



SYSTEM PROTECTION & MAINTENANCE SDN. BHD.
(126032-D)

Towards Engineering Excellence



Delivering Quality and Perfection

JAN, 2023

CORPORATE INFORMATION

HEAD OFFICE ADDRESS

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MALAYSIA

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MALAYSIA BUSINESS REGISTRATION NO.

126032 – D

REGISTRATION DETAILS

Date/Place of Incorporation
28 August 1984 / Kuala Lumpur

BRANCH OFFICE

MALAYSIA BRANCH OFFICE

Sabah
Lot no. J9, Block J,
Lorong Cyber Square 4,
Cyber Square Commercial Centre,
88200 Kota Kinabalu Sabah

MISSION

We are committed to continuously provide quality of services safely, profitably and timely meeting our business objectives as well as satisfying the needs of our clients, employees and shareholders whilst making positive contributions to the society.

VISION

To be an established EPCC Contractor in the Power Sector, Owner and Operator of Renewable Energy Power Plants within ASEAN by year 2025.



ABOUT US



Being one of the pioneers in electrical engineering and construction for the power industry, System Protection & Maintenance Sdn. Bhd. (or “SPMSB”) is now among the leading EPCC company in Malaysia for electrical installations in Power Plants, Sub-Stations, Oil & Gas and Industrial facilities. Since its inception in 1984, SPM has secured and successfully completed sizeable contracts within Malaysia and overseas.

As a fully bumiputra player in the construction industry, SPMSB holds tightly to the mission “*We are committed to continuously provide quality of services safely, profitably and timely*” as the fundamental principle to all its project execution to ensure the satisfaction of all interested parties are met. SPMSB’s determination and persistence, is an essential mechanism into realizing its vision that is “*To be an established EPCC Contractor in the Power Sector, Owner and Operator of Renewable Energy Power Plants within ASEAN by year 2025*”.

In ensuring delivery of quality services, upkeeping and maintaining the company’s ISO 9001 “Quality Management System” is crucial aspect that SPMSB pays attention to. SPMSB is proud to have been certified to ISO 9001 quality management system since 2004.

At the same time, SPM is also certified to ISO 45001 Occupational Health and Safety Management and ISO 14001 Environmental Management System.



For the past years, SPMSB has established impressive track records in the power industry with the national power utility Tenaga Nasional (TNB), along with Petronas and other electrical majors players/ manufacturers such as ABB, Siemens, Hyundai, Alstom, Areva, Samsung and Toshiba. SPMSB is not only a one stop turnkey contractor for Utilities needs, it is also a proud developer and a co-owner of a 20 MW Hydro Power Plant in Aceh, Indonesia which commenced operation in September 2019.

Janamanjung 3x700MW and 3 x 350 MW Coal Fired Power Plant, Tanjung Bin 3x700MW and 1000 MW Coal Fired Power Plant and Jimah 2x700MW and 2x 1000MW Coal Fired Power Plant are among the marquee of SPMSB's success stories. In Transmission & Distribution, SPMSB has completed numerous Sub-Station projects for both the conventional Air-Insulated Switchgear (AIS) and Gas-Insulated Switchgear (GIS), in the range of 132kV, 275kV up to 500kV.

In Oil & Gas, SPMSB has undertaken E&I projects both off-shore and on-shore. SPMSB has completed three packages for the RAPID project in Pengerang which consists of "Construction and Commissioning of the Main Substation", "Construction and Commissioning of Unit substations for Utilities, Interconnecting and Offsite Facilities", and finally "Construction and Commissioning of 33kV and below Distribution Substation Feeder Cable Laying, Jointing and Termination at Gas Insulated Substation (GIS) for Utilities, Interconnecting and Offsite Facilities".



Overseas presence of SPMSB was solidified by the completion of Electrical & Instrumentation works for the Bashayer-2 Oil Marine Terminal in Sudan and the complete-installation of Electrical & Instrumentation works for the 3x25MW Gas Turbine Power Station at the Al-Jalamid Phosphate Mine Complex in Saudi Arabia.

As the power industry progresses into its stability, SPMSB is also eyeing into projects in the Renewable Energy, with focus on niche segments of Power Generation from Solar, Biomass and Biogas.

