

# ACO SOLAR HV BOP

PROJECT NUMBER	2655
CLIENT NAME	Convalt Energy LLC
END USER	MOEE
LOCATION	Myanmar
INDUSTRY CATEGORY	Power Generation, Substation
CONTRACT TYPE	Lump Sum Contract
CONTRACT DETAILS	Turnkey EPC
UPDATES	EPC Contract Signed August 2017

## THE CHALLENGE

Convalt Energy LLC are developing a 300MW AC solar farm in Myanmar and has selected RJE to act as the contractor for the provision of electrical transmission and distribution works at both sites, including the development of substations and their extensions.

As Myanmar begins to welcome renewable power RJE is contributing to one of the first solar projects in the country.

RJE is contracted to provide transformers, 230kV substations and 230kV switchyard upgrades for the projects within 10 months.

- Transformers and 230kV/132kV substations in accordance with technical proposal for AC solar farm including construction and commissioning for Nabuaing and Wundwin.
- Remote End 230kV Thapyewa Switchyard extension and upgrades.
- Remote End 132kV Myingyan Switchyard extension and upgrades.
- Design, Construction and Commissioning of double circuit 230kV/132kV transmission line of approximately 30 miles.



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# YANGON GENERAL HOSPITAL 11KV NEUROLOGICAL SUBSTATION

PROJECT NUMBER	2696
CLIENT NAME	Ministry of Health (MOH)
END USER	Yangon General Hospital
LOCATION	Yangon
INDUSTRY CATEGORY	Substation, Utility
CONTRACT TYPE	Lump Sum Contract
CONTRACT DETAILS	Turnkey EPC
UPDATES	August 2016

## THE CHALLENGE

The Neurological Hospital in Yangon suffered from unreliable electricity supply and required a full refurbishment and upgrade of the existing Substation.

The Ministry of Health contracted RJE for the following turnkey scope:

- Site clearing, civil works, earthing system, fencing, lighting, auxiliary services.
- Civil design for substation building and site layout
- Electrical design including protection and control systems, cable scheduling and SCADA/HMI integration.
- Installation and commissioning of 2 x 500kVA Power Transformers, 11kV Switchgear, 400V Switchboard, HV Cabling, protection cabinet, SCADA cabinet and control system and capacitor bank.

The successful Substation upgrade at the Neurological Hospital was the first project for RJE in Myanmar. It has provided a blueprint for future upgrades in Yangon, and was an effective showcase for the quality that RJE can provide to the market.



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# SEIN PANN MYAING 66KV GIS SUBSTATION UPGRADE

PROJECT NUMBER	2808
CLIENT NAME	Yangon Electricity Supply Corporation
END USER	Yangon Electricity Supply Corporation
LOCATION	Yangon
INDUSTRY CATEGORY	Substation, Utility
CONTRACT TYPE	Lump Sum Contract
CONTRACT DETAILS	Turnkey EPC
UPDATES	Complete March 2017

## THE CHALLENGE

Inside the existing Sein Pann Myaing compound, construct and install a new 66kV Outdoor GIS Substation and Indoor 11kV Switchgear utilising equipment supplied by Yangon Electricity Supply Corporation (YESC).

RJE provided the below turnkey services to operate and comply with the Yangon climate and relevant IEC standards:

- Detailed design, GIS foundation design drawing and detailed calculation, civil works, earthing system, sub-station layout, fencing, lighting, auxiliary services, cabling drawings, protection & control.
- Incoming and outgoing for 66kV and 11kV underground lines, cable jointing, terminations, grounding work (including civil works), installation of ac/dc control panel, battery bank and charger installation, testing, commissioning, and energizing.
- In the Substation switchyard, installation of 11 sets of 66kV incoming gas insulated switchgear outdoor GIS (7 incoming + 4 outgoing).



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# MAGWAY DISTRIBUTION UPGRADES

PROJECT NUMBER	2824
CLIENT NAME	ESE - Electricity Supply Enterprise
END USER	MOEE
LOCATION	Yangon
INDUSTRY CATEGORY	Power Supply, Utility
CONTRACT TYPE	Lump Sum Contract
CONTRACT DETAILS	Installation & Commissioning
UPDATES	Completed 2016

## THE CHALLENGE

Multiple Townships in Magway Division required Substation and distribution lines installation and upgrading during the fiscal year 2016 to improve the national grid. RJE carried out work in across several lots in Salin, Sin Phyu Kyun and MinBu.

RJE provided the following turnkey services at an international standard in multiple locations to construct the following installations:

- 11/0.4kV 100kVA Substation
- 11kV distribution line
- 0.4kV distribution line

The work package included surveying, site clearing, soil digging for poles, pole erection, cutting and drilling u channel, and cutting angle iron. Commissioning was then undertaken in the presence of the client to before handover certificate was given.



