



Heliostat Consortium Seminar Series

Brought to you by the Resource, Training, and Education (RTE) topic area



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Plant General Manager
NOOR3

Host: Dr. Rebecca Mitchell

Title: Solar Field for CSP
Tower Technology: Best
Practices and Lessons
Learned in Operational
Commercial Projects

When: February 1st
9-10 am MST

Zoom:
[https://nrel.zoomgov.com/
j/1609305579?pwd=NzkxZ
nZTT2ZsSmpkSWU1WE9yZ
HhIU09](https://nrel.zoomgov.com/j/1609305579?pwd=NzkxZnZTT2ZsSmpkSWU1WE9yZHhIU09)

Abstract:

Over the last few years, commercial tower concentration solar power (CSP) projects have reached the degree of maturity necessary to be considered as viable option within the energy mix strategy in different countries. However, it is still necessary to improve the main process to maximize the Levelized Cost of Energy (LCOE) ratio. The technology is strongly linked to the performance of the integrated heliostat within the complete system defined as Solar Field (SF), in charge of managing the solar resource that will be used as an energy vector in the tower receiver. A large part of the key to success relies in an adequate assessment of the different process throughout the entire life cycle of the project. From the heliostat model to the design of the shape of the solar field. From the initial civil works to the final quality inspections. From calibration and availability to the integration into the control systems of the plant. From the cleaning strategy based on the site weather conditions to the maintenance and spare parts management procedures. This seminar will provide an overview of the best practices and lessons learned during the stages of engineering, construction, operation and maintenance of the Solar Field for different commercial tower CSP projects.

Bio:

Raul Gonzalez Marcelo received his Bachelor's degree from the University of Seville at Spain in 2005 in Telecommunication Engineering. He completed his postgraduate studies in management of industrial facilities from the University of Loyola at Spain. As well as his Master's degree in Control Process in 2006 and his Master Degree in Robotic, Automatic and Telematic in 2009 from the University of Seville. In 2006 he joined Abengoa Solar Spain company and worked on implementation of new control strategies and O&M procedures for PV and CSP technologies at PS10, PS20, Sevilla PV, Solnova 1, Solnova 3 and Solnova 4 plants. In 2010 Raul led the O&M Engineering department at Solucar Complex (181 MW) and from 2013 to 2017 he served with his expertise in asset management as Abengoa O&M International Deputy Director, developing with his team the optimization, operation and maintenance business for CSP, PV, Water Desalination and Cogeneration commercial projects in Spain, USA and Africa regions. From 2017 to 2019 he joined Acwa Power company as Construction and Commissioning Manager for Noor 2 and Noor 3 plants in Morocco. Since 2019 Raul oversees the O&M business for Acwa-Nomac company as Plant General Manager of Noor 3, which is the world's largest CSP tower asset with molten salt storage facility.