McKay™

Capability Statement

Electrical Design and Engineering | Pre-construction | Construction | Maintenance

www.mckay.co.nz

Contents

ABOUT MCKAY

A long history of electrotechnology excellence

100%
New Zealand regional coverage

600+
People working in diverse roles

11
Branches located throughout New Zealand

90
Years of electrotechnology innovation

McKay is proud to stand as Aotearoa, New Zealand's largest privately-owned electrotechnology provider, offering innovative electrical engineering and construction services nationwide.

McKay has a renowned reputation for delivering collaborative, high-quality, and safe electrical solutions across a range of sectors including Infrastructure, Industrial, Construction, Renewables, and Marine. This reputation has positioned the company as a sought-after specialist in the electrical industry.

Established in Dargaville, Northland, in 1936, McKay has grown significantly over the past nearly nine decades, evolving from a local business to a prominent presence across both the North and South Islands of New Zealand. With this national growth, McKay's roots have remained grounded in its Northland heritage, with its headquarters proudly located in Whangārei for the past 60 years.

Under the guidance of Managing Director Lindsay Faithfull, and the Executive Leadership Team, McKay operates seamlessly through its 11 branches throughout New Zealand as well as its growing presence in the South Pacific and the United States.

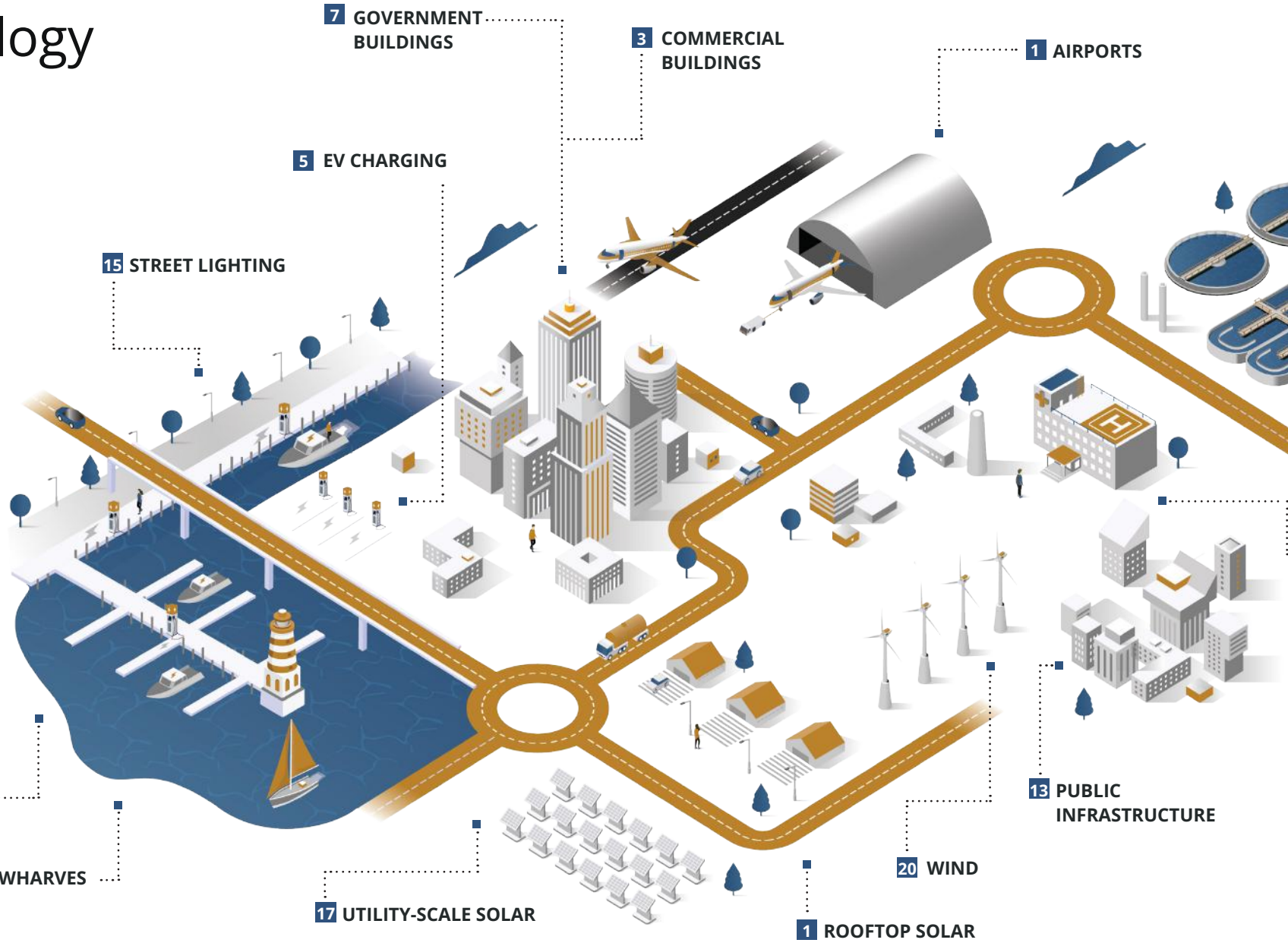
Offering comprehensive end-to-end solutions, from initial design through to planned and reactive maintenance, our highly skilled electricians and engineers efficiently deploy resources on a national scale. Uniquely leveraging the combined capabilities and talent of more than 600 employees to self-deliver projects of all sizes and scopes, in-house.

