatic manner and is always front and centre of everything we do.

PERFORMANCE

- Industry leading safety statistics;
- 3-tier accredited management systems;
- Strong site leadership (CM's);
- Strong engineering site leads;
- HSEQ – JRA's, SWM's, take 5's;
- Qualified HSEQ manager;
- Audited processes (site & office);
- Overtime & fatigue management;
- Daily management of site KPI's.

SAFETY CULTURE EMBEDMENT

- Induction & refreshers;
- Cross function HSEQ committee;
- Controlled registers (HSEQ);
- Director overview project control group (PCG's) meeting;
- Top down, bottom up audits, includes staff audits / peer review, HSEQ Manager, CM and director site audit program;
- Standing item meeting agendas;
- Performance review;
- Post project process "lessons learned" – closing the loop continuous improvement.

CERTIFICATIONS & COMPLIANCE SYSTEMS



OCCUPATION HEALTH & SAFETY MANAGEMENT

Our Certification **No: OHS21064**

We operate an Occupation Health and Safety Management System that has received AS/NZS 4801:2001 accreditation.



QUALITY MANAGEMENT

Our Certification **No: QEC27493**

Our Quality Management System that underpins our processes and systems has achieved ISO 9001:2015 accreditation.



ENVIRONMENTAL MANAGEMENT

Our Certification **No: CEM21513**

Our Environmental Management System has achieved ISO 14001:2015 accreditation. We strongly support the need to protect the environment and use resources mindfully and with respect.

OUR NATIONAL EXPERIENCE

APD have completed a number of significant Engineering Procurement & Construction projects nationally.

Further details and references for each project can be provided upon request.



COMPLETED PROJECTS & CLIENTS

NSW



EPCM – 54+ SAMs – 7500+ assets affected – inner & greater Sydney region
Aerial – Power & telecommunications impacting multiple utilities & telecommunications assets.

- Design
- Project management expertise
- Stakeholder management
- Material procurement management
- Utility management & coordination
- Daily status & reporting
- Quality control auditing



EPC – Multiple SAMs – inner & northern Sydney region construction
Aerial – Power & telecommunications make ready works (MRW) pole replacements / stringing.

- Project management expertise
- Stakeholder management
- Material procurement Management
- Utility management & coordination
- Daily status & reporting
- Quality control auditing

- Turn-key solution
- Delivery partners management



EPC – 10 + SAMs – Sydney & greater NSW construction
Aerial – Power & telecommunications make ready works (MRW) pole replacements / stringing.

- Design
- Project management expertise
- Stakeholder management
- Material procurement management
- Utility management & coordination
- Daily status & reporting
- Quality control auditing



EPC – covering Sydney south coast construction
Aerial – Power & telecommunications make ready works (MRW) pole replacements / stringing.

- Project management expertise
- Stakeholder management
- Material procurement management
- Utility management & coordination
- Daily status & reporting
- Quality control auditing



EPC – VisionStream 10+ blackspot – projects

- Power feasibility
- Design
- LV/HV/TR line modifications & installations
- Transformer upgrades & installations

VIC



EPC – Blended delivery multiple SAMs Melbourne inner region construction
Aerial – Power & telecommunications make ready works (MRW) pole replacements / stringing.

- Design
- Delivery partner and internal crew management for blended project delivery
- Aerial project management expertise
- Quality control & auditing



EPC – Blended delivery – FITC project Wolf
Aerial & underground power & telecommunication works / stringing.

- Design
- Delivery partner and internal crew management for blended project delivery

- Aerial project Management expertise
- Quality control & auditing



EPC – High profile nbn project Cann River
Mallacoota construction
Aerial – Power & telecommunications make ready works (MRW) pole replacements / civil works.

- Remote location
- Heavy vegetation
- Multiple Impacted stakeholders (state forest, nation parks, residents)
- Aerial & process management expertise
- Management of delivery partner
- Quality control
- Documentation & audit
- Detailed project
- Construction planning & scheduling



- PM2 – CIP/ Fraser Group**
- Design
 - Procurement
 - Project management

WA



Upgrade of network & power station at 8 remote Aboriginal communities

- 28 New transformers
- 5 HV ring main units

- 4 LV switchboards including 3 new switchrooms
- 4 New generators
- 4 Fuel tanks
- 5km of HV & LV cables
- 7km of HV & LV power lines



Hitachi assembly facility
Telstra pit & pipe

- >1km Telstra pit & pipe extension
- >200m single shot bore under Tonkin Hwy & nature reserve
- Traffic management
- Engineering & design
- Project & construction management



Hollywood Hospital 6.6 to 11kV conversion

- Replacement of 2500kVA transformers on top storey through 250T crane lift
- HV cables replacement
- All in an operational hospital with short shutdown periods
- Complete engineering & design
- Project & construction management



BHP Jimblebar Mine Expansion

- Testing & commissioning of 7 substations

- 132kV Circuit breakers, disconnectors, surge arrestors, voltage & current transformers
- 132/66, 132/33 & 132/11kV power transformers
- 33 & 11kV switchboards
- Lines & cables
- Earthing, control systems & lightning protection



Convenience store

- Preparation of technical rules HV submission
- Innovative 500kVA 11kV transformer on new overhead structure
- HV, LV & streetlight overhead line modifications
- LV consumer mains cable
- Backup gensets during network outages



Carnarvon fishing boat harbour, electrical distribution system upgrade

- 3 x transformers & 1 x RMU
- 8.5km HV, LV & streetlight cable
- 30 x streetlights
- 5 x LV switchboards



Vales Point 2,000MW power station

- Replacement of 25 HV panels in operational power station

- Procurement of switchboards, protection & comms devices
- Complete engineering & design
- Project & construction management
- In-house testing & commissioning



Royal Perth Hospital, HV breaker replacement

- 12 x 630A 11kV CB replacement
- New 630A 11kV panel
- 11kV motorised fuse switch
- 3x11kV 760kVAr capacitor banks
- Upgrade CTs & VTs
- NMI meters



Christmas Island mine feeder upgrade

- Installation & termination of HV cable from RMU to switchgear
- New HV switchgear cable box
- Testing & commissioning



Rectifier transformer emergency change out

- Rectifier transformer change out plan at Kemerton & Kwinana sites
- Assessment of changeout conversion busbar kit

- Logistic & safety considerations
- Testing & commissioning & maintenance plan



Alinta fault recorders EPC solution

- Design & interconnection drawings
- Delivery of goods, install, commissioning & make-ready for energisation
- System simulation test
- Provision of complete installation, operation & maintenance manuals
- Train Alinta Energy's staff in the correct operation & maintenance of equipment



Stockland childcare centre Harrisdale

- LV site main switchboard fabrication & Install
- LV consumer mains
- Pit & pipe



Shell fepot power supply upgrade

- Network capacity assessment
- LV network, uni-pillar & consumer mains cable upgrade
- Backup gensets during network outages.

APD

OPERATIONS

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Quality
ISO 9001
SAI GLOBAL



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SAI GLOBAL



Environment
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