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# YANGON GENERAL HOSPITAL 11KV SUBSTATION

PROJECT NUMBER	2922
CLIENT NAME	Myanmar Ministry of Health
END USER	Yangon General Hospital
LOCATION	Yangon
INDUSTRY CATEGORY	Substation, Utility
CONTRACT TYPE	Lump Sum Contract
CONTRACT DETAILS	Turnkey EPC
UPDATES	July 2017

## THE CHALLENGE

Upgrade the existing electrical infrastructure of Yangon General Hospital. Install new greenfield substation within 90 days to improve the electrical stability and capacity of the hospital services.

The upgrade involved the installation of an 11kV Switchboard, supply and installation of two 1,000kVA distribution transformers and replacement of the 400V distribution system. RJE carried out the following turnkey services compliant with IEC standards:

- Site clearing, civil works, earthing system, fencing, lighting, auxiliary services.
- Civil design for substation building and site layout
- Electrical design including protection and control systems, cable scheduling and SCADA/HMI integration.
- Installation and commissioning of 2 x 1000kVA power transformers, switchboard, 400V switchgear, HV cabling, protection cabinet, SCADA cabinet and control system and capacitor bank.



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# U WISARA ROAD 66KV SUBSTATION UPGRADE

PROJECT NUMBER	2962
CLIENT NAME	Yangon Electricity Supply Corporation
END USER	Yangon Electricity Supply Corporation
LOCATION	Yangon
INDUSTRY CATEGORY	Substation, Utility
CONTRACT TYPE	Lump Sum Contract
CONTRACT DETAILS	Turnkey EPC
UPDATES	Complete March 2017

## THE CHALLENGE

Upgrade the existing Substation to a 66kV 30MVA Substation. The location was a small site envelope creating unique challenges. This Substation provides power for the Myanmar National TV Centre in Kamaryut Township and other key services in Yangon City.

RJE provided the below turnkey services to operate and comply with the Yangon climate and to relevant IEC standards:

- Detailed Design, GIS foundation design drawing and detailed calculation, civil works, earthing system, substation layout, fencing, lighting, auxiliary services, cabling drawings, and protection & control system.
- Incoming and outgoing for 66kV and 11kV underground lines, cable jointing, terminations, grounding work (including civil works), installation of AC/DC control panel, battery bank and charger installation, testing, and commissioning.
- In the substation switchyard, installation of 66kV incoming gas insulated switchgear outdoor GIS.

The project was completed in March 2017 as per contract requirements.



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# THAKETA FAST POWER 25MW INSTALLATION

PROJECT NUMBER	2997
CLIENT NAME	General Electric Ltd
END USER	Yangon Regional Government
LOCATION	Yangon
INDUSTRY CATEGORY	Power Generation
CONTRACT TYPE	Lump Sum Contract
CONTRACT DETAILS	Installation and Commissioning
UPDATES	Completed August 2017

## THE CHALLENGE

RJE were engaged by General Electric to install and integrate a TM2500 unit turbine within 45 days. The installation is a critical solution to Yangon's power shortage and integral to MOEE's development plan for the city.

In partnership with GE & Golden Green Energy, RJE completed the Design, Installation and Commissioning of a 25MW 50Hz trailer mounted gas turbine generator. RJE's specific role completed to IEC standard include:

- Site management, project design works for civil, fuel & power control systems, project management for all site construction execution in conjunction with an EHS plan.
- Logistics, installation and integration of fuel system, power control system, substation works, piping, grounding and cabling & supports.
- Mechanical completion & first synchronization of TM2500 unit.
- Quality control processes, coordination & interfacing services between International & local parties.

COD was achieved on July 8th with final acceptance from the client on August 2nd 2017.



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# MYANMAR ANDAMAN CAPITAL CONSULTING

PROJECT NUMBER	3040
CLIENT NAME	Andaman Investment Holdings Ltd
END USER	Andaman Capital
LOCATION	Yangon
INDUSTRY CATEGORY	Power Generation
CONTRACT TYPE	Lump Sum Contract
CONTRACT DETAILS	Consultancy
UPDATES	Ongoing

## THE CHALLENGE

Andaman Investments are developers for various power & distribution projects in Myanmar. RJE are contracted for consultancy work on electrical transmission & distribution works for projects, including development of substations & generation assets.

Types of projects which RJE have contributed to:

- Solar farm pre-feasibility study
- FastPower engine installation – 30MW

Scope of consultancy has included the following:

- Technical and commercial feasibility studies and recommendations.
- Generate equipment list and upgrade/replacement plan including costing breakdown.
- Electrical single line drawings & electrical layout drawings.
- Client and Stakeholder meetings



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CAPITAL PARTNERS

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