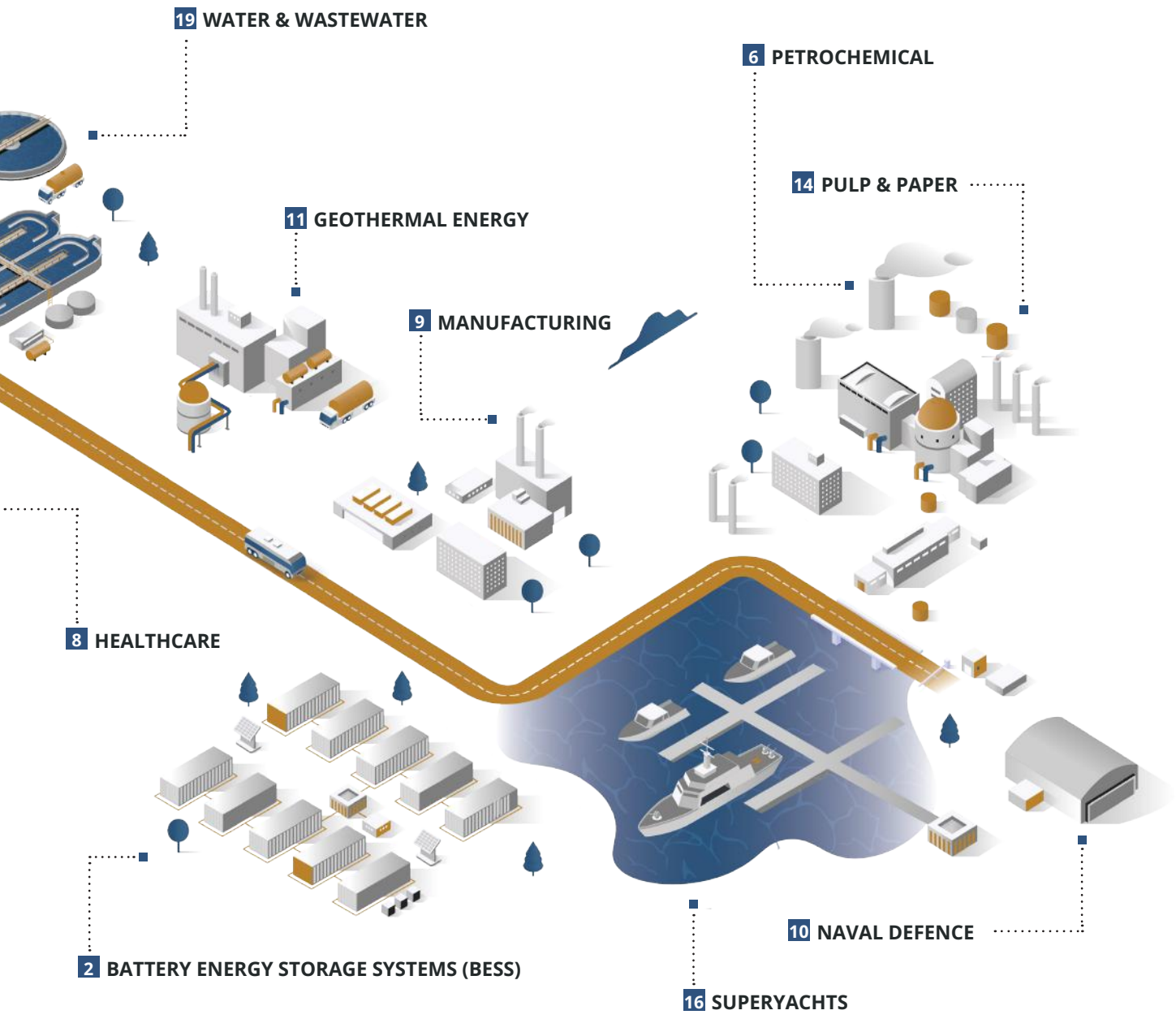
Quality lies at the heart of our operations and is ingrained within our company-wide Quality Management System, as well as our ISO 9001:2015 certification. It's reflected in our people, programmes, and processes. We firmly believe that it is the quality of our service that ultimately ensures the successful delivery of client projects, on time and within budget.

McKay Headquarters, Water Street Whangārei

Electrotechnology capability

McKay has changed the industry by delivering a collective scope of services, expertise, and resources not previously available through a single company.





HOW WE WORK

Our services

McKay possesses a unique ability to provide support at every stage of a project's lifecycle. We are well equipped to offer a full range of services, from design to through-life maintenance, and everything in between.

Our design, engineering, pre-construction, construction, and maintenance services can be tailored to meet our customers' specific project needs, providing the flexibility to achieve tailored solutions.

Design

Our electrical engineers collaborate with other engineering contractors, such as mechanical and civil engineering consultants, to develop comprehensive designs that integrate seamlessly with the overall project needs.

- Design brief specification
- Functional description
- Document Safety-in-Design (SiD)
- Test documentation preparation

Engineering

With our in-house team of electrical engineers, we have the expertise to handle a wide range of projects across different industries and sectors.

- Electrical engineering
- Power systems distribution SLD's
- Calculations - load, fault current earthing, and breaker co-ordination studies
- Schematics for termination and switchboard building
- Cable schedules and cable tray routing design
- Automation engineering
- Software development
- Operational manuals
- Maintenance manuals
- Switchboard design schematics
- Preparation and submission of class documentation

Pre-Construction

With a focus on technical precision and seamless project setup, McKay ensures that projects are built on a solid foundation from the start. Our expertise in the pre-construction phase drives efficiency and optimises outcomes for every project.

- Early Contractor Involvement (ECI) for optimised design input
- Detailed electrical design, including load calculations, schematics, and switchboard layouts
- Value engineering to maximise cost efficiency without sacrificing quality
- Risk assessments and technical feasibility studies to ensure project readiness
- Regulatory compliance to meet industry standards and avoid delays
- Coordination with stakeholders for seamless communication and alignment

Construction

McKay provides comprehensive electrical construction services, focusing on delivering tailored and efficient solutions for projects of all sizes. Our capabilities include:

- LV and HV works, including transformers, RMUs, generator packages, UPS systems, and switchgear
- Installation and integration of lighting, distribution boards, and automation systems
- Value engineering to optimise project efficiency and cost-effectiveness
- Utilisation of 3D through to 5D BIM technologies for accurate design, coordination, and project management
- Innovative use of products like modular wiring systems for faster and more flexible installations

Maintenance

McKay has been delivering electrical maintenance solutions for decades and specialises in keeping assets and equipment in optimal condition.