OUR SERVICES



POWER GENERATION, TRANSMISSION AND DISTRIBUTION

- Design and Supply of Generation, Transmission and Distribution System
- Electro-Mechanical Construction Pre-Operational Testing, Start Up and Commissioning
- Plant/Equipment Rehabilitation
- Load Dispatching, Power Distribution and Supervisory Control System
- Operation and Maintenance



TESTING AND CALIBRATION

- Protection Relay Testing, Electronics Testing and Instrument Calibration
- Protection Scheme Design, Evaluation and Troubleshooting
- Retrofitting and Recommission of Low, Medium and High Voltage Equipment
- Retrofitting and Replacement of Protection Relays
- Testing and Verification of Generators, Transformers, Air Insulated Switchgear, Gas Insulated Switchgears, Switchboards
- Testing and Commissioning of Auto Transformer, Power Transformer and Earthing Transformer
- Conformation Test for Operation and Stability Scheme Electrical Power Substation
- High Voltage Dielectric Test for 500/275/132/33/11kV Gas Insulated Busbar and 33/11kV Power Cable
- Testing and Commissioning of 220/110V DC Battery Supply for Power Substation, 500/275/132kV Transmission Line Test, Solar Plant and Hydro Plant.

TRANSFORMER OIL TESTING LABORATORY & SERVICES

- Laboratory Insulating Oil Analysis including diagnostics and follow up recommendations for new and in service transformers
- Transformer Condition Monitoring and Diagnosis Management
- Transformer Fault Identification through laboratory analysis
- Transformer Maintenance includes leak rectification and parts replacements
- Transformer Oil Purification and Regeneration – Online and Offline
- Transformer Oil Reinhibition and Repassivation – Online and Offline

CONSTRUCTION & INSTALLATION WORKS

- Installation of complete set of Generator Transformer, HV & LV Power Transformer, Capacitor Banks, Cast Resin Type Transformers and its accessories
- Installation of Insulated Phase Busbar including welding of the busbars
- Installation of 11kV up to 275kV Gas Insulated Busbar Switchgears
- Installation of 11kV up to 500kV Air Insulated Switchgears
- Installation of Control and Relay Panels, Earth Grid System, UPS, Battery Charger and Batteries, LVAC Board, Main Switch Board and Emergency Diesel Generator
- Laying and Termination of MV and LV Power Cable and Control/Instrument Cable
- Construction of cable ladder, cable tray and support structures.

SERVICES AND MAINTENANCE WORKS

- Complete overhaul, major inspection & maintenance of various types of Transformers including Generator Step Up Transformer, Excitation Transformer and Unit Auxiliary Transformers
- Complete servicing, oil filtration and oil replacement of Transformer oil of sized up to 250MVA Single Phase Transformer
- Inspection and services on Isolated Phase Bus (IPB) Ducts and 11 kV Non-segregated Phase Bus (NPB) ducts
- Rehabilitation of Rectifier Plant for Electrolyzes
- Routine maintenance of Tap Changer, Transformer Protection Devices, Cable Boxes
- Servicing and replacement of Gas Insulated Switch Gear (GIS) of up to 275kV

RENEWABLE ENERGY HYDRO AND BIOGAS

- Identification of potential sites, conducting feasibility studies with a proposed outline of design for the power generating plant. This includes mini hydro, biogas, biomass and solar of capacity in the range of 10 to 30 MW.
- Seeking consent on environmental approval, with detailed evaluation on preservation of nature at the proposed site.
- Engineering, Procurement, Construction and Commissioning (EPC) of power generating system. Procurement of major items for the generating plant includes hydro and gas turbines, photovoltaic panels and inverters, transformers and other balance of plant equipment.
- Construction and Installation includes Civil construction works, followed by Mechanical and Electrical installation works.
- Testing and Commissioning of the power generating system.
- Operation and Maintenance of installed power generating plant, which includes routine maintenance, troubleshooting, fault investigation, rectification and recommissioning of the system.

SOLAR PV SYSTEM

- Complete proposal on design and engineering of Grid Connected Photovoltaic (GCPV) system, Off Grid Photovoltaic (OGPV) system covering self consumption and Nett Energy Metering (NEM) for residentials & industries and large scale solar plant including Interconnection Facilities to grid (if applicable).
- SEDA Registered PV Investor (RPVI) and Registered PV Service Provider (RPVSP)
- Inhouse capabilities to propose and develop Grid Connected Photovoltaic (GCPV) system and Off Grid Photovoltaic (OGPV) system
- Complete proposal on design and engineering of Self Consumption System, Nett Energy Metering (NEM) and Hybrid with/out Battery Energy Storage System for residentials, industries and large scale solar plant including Interconnection Facilities to grid.



