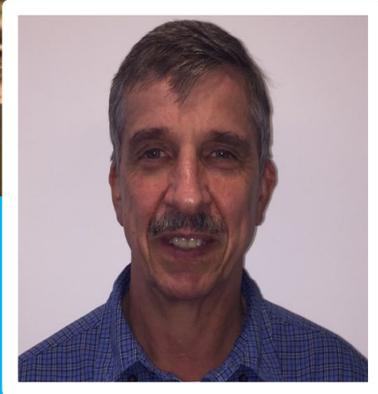


Lessons Learned Crescent Dunes Heliostat Field Control System Seminar

September 17, 2025
1 PM MT / 3 PM ET



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

BIO

Born in Pittsburgh, PA 1953, Ayres graduated from the University of Pittsburgh in 1977 and started work with Westinghouse Electric Corporation providing Control Center Software for Electric Utilities. In 1989, he joined the Rocketdyne Division of Rockwell International to work on the Electric Power System for International Space Station. At Rocketdyne, he worked on several interesting projects: the Advanced Tactical Laser, the Boeing 787 Electric Power System and the Heliostat Field Software for Solar Reserve. He joined Solar Reserve in 2014 and worked on the Crescent Dunes Heliostat Field Control System. He now has his own company and performs as-needed consulting work for Crescent Dunes. He is also working with NREL to leverage the Crescent Dunes Software for use in other CSP Plants.

He enjoys weight-lifting, learning Korean, and Korean dramas (and food!). His office is in Koreatown, and he enjoys learning the Korean language and helping some of his Korean friends with the English language.

ABSTRACT

This seminar will cover lessons learned on this project from the initial design and prototyping phase up through the commissioning and operation of the solar field. The organizational structure of the project with responsibility split between the EPC, Solar Reserve, Rocketdyne and the various subcontracts had a significant impact on technical progress. Some of those impacts will be discussed. Important singular events that will be discussed are the thawing of a frozen receiver and damage to an empty receiver by focusing too many heliostats on it. The calibration of the heliostats with the Beam Characterization System (BCS) will be covered in detail.

The importance of simulation testing and the benefits it provided to the project will be covered. Simulation testing of 3 HCU's helped support the successful installation and testing of 3 Heliostats at Sandia. A full 1000-meter cable setup of several HFCs with 120 heliostat control units were tested at Rocketdyne before the field commissioning helped uncover many issues.



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HelioStat Consortium Seminar series host:
Dr. Brooke Stanislawski

Register on Zoom: <https://bit.ly/3HVvoPc>