- 24 hour/7 day service
- Reactive maintenance
- Proactive/scheduled maintenance
- Asset management and condition rating
- Temporary power generation
- Thermographic imaging
- IQP testing
- Switchboard service/maintenance
- Uninterruptible Power Supply (UPS)
- Emergency power systems
- Residual Current Device (RCD) and Multiple Circuit Breaker (MCB) checks

Project: The Marsden Point Oil Refinery, Ruakākā

OUR CAPABILITY

Industrial

McKay leverages its wealth of industrial experience to deliver services to clients operating within industries including manufacturing, petrochemical, dairy, pulp and paper, and other large-scale industrial facilities.

Our commitment to meeting the intricate electrical scope and unique requirements of our industrial clients sets us apart, with a focus on prioritising safety, efficiency, and reliability in the management of each project.

Petrochemical

Having partnered with Refining New Zealand, now Channel Infrastructure, for more than 50 years, McKay has extensive knowledge of the latest regulations within the petrochemical industry. This ensures the quality of equipment and workmanship across design, installation, and the commissioning of electrical systems.

Manufacturing

McKay provides comprehensive electrical services for large manufacturing plants, including process automation and the management of complex electrical systems. We handle all maintenance planning, including scheduled and reactive work, to ensure efficient operations and compliance with safety standards.

Pulp and Paper

McKay's knowledge of the pulp and paper industry is deeply rooted in our long-standing relationships with mills throughout New Zealand. Known as a highly specialised industry with strict operational and safety standards, McKay offers extensive experience in preventative and scheduled facility maintenance, with the capability to provide 24/7 electrical support.

Refining NZ Biotreater Aeration Upgrade Project	
Client	Channel Infrastructure (formerly Refining NZ)
Location	Marsden Point, Ruakākā

Having worked with Channel Infrastructure for the past 50 years, McKay was engaged to upgrade its existing activated sludge plant's BioTreater™ system to bring the three surface aerators up to capacity, meeting the COD/BOD oxygen demand. McKay provided control systems to ensure that the upgraded BioTreater™ aeration system can function under Refining New Zealand's existing wastewater discharge consents, with instrumentation installed to keep them up to date if issues in the system arise. Our scope included:

- Dismantling and removing existing surface aeration equipment and the electrical support systems
- Installation of new surface aerators and blowers
- Supply and installation of blower control equipment
- Design and installation of a full package of instrumentation and control systems
- Installation of all cabling and cable supports for the project

Oji Fibre Solutions Maintenance and Servicing	
Client	Oji Fibre Solutions
Location	Kawerau, Bay of Plenty and Tokoroa, Waikato

Oji requires electrical maintenance services for both its Kinleith plant in Tokoroa and their Tasman plant in Kawerau. Our maintenance scope involves both planned and unplanned work to meet changing requirements. We ensure that we provide our best staff who can adapt to the client's needs. McKay was contracted by Oji Fibre Solutions for the maintenance of the electrical and instrumentation systems at their sites, including:

- Stationing personnel at each site to perform electrical work as required and perform regular inspections of all electrical systems, making repairs as necessary
- Undertaking required tasks while keeping sections of the plant running to disrupt regular business as little as possible
- Replacing any equipment to avoid failure while ensuring optimal use of assets
- Making electricians available for urgent repairs required outside of ordinary hours
- Providing shutdown support when required by the client

NZDC Powder Blending Plant	
Client	Fonterra (Formerly New Zealand Dairy Company)
Location	Auckland

Fonterra required motor control centres and motor cabling installed for its new processing plant. This important work has allowed the plant to operate successfully, enabling efficient processing of infant formula and production of high-quality products. Powder Projects contracted McKay to design, supply, and install the electrical components for the mechanical works, which included:

- Installing the blending motor control centre and motor control centres for the Level 2 blending room and unloading area
- Supplying and installing sub-mains cables for field panels around the plant
- Providing and installing motor cabling as well as motor isolators
- Installing the complete package of instrumentation systems
- Performing I/O testing on site

Pan Pac Paper Mill BCTMP Plant Conversion	
Client	Andritz AG
Location	Napier

Pan Pac has been producing Thermo Mechanical Pulp (TMP) at its Whirinaki site for over 45 years and the mill is required to meet strict performance standards. McKay was engaged with Andritz AG to deliver VSD and instrumentation installation for the mill to ensure the facility's plant and equipment were optimised to enable high levels of production and performance. The team was able to successfully deliver HV works to ensure the mill was up and running on schedule. McKay's scope of works included:

- 11kV ABB main switchboard installation along with 11kV cabling and support systems
- 20 ABB variable speed drives including motor and control cable installation
- PLC and instrument installation including cable and support systems
- Commissioning
- Punch list resolution
- Process testing


McKay™
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OUR CAPABILITY

Infrastructure

McKay is committed to supporting critical infrastructure across New Zealand by successfully delivering projects and providing ongoing maintenance services for key industries, including water and wastewater, telecommunications, transport, and EV charging infrastructure.

Our expertise in the infrastructure sector is extensive, with many key private, local, and central government agencies relying on us to deliver and maintain essential infrastructure nationwide.

Water and Wastewater

McKay provides comprehensive electrical services for water and wastewater treatment facilities, including SCADA system design and maintenance, along with key electrical infrastructure such as switchboards, variable speed drives (VSDs), motor control centres (MCCs), and instrumentation. We also manage high-voltage systems, including 11kV ring main units (RMUs) and transformers, ensuring efficient power distribution throughout the facility.

