September 14, 2021

Unirac
1411 Broadway Boulevard NE
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Attn.: Engineering Department,

Subject: Engineering Certification for the Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System.
Job 2013706: RM Ballast U-Builder Review on May 4th, 2020.

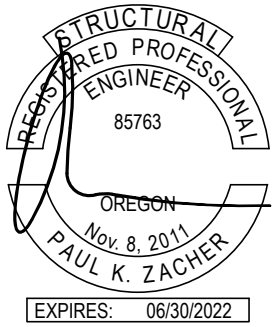
The Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System is a proprietary framed ballasted assembly which supports Photovoltaic panels. The ballast frames hold the PV panels and are ballasted with concrete blocks as required for the wind loads. The wind uplift loads are resisted directly by the ballast. Lateral forces, both wind and seismic, are resisted by friction between the ballast and the roof surface.
The ballasting requirements are determined using the Unirac online "U-Builder" Design Assistant tool or the Unirac "Design and Engineering Guide". The Design Assistant covers a wide range of system configurations and loading and allows the user to customize the input to match the specific project conditions.

We have reviewed the Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System, the RDWI wind tunnel test results and the Unirac ballasted system design methodology and have determined that the Unirac RM ballasted system design methodology is a rational approach and is in compliance with the structural requirements of the following Reference Documents:

Codes: ASCE/SEI 7-16 Minimum Design Loads for Buildings and other Structures
2019 Oregon Structural Specialty Code
2018 International Building Code
Other: Aluminum Design Manual, 2015 Edition
RWDI Wind Pressure Study Report # 1600097
SEAOC PV2-2012 Report - Wind Design for Low-Profile Solar Photovoltaic Arrays on Flat Roofs

This letter certifies that the Unirac RM Roof Mounted Ballasted Photovoltaic Panel Support System, the Unirac online "U-Builder" Design Assistant tool and the Unirac "Design and Engineering Guide" are in compliance with the above Reference Documents.

DIGITALLY SIGNED



If you have any questions on the above, do not hesitate to call.

Prepared by:
PZSE, Inc. - Structural Engineers
Roseville, CA