OIL AND GAS INDUSTRY

- E&I Onshore/Offshore Inspection, Calibration, Maintenance and Upgrading works
- Calibration of voltage, current and resistance equipments
- Alarm Shutdown (ASD), Fire and Gas (F&G) and Distributed Control System (DCS) upgrading works
- Lightning, Surge Protection and Cathodic Protection System works
- E&I Hook up and Commissioning works
- Mechanical and Piping project management
- Supervisory Control and Data Acquisition system (SCADA)
- Programmable Logic Control, Base Motor Control Centre & System Controller
- HVAC System, Building Automation and Environment Control System
- Boiler, Pressure Vessel Control and Burner/Temperature Control System
- Power Management and Generators, Transformers, Switchgears and Isolator
- Pressure Vessel, temperature & flow instrument calibration
- Schedule Shutdown maintenance for offshore platform and refineries
- On shore/Off shore service and maintenance of protection relays and electrical faults on cables and other electrical equipment
- Tank Work and Refurbishment

CIVIL CONSTRUCTION

- Site Pre-Construction & Infrastructure Works includes Mappings, Surveys Demarcations, Soil Investigations, EIA Assessment, Land Clearing, Earthworks, Rock Excavation, Soil Replacement, Soil Stabilization and Improvement, Marine Reclamation & Coastal Defences, Retaining Walls & Erosions Mitigation, Embankments.
- River & Marine Fabrication Yards And Storage Logistics Including Ballast Wharfs, Jetties, Skid-Beams, Workshops & Warehouses, Laydown Facilities
- Integrated Workers Camp
- Highways & Roadworks Including Elevated Structures and Viaducts.
- Buildings includes Commercial, Campuses, Schools, Apartment Complex, Office Buildings, Multi-Storey Parking
- Civil Infrastructure, Buildings, Water & Sewerage Utilities for Power Stations, Factories, Warehouses & Port Logistics, Airports Logistics, Public Land Transport Facilities Such As MRT, LRT.
- Preventive and Regular Maintenance in Buildings, Utilities & Infrastructure.
- Slope Rehabilitation & Retaining Walls
- Drainages
- Provides Smart Air-Conditioning Solutions (Variable Refrigerant Flow – VRF) for Commercial Building and Premises.

SMART & ENERGY EFFICIENT SOLUTIONS

- Provides engineering designs and solutions of Advance Metering Infrastructure (AMI-Smart Metering) for Utilities Companies i.e. TNB and SESB
- Provides customised solutions for Smart EV (Electric Vehicle) Charging Stations
- Provides leading edge technology solutions on Smart Prdictive Maintenance (Artesis) for Rotating Equipment (Motors and Generators)
- Provides Smart Air-Conditioning Solutions (Variable Refrigerant Flow – VRF) for Commercial Building and Premises.



TRACK RECORD



PMU KL (NORTH) 275/132/33kV GIS

Supply/ install & commission for 275/132/33kV GIS Substation and associate civil work



PMU SENAI HI-TECH 132/33kV AIS

Supply/ install & commission for 132/33kV Substation and associate civil work



PMU SETIA ALAM 132/33kV AIS

Supply/ install/ commission for 132/33kV Substation



TEMBAT HYDRO POWER PLANT

Electrical & Mechanical works for 2 x 7.5MW Tembat Hydro



JIMAH POWER PLANT

Electrical & Instrumentation works for 2x700MW (2007) AND 2x1000MW (2018) Coal Fired Power Plant



JIMAH EAST 500kV AIS

Erection and testing works for 500kV Jimah East AIS Switchyard



MANJUNG POWER PLANT

Cable-Laying & Termination for 1 x 1,000MW (2014) and Electrical & Instrumentation works for 3x700MW (2003) Coal Fired Power Plant



KG KUANTAN OFF-GRID

25.92 kWp Off-Grid Solar Photovoltaic System With 76.8kWh Battery ("Solar PV System") At Sime Darby Plantation Research Sdn Bhd's Fertigation System In Sungei Buloh Estate ("Project")



TANJUNG BIN POWER PLANT

Electrical & Instrumentation works for new 3x700MW (2006) and 1000MW (2016) Coal Fired Power Plant



TESDEC KOLEJ

Development Of 272.8 kWp Solar PV System Under NEM Nova At Tesdec Kolej



LABORATORY SERVICES

Testing of transformer oil for New and In-Service Transformers



MRT LALUAN 2: SUNGAI BULOH-SERDANG- PUTRAJAYA (SSP)

S201: Contractor of elevated stations and substations and other associated works at Damansara Damai, Sri Damansara West, TPSS4, TPSS5, substations, Damansara Damai utilities building and Sri Damansara East Main Station



**PETRONAS P14-1001
RAPID, PENGERANG**

Construction and Commissioning (CC) of 275kV GIS Electrical Equipment Installation



**PETRONAS RAPID14-1200
RAPID, PENGERANG**

Construction and Commissioning (CC) Of 33kV And Below Distribution Substation Feeder, Cable Laying, Jointing and Termination at Gas Insulated Substation (GIS)



**PMU SUBANG TOWN
CENTRE 275/132/33 kV
GIS**

Installation and Testing work of 275/132/33kV GIS at PMU Subang Town Centre



**PMU SERDANG
132/33/11kV**

Transformer oil regeneration and reinhibition services carried out at PMU Serdang