Airports

McKay has a long and proud history of delivering electrical works and runway lighting for airports in New Zealand and across the Pacific. From runway lighting to full electrical design, and installation to bespoke IoT solutions, McKay is dedicated to efficient and innovative practices that make a real difference to our clients.

EV Charging

McKay specialises in supplying and installing Electric Vehicle (EV) charging infrastructure for road vehicles and maritime vessels within commercial areas. Having developed advanced charging systems, including High-Power Charging for Commercial Vehicles (HPCCV) capable of delivering charge rates exceeding 1000kW, McKay's expertise extends to designing low-voltage systems for residential and commercial stations, compliant with local regulations.

Streetlighting

We manage comprehensive streetlighting services, including LED upgrades and Control and Monitoring Systems (CMS) to improve energy efficiency. Some ongoing maintenance projects involve managing more than 35,000 streetlights and nearly 20,000 LED upgrades. Our installations are integrated with RAMM data, ensuring precise asset management and streamlined maintenance, delivering modern and reliable street lighting solutions for the long term.

Ports and Wharves

McKay has a strong track record of delivering electrical solutions for ports and wharf infrastructure across New Zealand and the Pacific. From high-voltage upgrades to 24/7 maintenance support, McKay's systems are built to endure the harsh conditions of marine environments. We deliver safe, efficient, and reliable results in even the most challenging coastal settings.

Public Infrastructure

McKay delivers electrical solutions for public infrastructure projects, including schools, sports fields, community facilities, and stadiums. Our installations are tailored to the specific needs of each site, covering everything from energy-efficient lighting and power distribution to smart control systems. We also provide comprehensive maintenance services that support long-term performance, safety, and compliance.

Niue Hanan International Airport Upgrade Project	
Client	Downer
Location	Niue

The project scope included installing Aeronautical Ground Lighting (AGL) at Niue Hanan International Airport, which involved installing field components, making connections, and working in both landside and airside areas. McKay's prior experience working with Downer gave us the confidence to meet the requirements of this contract, enabling the project to be completed on time and within budget. Additionally, we constructed an Airfield Lighting Equipment Room (ATC) to house the new AGL supply and control system. For this project, McKay was responsible for:

- AGL trenching and duct banks
- Low-intensity simple approach lighting system
- Low-intensity runway lighting system
- Taxiway edge lights
- Illuminated wind direction indicator
- Airfield lighting control system
- Apron floodlights

Downtown Ferry Basin Redevelopment	
Client	Jet Park Hotel
Location	Auckland

McKay provided an innovative EV charging solution for Jet Park Hotel in Auckland. This project aimed to create a seamless and efficient charging experience for EV users, while contributing to the hotel's sustainability efforts. For this project, McKay was responsible for:

- Supplying dedicated dedicated AC 2-phase 22kW power socket, fitted with Type 2 plugs and removable connectable cables
- Providing and installing all infrastructure cabling
- Supplying purpose-built main switchboard to supply the chargers

Te Kauwhata Waste Water Treatment Plan Upgrade	
Client	Spartan Construction
Location	Waikato

McKay was contracted by Spartan Construction to supply, build, install, test, and commission of electrical and instrumentation works, which included:

- Installation of 500kVA mains power supply, 400v 800A main switchboard, and submains switchboard, including DOL/VSD subservices
- Connection of motors, including blowers, pumps and auxiliary motors
- Provision for generator back up
- Installation of all cabling and cable supports
- Supply and installation of lighting, power, and HVAC
- Installation of earthing system
- Installation of UPS (Uninterruptible Power Supply)
- Extensive exterior lighting design and installation
- Supply and installation of instrumentation
- Electrical integration of the storage and dosing systems
- Testing and commissioning

AT Central Streetlight LED Upgrade and Maintenance	
Client	Auckland Transport
Location	Auckland Central City

McKay is the principal contractor for Auckland City's central streetlighting network. Under this contract, McKay has been responsible for upgrading 19,876 LEDs and maintaining 35,000 streetlights, with around 300 to 400 service requests per month.

The scale and complexity of this streetlighting contract required a high-level programme developed in collaboration with the AT team. This programme includes detailed work schedules aligned with council requirements, key communication milestones, and stringent KPIs. Given the long-term nature of the project, McKay remains flexible and works with AT to address challenges and adapt to changing conditions throughout the contract term.

The AT central street lighting contract is data-driven and involves a team of Data Administrators to effectively manage RAMM recording and job efficiency. Our data management team works closely with on-site teams, supervisors, and contract managers to ensure that the RAMM data for every asset on the AT central streetlighting network is updated and compliant.

Wellington Waterfront Safety Enhancements Lighting Upgrade	
Client	Wellington Council
Location	Wellington

The Wellington Waterfront Safety Enhancements Lighting project focused on improving safety and visibility along the waterfront through upgraded, energy-efficient lighting. The goal was to create a safer, more welcoming environment for public use after dark. The project included:

- Installation of 3.6km of new power and lighting circuits, and 2km of fibre under the wharf and above water for new lighting poles
- Installation of new switchboards for lighting poles at Taranaki and Te Papa Promenades
- Design, manufacture, and installation of custom marine containment along the length of the power and lighting circuit
- Marine construction works, including the installation of under-wharf footings with the support of Underwater Solutions; construction, delivery, and installation of 19 decorative poles weighing 600kg; demolition of 21 existing poles; and reworking of under-wharf walers with new installations as required
- Installation and commissioning of the specialist lighting and Casambi lighting controls

McKay Stadium Lighting Project	
Client	Sport Northland
Location	Whangārei Northland

McKay was engaged to upgrade the lights in the indoor stadium at Kensington Park, Whangārei (also known as McKay Stadium). 5A total of 54 high-bay sports lights were installed, along with eight colour-changing floodlights and 15 emergency/exit lights. The works were carried out efficiently, with minimal disruption to, and full utilisation of, a busy schedule of pre-booked events at the stadium.

