

Overview

Country or Region: India

Industry: Solar

Customer Profile

Welspun Energy Ltd. (WEL) is an leading power company based in New Delhi, India. It is a subsidiary of Welspun Group which has interests in power generation, infrastructure, exploration and production of oil and natural gas, steel pipes and textiles. Aiming to commission 1,700 MW of solar and wind power projects across India by 2016, WEL has successfully commissioned around 320 MW capacity of solar PV projects on a turnkey basis well in advance of the stipulated timelines. Currently, cumulative solar and wind projects are under construction in 5 states in India. Welspun Energy has thus achieved a leadership position as the Solar EPC market in India.

C&I Package for Welspun Solar 50 Mw Solar PV plant at Rajasthan



Need

To meet the challenges of climate change and address India's energy needs, the Government of India launched a major initiative - The Jawaharlal Nehru National Solar Mission (also known as the National Solar Mission) as solar power is abundant and offers a solution to fossil fuel emissions and global climate change.

The objective of the National Solar Mission is to establish India as a global leader in solar energy by creating the policy conditions for its diffusion across the country as quickly as possible.

Welspun Energy, committed to supplying clean energy to power India's growth, won the contract of building 50 MW solar project near Phalodi, Jodhpur district in three phases (15, 15 and 20 MW) through a competitive bid under Batch-2, Phase-1 of the Jawaharlal Nehru National Solar Mission.

Solution

As a part of this project, L&T-C&A was awarded a contract by Welspun Energy to provide Control & Automation system for India's largest Solar PV Power plant based

on Thin Film Photovoltaic Technology (50 MW) in the national renewable energy programme. C&A was selected by Welspun Energy for providing the technically superior and economical solution in a competitive bidding. The extensive knowledge of control systems, project management and solar technology gave C&A an edge over the others.

As part of the contract, C&A was responsible for Design, Engineering, Supply, Installation, Commissioning of complete Control & Automation package covering

- RTU based Control System with 25 Nos of RTU panels
- State of the art SCADA system (*iVision_max*) for control, monitoring & data acquisition
- IT hardware including the Servers and Engineering stations and networking hardware
- Weather Monitoring System
- Fire Alarm System
- CCTV System
- OFC cable network

About Us

L&T Control & Automation (C&A) is a Strategic Business Unit of L&T Electrical & Automation. It is a part of Larsen & Toubro – the multi-billion India-based conglomerate. L&T's C&A business is market leader in delivering integrated electrical & automation solutions in India and overseas. With over three decades of experience in diverse industry segments, C&A delivers value through comprehensive solutions based on varied technology platforms and incorporates the benefits of its wide-ranging experience. L&T's state-of-the-art Electrical & Automation Campus at Navi Mumbai in India has the latest testing and manufacturing equipment. It incorporates a modular manufacturing unit, an application software laboratory and a fully networked office for engineering and project management.

LARSEN & TOUBRO
Control & Automation
Electrical & Automation Campus,
Shil Mahape Road, Navi Mumbai, India.
Tel : 91-22-67226300
E-Mail: CNA-marcomm@LnTEBG.com
Web Site: www.LnTEBG.com

Our Integrated Electrical & Automation Solutions:

Minerals & Metals

Cement, Mining, Ferrous & Non-Ferrous

- Cement Plant E&I
- Iron & Steel making E&I
- E&I for Bulk Material Handling
- E&I for Ports

Oil & Gas

Upstream, Midstream and Downstream

- Integrated Process Control
- Pipeline SCADA
- Emergency Shutdown and Fire & Gas
- Terminal Automation & Tank Farm

Power

Generation, Transmission and Distribution

- Integrated controls for Boilers and Turbines
- Station C&I
- E, C&I for CHP, AHP, WTP
- E&I for Solar Plants
- Smart Grid

Infrastructure

Highways, Ports and Metro Railways

- Highway Traffic Management
- Metro Rail BMS & AFC
- Airport Baggage Handling
- Power Management
- Smart City & ITS

Buildings

Hotels, Hospitals, Factories, Malls, Data Centres

- Substation
- MV / LV Power Distribution System
- ELV / CCTV / Fire Detection & Alarm Systems (FDAS) with suppression solution
- Access Control
- Lighting Control

The communication was established between RTU panels with field equipment like String Monitoring Units, Weather Monitoring System, Inverters, Multi Function Meters & Relays in the Switchgear panels. After establishing communication with the RTU, the data from the above equipment was monitored and controlled through the start-of-art **iVision^{max}** SCADA system. The reports were generated that could be effectively utilised at various levels of the organisation.

The RTU panels were connected to the switchgear panels to monitor and control breakers in the panels. CCTVs were commissioned across the plant for perimeter surveillance of the solar PV plant,

where all the cameras were connected to the central control room.

Fire alarm system with multi sensor type smoke detectors were commissioned in the inverter, switchgear and control rooms. This equipment was further connected to RTU system for remote monitoring. The Weather Monitoring System was deployed for providing ambient Temperature, Module Temperature, Incident solar radiation through pyranometer and wind speed. This equipment was further connected to RTU system for remote monitoring.

The plant was commissioned and is in operation since March 2014.