PMU PAPAN 275/132kV

Rehabilitation works for 275/132kV Papan including associated civil works



PMU TAPAH 275kV

Establishment of 275kV Tapah Substation including associated civil work



**CHENDEROH HYDRO
POWER PLANT**

Refurbishment of 11.5MVA Generator step up Transformer Fired Power Plant



**KRUENG ISEP, ACHEH,
INDONESIA**

Engineering, Procurement and Construction works for 20MW Run of River Hydro Power Plant



**GAS PROCESSING PLANT
2 (GPP2), TERENGGANU**

Tank Refurbishment work for Petronas plant Rejuvenation and Revamp 2



**GAS PROCESSING PLANT
4 (GPP4), TERENGGANU**

Tank Internal & External Refurbishment Works



**AL-JALAMID (SAUDI
ARABIA)**

Mechanical, Electrical & Instrumentation works

For 3x25MW Gas turbine Power Station & Substation



BASHAYER-2, SUDAN

Electrical & Instrumentation works

For Bashayer-2 Oil Export Marine Terminal,

QUALIFICATION AND REGISTRATION

1. Kementerian Kewangan Malaysia
2. Kementerian Kewangan Malaysia (Taraf Bumiputera)
3. Lembaga Pembangunan Industri Pembinaan
4. Lembaga Pembangunan Industri Pembinaan - Sijil Perolehan Kerja Kerajaan
5. Bahagian Pembangunan Kontraktor Dan Usahawan (Taraf Bumiputera)
6. Sustainable Energy Development Authority (SEDA)
7. Suruhanjaya Tenaga (Kontraktor Elektrik)
8. Suruhanjaya Tenaga (Kontraktor Perkhidmatan Elektrik) Testcom Services SB
9. SIRIM QAS International ISO 9001:2015
10. ISO 45001:2018 Occupational Health and Safety Management
11. ISO 14001:2015 Environmental Management System
12. MS ISO/IEC 17025 Testing and Calibration Laboratories
13. IQNet

VENDOR REGISTRATION

1. Tenaga Nasional Berhad - Pembekal & Kontraktor Perkhidmatan.
2. Tenaga Nasional Berhad - Kontraktor Kerja
3. Tenaga Nasional Berhad - Panel Kontraktor
4. Sabah Electricity Sdn. Bhd - Pembekal & Kontraktor Perkhidmatan.
5. Sabah Electricity Sdn. Bhd - Kontraktor Kerja. (SPMSB)
6. Sabah Electricity Sdn. Bhd - Pembekal & Kontraktor Perkhidmatan. (Testcom Services SB)
7. Petroliaam Nasional Berhad - Petronas.
8. Malaysian Airport Holdings Berhad.
9. Keretapi Tanah Melayu Berhad – Pembekal & Kontraktor.
10. Sime Darby Plantation Berhad
11. Malakoff
12. NUR Generation

GROUP OF COMPANIES



SYSTEM PROTECTION & MAINTENANCE SDN. BHD.
(Electrical & Instruments EPCC, Power Plants, Transmission & Distribution Substations, Industrial/ Oil & Gas, Facilities, Renewable Energy)



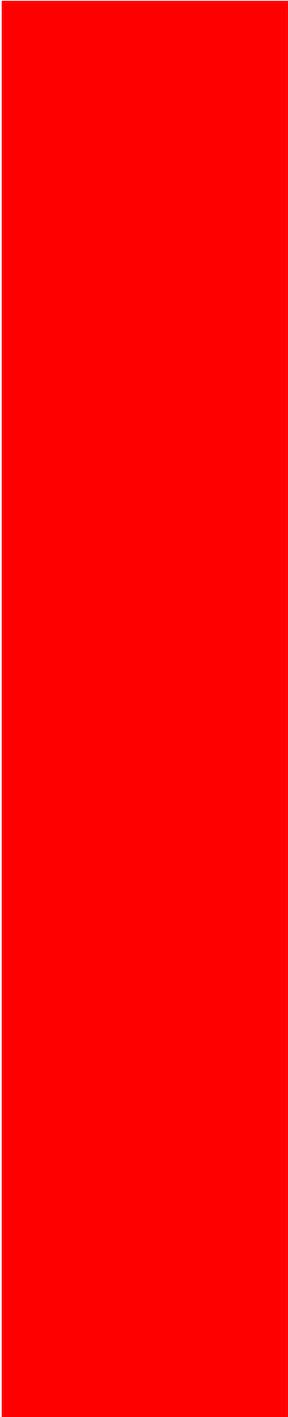
TESTCOM SERVICES SDN. BHD.
(Testing and Commissioning Services)



TRANSFORMER OIL LAB & SERVICES SDN. BHD.
(Transformer Condition Monitoring Services (Oil Analysis, Tx Diagnosis & Oil Purification))



GLOBAL MERGE SYNERGY SDN. BHD.
(Smart Solutions Specialist)



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