- Installation of DALI network cables
- Replacement of lighting
- Labelling, testing, commissioning, and certification
- Supply of as-built documentation and O&M manuals

McKay completed the scope in accordance with the electrical drawings and specifications as set out by Stephenson and Turner design consultants, as well as providing alternate options during the planning phase. This resulted in additional benefits to the end user. Colour-changing floodlights were added to provide additional options for special functions held within the venue. As the largest indoor stadium in Tai Tokerau, it continues to serve as a true hub for the region.

Project: The Bay Of Islands Hospital Redevelopment

OUR CAPABILITY

Construction

Our construction experience encompasses the successful delivery of large-scale vertical projects, including commercial buildings, apartment complexes, and retirement villages.

We work across a range of industries such as healthcare, data centres, prisons, and government buildings, offering customised solutions. Additionally, we specialise in HVAC (Heating, Ventilation, and Air Conditioning) systems and BMS (Building Management Systems), ensuring that each project meets the highest standards required for efficiency and quality.

Healthcare

McKay delivers comprehensive electrical solutions for the healthcare sector, managing the complex and unique demands of these builds. We provide tailored systems that ensure safe, reliable operations, including body and cardiac-protected installations where required. Our expertise includes Uninterruptible Power Supply (UPS) systems for critical equipment and compliance with AS/NZS 3003 standards to meet the specific safety needs of healthcare facilities.

Commercial Buildings

McKay delivers comprehensive electrical installations for commercial buildings across New Zealand, providing services from design through to implementation and maintenance. Our expertise covers power distribution systems, including distribution boards, lighting, and switchgear, ensuring reliable and efficient infrastructure. We also handle HVAC and Building Management Systems (BMS) to enhance building functionality.

Government Buildings

With experience in high-security environments, McKay delivers specialised electrical solutions for government facilities such as schools and prisons. Our services include power distribution, lighting, switchgear, and distribution boards, ensuring dependable infrastructure for critical operations. We also implement HVAC and Building Management Systems (BMS) to optimise building functionality.

New Zealand International Convention Centre	
Client	Fletcher Construction
Location	Auckland

McKay has provided electrical services for the New Zealand International Convention Centre (NZICC), which will be the country's largest convention centre, covering 1.53 hectares across four floors. McKay was contracted by Fletcher to deliver the lighting, electrical, and control systems, which included:

- Designing, supplying, and installing the power supply management system to monitor the equipment and manage power distribution to the many electrical systems throughout the centre
- Supplying and installing cabling throughout the building, along with cable supports, underground cabling, and bus ducts
- Designing, building, and installing the building's main switchboard, and distribution boards throughout the facility
- Installing light fittings, luminaires, emergency lighting, and lightning protection systems, integrated with a lighting control system
- Installing general and special-purpose power outlets
- Providing and installing backup generators and UPS systems
- Testing and commissioning all electrical works for the site

Waikeria Prison Redevelopment	
Client	CPB
Location	Waikeria, Waikato

McKay was selected to deliver the electrical scope for the Waikeria Prison redevelopment project, a $750 million build that will see a modern facility replace the existing 100-year-old, 426-bed high-security unit.

The redevelopment work, on the Waikato site, hosts 29 separate built areas, including two major accommodation blocks, staff facilities, and a mental health unit. McKay's scope of work included:

- General power and lighting (11,000 lights)
- Supplying two 1.5MVA transformers
- Installing Uninterruptible Power Systems (UPS) – one 250kW and one 10kW system
- Perimeter security lighting
- Cable containment systems

Bay of Islands Hospital Redevelopment	
Client	Canam Group Ltd
Location	Kawakawa, Northland

McKay delivered the electrical works for the development of the new Accident and Emergency building at the Bay of Islands Hospital campus. This project required the installation of specialist medical equipment, including a nurse call system to allow communications throughout the hospital. The full scope of work included:

- Suppling an installing cables for power and data, along with necessary cable supports
- Installing submains for the redevelopment building
- Installing power outlets and light fittings
- Supplying and installing switchboards and distribution boards for the redevelopment building
- Supply and installing electrical equipment necessary for hydraulic and medical gas systems
- Testing and commissioning of all electrical works

Rotorua Schools LED Lighting	
Client	Ministry of Education
Location	Kawerau, Bay of Plenty and Tokoroa, Waikato

McKay was contracted by the Ministry of Education to deliver the LED Replacement Programme, which aimed to replace incandescent lighting with high-efficiency Light-Emitting Diode (LED) lighting in the Rotorua region. This initiative was part of a broader Energy Efficiency Package that sought to improve the sustainability of the school property portfolio. The programme involved LED replacements at 68 schools across the Rotorua region.

The scope of work covered lighting upgrades at 33 schools within the Rotorua region for MOE. The programme aimed to replace all the existing lighting with LED equivalents, totalling 9,500 lights replaced over a 12-week programme. The programme's goal was to achieve both energy savings and improved reliability for the schools. McKay's solutions resulted in more than a 70% reduction in energy consumption.

Project: The Ruakākā Battery Energy Storage System (BESS)

OUR CAPABILITY

Renewables

McKay's work in the renewables sector is deeply rooted in our design, engineering, and construction capabilities. We deliver renewable energy projects that provide innovative solutions aligned with New Zealand's vision for a sustainable future.

Our expertise extends to a range of renewable energy industries, including utility-scale solar, geothermal energy, wind energy, and battery energy storage systems.

Utility-Scale Solar

Our experience in Utility-Scale Solar (USS) projects includes detailed electrical design, power systems, and PV layout work. We deliver the design and supply of switchrooms, along with site-wide SCADA systems for efficient monitoring and control. We also provide ongoing maintenance to ensure long-term performance.

Geothermal Energy

With many years of experience working in New Zealand's geothermal regions, we deliver comprehensive electrical services for geothermal projects. Our expertise spans from High-Voltage (HV) power systems to battery storage solutions, power distribution, switchgear, Motor Control Centres (MCCs), and control systems. We provide end-to-end support, including design, installation, and maintenance, ensuring reliable and efficient operations.

Wind

McKay supports in wind turbine installation projects, providing detailed electrical design and services for High-Voltage (HV) power systems, switchgear, and control systems. Our expertise ensures the reliable and efficient operation of wind turbines, contributing to New Zealand's transition to sustainable energy.

Battery Energy Storage Systems

With expertise in Battery Energy Storage Systems (BESS), we deliver advanced energy storage solutions that enhance grid stability and optimise energy efficiency. Our services include the design, installation, and management of BESS, ensuring reliable, scalable systems that support renewable energy integration and future growth.

Ashburton Solar Farm	
Client	Lightyears Solar
Location	Ashburton, Canterbury

McKay delivered the full electrical scope for the Ashburton Solar Farm, a 7MW community-scale project connected to the local Ashburton power network. Spanning eight hectares of a 16-hectare rural property south of Ashburton, the site continues to support sheep grazing beneath the solar array, with the lease supplementing the landowner's income. The dual-site development includes a 1 MVA and a 6 MVA farm, using thousands of single-axis tracking solar panels and string inverters to generate clean energy for the local district, including irrigation pumps in summer. McKay was responsible for the full electrical design and all electrical installation work, including:

- Full electrical design and installation across both sites
- Containerised switchroom installation (1MVA site) with locally manufactured MGE switchboards
- Medium-voltage power station assembly and installation (6MVA site), imported to
- meet capacity requirements
- Integration of control systems, protection panels, communications, and monitoring infrastructure
- Cold commissioning and hot commissioning support

Waipipi Windfarm	
Client	ISS (Industrial Site Services)
Location	Waipipi, Taranaki

McKay collaborated with ISS to install 31 wind turbines, which were later connected to the Transpower 110kV network through an 11-kilometre long 110kV transmission line to the Waverley Substation. This development resulted in a power generation and supply of approximately 133MW, with an annual output of 455GWh of electricity. This clean energy will power around 65,000 homes and prevent the release of about 250,000 tonnes of carbon annually.

McKay's responsibilities involved assembling the tower sections, overseeing mechanical teams, providing and internally terminating copper and aluminium materials, installing electrical switchboards and control cabinets, and carrying out electrical testing and commissioning. Additionally, McKay was tasked with troubleshooting site equipment and imported machinery, including generating sets and on-site plant and equipment.

Ruakākā Battery Energy Storage System	
Client	Meridian
Location	Ruakākā, Northland

McKay was engaged by Saft to perform the installation and commissioning of the battery, including an electrical engineering review of the Saft design. McKay's engineering team completed the review of the design and was further engaged to close design gaps. This included sizing of AC and DC cabling for the system, discrimination and selectivity studies, safety interlocking for the containers, detailed design drawings for site interconnection including LV and MV SLDs, and cable schedules. McKay also provided:

- Early engagement influencing the foundation design to be more constructive – increasing rate of installation for the containerised energy storage system
- Knowledge transfer from Huntly Rotohiko Commissioning to allow for construction and commissioning risk to be managed
- Engineering design to ensure compliance with local legislative requirements
- DC cable selection to accommodate complex duct layouts, including bend radius requirements for bottom-entry containers
- Local knowledge of safe working practices and requirements

Te Huka Geothermal Power Station	
Client	Contact Energy
Location	Taupo, Bay of Plenty

McKay delivered the electrical construction for the Te Huka Geothermal Power Station. As part of this project, McKay installed several battery backup systems, forming a comprehensive power management distribution network.

The installation included two separate UPS systems, each equipped with a 110V, 22kW charger, a 5kVA inverter, and a complete DC distribution setup. A central feature of this system is a battery rack with 45 cells in a five-string configuration, each with a capacity of 185Ah. Additionally, the system includes a battery isolation cubicle for safe operation, an external battery test point for easy maintenance and monitoring, and a DC distribution panel.

Alongside the 110V UPS system, McKay installed three individual 45kVA three-phase motor UPS inverter systems, each with a battery rack of 27 cells arranged in a 3-string configuration, also rated at 185Ah per cell. These systems similarly feature a battery isolation cubicle, an external battery test point, and a three-phase distribution panel for efficient power management.

Project: East by West, Ika Rere, Fully Electric Passenger Ferry

OUR CAPABILITY

Marine

McKay has an established reputation in the global marine market, providing complete end-to-end services to vessels of 30 to 145 Metres.

Our nationwide marine division includes marine electricians and technicians who are supported by an experienced design, engineering, and software development team.

Electrification

As leaders in the electrification and hybridisation of marine vessels, our engineers focus on integrating advanced electrical systems and components to enhance efficiency and reduce environmental impact. This includes optimising power management systems, implementing battery storage solutions, and improving overall vessel performance.

Commercial Vessels

In the commercial marine sector, McKay delivers robust electrical infrastructure for a range of vessels, with more than 50 successful installations globally. We support every stage, from concept development to long-term system upkeep, and are increasingly focused on integrating hybrid and electric technologies. Our services include electrical system design, battery storage solutions, VCAM (Vessel Control, Alarm, and Monitoring) implementation, power management, and fleet-wide maintenance programmes.

Superyachts

McKay brings specialist expertise to the superyacht sector, offering complete electrical and technical solutions tailored to high-end vessels. From custom switchboards to our in-house VCAM system, our work spans design, installation, major refits, and ongoing support. With a track record of more than 50 global projects, we understand the precision and quality required to meet international yachting standards.

Naval Defence

With extensive expertise in fleet maintenance and support programmes, McKay has a proven track record of successfully delivering large-scale, complex defence projects. We work in close partnership with the Ministry of Defence, New Zealand Defence Force, the Royal New Zealand Navy, the Royal Australian Navy, and key Australasian dockyard management contractors, providing critical support to ensure operational readiness and asset longevity.

Ika Rere **Fully Electric Passenger Ferry**	
Client	East by West Ferries
Location	Wellington

McKay delivered the full electrical and propulsion system design for the *Ika Rere* Ferry in Wellington, the first fully electric passenger ferry in the Southern Hemisphere. The scope included battery storage and on-shore charging

Ika Rere is a 28-tonne, 19m, carbon fibre, twin-hull fully electric ferry capable of carrying 132 passengers at 20 knots. The vessel is powered by an independently supplied 325kW liquid-cooled electric AC motor in each hull. Two banks of lithium-Ion liquid-cooled batteries totalling 5,500kg and providing 550kWh of installed capacity are used to drive the two motors.

The propulsion of the vessel is controlled by an integrated Danfoss Editron system, comprising two Danfoss EM-PMI1540-T200 motors rated to 325kW, driven by two Danfoss EC-C1200-450 DC-AC converters. Each motor is supplied from its own 750Vdc bus. The power and battery states for each independent hull are visually presented to the vessel operator, along with a checklist to follow when starting and stopping the vessel.

HMNZS *Te Mana* **Platform Systems Upgrade**	
Client	Babcok (NZ) Ltd
Location	Devonport, Auckland

McKay was engaged by Babcock to refurbish and renew the electrical, HVAC, and instrumentation systems on board *HMNZS Te Mana.* The scope of work included:

- Designing, supplying, and implementing a new platform system network
- Supplying and installing HVAC and on-board electrical control systems Integrating new instrumentation with existing ship equipment to support control system upgrades
- Installing intruder detection systems integrated with ship control systems
- Completing cabling works, including supplying and installing all required cables and supports
- Removing and replacing existing equipment and associated cabling
- Testing and commissioning all vessel electrical systems

Ports of Auckland Charging Infrastructure	
Client	Damen Shipyards and Ports of Auckland
Location	Auckland

McKay was engaged by Damen Shipyards in the Netherlands and Ports of Auckland to design and supply the vessel's charging infrastructure while ensuring compliance with New Zealand regulations.

Sparky is a 24.73m electric tugboat with a beam of 13.13m, a draught of 6m, and a speed of 12 knots, capable of pulling 70 tonnes. The vessel draws power from 2,240 LTO batteries with a total rated output of 2,784kWh. This enables the tug to achieve CO_2 emissions of approximately 465 tonnes each year, with operational costs less than one-third of those associated with a diesel tug.

Designed to complete four shipping moves on a single charge of its batteries, while recharging in approximately two hours, McKay's automation and control engineers worked closely with Damen and Ports of Auckland to meet their specific requirements. This included gaining component approval for the electrical switchboard to assist with compliance with New Zealand rules and regulations.

Superyacht M.Y. *Aquila* Refit	
Client	Motor Yacht *Aquila* C/O Burgess Yachts
Location	Antigua and the United Kingdom

Having been the electrical contractor for the 86m luxury superyacht vessel when it was first built and named *M.Y. Cakewalk* in 2010, McKay was contracted to perform similar services during the refit of the newly named M.Y. *Aquila*. McKay undertook the upgrades to the electrical, instrumentation, and control systems, which included:

- Upgrading bridge systems, including conning outputs
- Installing a new interface between HVAC systems and the electrical control network
- Implementing changes to existing system alarms and the paging system
- Supplying and installing new electrical equipment
- Supplying and installing all electrical and data cabling, as well as all cabling supports
- Testing and commissioning all electrical systems on board the vessel

ABOUT MCKAY

Global Reach, Local Knowledge

Through our 11 branches across New Zealand, and an ongoing presence in the South Pacific and the United States, we can deliver comprehensive end-to-end solutions, from initial design through to long-term maintenance. We support projects remotely and through local partnerships, developing tailored solutions for key clients in a range of industries. Our expertise includes electrical engineering, systems integration, automation, and control systems, enabling us to meet the unique needs of projects across multiple geographies while maintaining strong, on-the-ground support where required.

Locations

1. **Kaikohe**
   54 Broadway Street, Kaikohe 0405
2. **Whangārei Head Office**
   38 Water Street, Whangārei 0110
3. **Devonport**
   Navy Base Queens Parade,
   Devonport, Auckland 0624
4. **Auckland**
   50 Hugo Johnston Drive, Penrose 1061
5. **Hamilton**
   745 Te Rapa Rd, Hamilton 3220
6. **Tauranga**
   3/26 Newton Street, Tauranga 3116
7. **Rotorua**
   164a Lake Rd, Rotorua 3015
8. **Kawerau**
   4a Manukorihi Drive, Kawerau 3127
9. **Wellington**
   21 Regent Street,
   Petone, Lower Hutt 5012
10. **Queenstown**
    23 Connelly Way, Cromwell 9310
11. **Dunedin**
    23 Thomas Burns Street, Dunedin 9016

Health, Safety, Environment, and Quality

McKay considers the wellbeing of our people to be of paramount importance and is as committed to them as we are to our environment and the communities in which we operate.

Health and Safety Management

McKay operates a stringent and proven health and safety system that delivers effective and reliable results through continual monitoring and improvement. Our framework has been adapted to fully comply with the requirements of HSWA 2015, and statutory regulations that govern our work.

Highlights include:

- Our health and safety system is independently accredited to ISO 45001 by Telarc
- Numerous pre-qualifications including SiteSafe, Impact, SiteWise, ISN, Genera, She PreQual, and Totika, to name a few
- A paperless health and safety document system via the SiteDocs App
- Regular, daily, or weekly safety meetings led by site managers or project supervisors
- Dedicated HSEQ Coordinators for projects with access to the National Health and Safety Manager
- Regular training and development opportunities

Environmental Management

McKay is committed to reducing its environmental impact, endeavouring to repair rather than replace and promote the use of energy-efficient electrical equipment and environmentally friendly options for customers to consider, where practicable.

Highlights include:

- Our Environmental Management System is independently accredited to ISO 14001 by Telarc
- A growing fleet of electric and hybrid vehicles throughout the country, with aspirations to retire our fossil fuel vehicles
- A dedicated Renewables Division that is actively contributing to the decarbonisation of New Zealand through their work in utility-grade solar farms and battery energy storage systems
- Employee training in environmental awareness
- McKay's head office donates its surplus solar energy to Empower Energy, where it is sold and the income is donated to households suffering from energy hardship

Quality Management

McKay's ethos is focused on Quality. Quality is central to the value and service we provide to our clients. It's infused throughout our people, our programmes, and our processes. We believe that it is the quality of our service that ultimately delivers our client projects on schedule and within budget.

Highlights include:

- McKay's quality system forms the backbone of our Management Systems. It is comprehensive and covers all processes involved in projects and contracts to ensure that we deliver in full, on time, and to specification.
- Our Quality System is independently accredited to ISO 9001:2015 by Telarc
- We conduct regular internal audits of procedures and sites

SHE PREQUAL
Contractor Pre-Qualification

+IMPAC PREQUAL
HEALTH & SAFETY
ASSESSED

SITESAFE
MEMBER

TŌTIKA

SITEWISE
GOLD 2023/24

Telarc. Registered
Environment
ISO 14001

Telarc. Registered
Health &
Safety
ISO 45001

Telarc. Registered
Quality
ISO 9001

ABOUT MCKAY

Awards and Associations

Awards

Master Electricians Excellence Awards: Gold Project Award Under $1 Million Category	2024
Master Electricians Excellence Awards: Energy Efficiency Award	2022
New Zealand Commercial Project Awards: Industrial Silver Award	2019
Master Electricians Excellence Awards: Gold Award	2019
EY 10 Companies to Watch	2018
Ministry of Defence Awards of Excellence to Industry	2015
Master Electricians Excellence Awards: Powerbase Major Contract Award	2015
Master Electricians Excellence Awards: Lighting and Design Award	2015

Professional Associations

Northland Chamber of Commerce
Master Electricians
SEANZ (Sustainable Energy Association of New Zealand)
New Zealand Hydrogen Association
Women's Infrastructure Network
EMA
New Zealand Marine

ABOUT MCKAY

Sustainable futures

McKay is committed to sustainability as a core part of our business operations and our connection to New Zealand. We recognise that our environmental, economic, and social decisions have a lasting impact on both present and future generations.

Our sustainability agenda is centred on four key outcomes: building a sustainable business that delivers profitable and socially beneficial results, driving technology-driven solutions through our skilled workforce to promote innovative and renewable practices, supporting communities by fostering meaningful partnerships with stakeholders, and protecting the environment through proactive collaboration.

To date, we have made significant progress by engaging in diversity initiatives such as the Amotai supplier diversity programme, which strengthens our connections with Māori and Pasifika businesses. Our affiliation with the Ngāpuhi iwi and our deep connection to Te Tai Tokerau and its communities not only celebrates our long and proud history but also serves as the foundation and inspiration for our future. By supporting local suppliers and implementing ethical practices to address modern slavery risks in our supply chain, we are underscoring our dedication to responsible business operations. In addition, we comply with international standards for environmental management and health and safety, reinforcing our commitment to quality and ethical practices.

Our workforce showcases rich diversity, with a strong emphasis on leadership development and employee engagement, as reflected in our positive survey results. We are dedicated to creating a workplace that prioritises wellbeing, inclusivity, and sustainable growth. This dedication reinforces our mission to drive meaningful contributions to our communities and the environment, ensuring that our efforts today lay a strong foundation for generations to come.

> McKay's strength lies in our capability to successfully complete large, complex projects across a multitude of industries, including infrastructure, industrial, construction, marine, and renewables.

Lindsay Faithfull, McKay Managing Director

ABOUT MCKAY

Our Leadership

McKay's Executive Leadership Team combines diverse skills and experience, ensuring strategic alignment across the industries we serve.

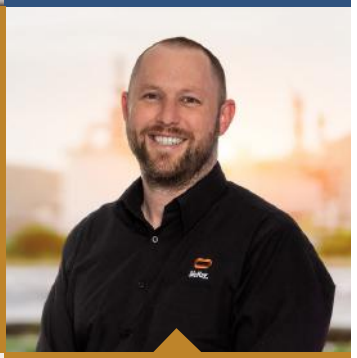
With expertise in complex electrical infrastructure, renewable energy, and innovative technologies, our leaders guide McKay in delivering tailored, high-value solutions. Their strong leadership fosters a culture of collaboration and excellence, driving the company forward and ensuring successful project outcomes.

Lindsay Faithfull
McKay Managing Director

Andrew Lancaster
Executive General Manager Strategy and Innovation

Louise Burgess
Executive General Manager Business Development and Marketing

Wendy Coutts
Executive General Manager Finance and Commercial



Stuart McDonald
Executive General Manager People and Culture

Rhys Farrand
Executive General Manager Major Projects

Jacqueline Bell
Executive General Manager Regions

Mark McGinley
Executive General Manager Technology

McKay™

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