



Mark J. O'Neill

Education: B.S., Aerospace Engineering, University of Notre Dame, 1968.
Graduate Studies, Mech. Engineering, University of Alabama-Huntsville (UAH), 1970-73.

Experience: Nov. 2011 – Present, Mark O'Neill, LLC, Keller, Texas: O'Neill is founder and president of a 7-year-old small business which is doing state-of-the-art development work in solar power systems for both space and terrestrial applications, and in daylighting and other solar optical technology areas. Current customers include both space (NASA, AFRL, DSS, Northrop Grumman, et al.) and terrestrial organizations. This company has recently won multiple Phase I and Phase II Small Business Innovation Research (SBIR) contracts with NASA, as well as multiple subcontracts with major aerospace companies to support programs funded by NASA and other customers. More information on this company is available at www.markoneill.com.

Oct. 1983 – Nov. 2011, Entech Solar Inc., Fort Worth, Texas: From 2008-2011, O'Neill served as Chief Technology Officer and member of the board of Entech Solar, Inc., a small business and public company. Entech Solar is the successor company to ENTECH, Inc. and WorldWater and Solar Technologies Corp., following a merger of the two companies in January 2008. From 1983-2008, O'Neill was one of the original founders of ENTECH, Inc., a private company established in 1983 as the result of a leveraged management buyout of the solar energy business unit from a large Dallas-based corporation, E-Systems, Inc., now part of Raytheon. O'Neill was directly involved in preparing the business plan, arranging venture capital financing, and negotiating the leveraged management buyout of the Energy Technology Center business unit from E-Systems. From 1983-98, O'Neill served as Executive Vice President of Engineering and Operations, prior to being named ENTECH's President in 1998. Prior to the merger with WorldWater and Solar Technologies in January 2008, O'Neill had responsibility for engineering, manufacturing, marketing, accounting, and administration of the corporation.

While with ENTECH, Inc., O'Neill wrote dozens of winning proposals to a wide variety of customers, and then served as program manager on the resultant successful projects funded by DOE, Sandia, NREL, NASA (GRC, MSFC, and JPL), DOD (SDIO/BMDO/MDA), AEC-ABLE (now Northrop Grumman), DSS, Boeing, SAIC, 3M, domestic utility companies (TXU, CSW, PG&E, etc.), and overseas customers. These projects included the \$600K NASA Phase II STTR contract to develop a 600-Volt Stretched Lens Array (SLA) for Solar Electric Propulsion (SEP), the \$750K MDA Phase II STTR contract to develop a Stretched Lens Array Technology Experiment, (SLATE) for the TacSat 4 spacecraft, the \$600K NASA Phase II SBIR contract to develop a Dual-Use Laser/Solar Photovoltaic Concentrator, the \$1.3M NASA Exploration Technology Maturation Program for Stretched Lens Array SquareRigger, and the \$500K NASA Solar Array Advancement contract in support of NASA Marshall's Solar Clipper Exploration program.

Aug. 1975 – Sept. 1983, E-Systems, Inc., Energy Technology Center, Garland, Texas: As Director of Energy Programs, O'Neill had technical and management responsibility for a variety of research, development, and demonstration programs funded by DOE, Sandia, JPL, E-Systems, and other organizations. These projects included the initial development of the E-Systems/ENTECH line-focus photovoltaic concentrator system, and its first successful demonstration in the \$1M DOE-sponsored 25 kW DFW Airport application experiment, which out-performed all of the other photovoltaic demonstration systems of the early-1980's era.

June 1974 – July 1975, Northrup, Inc./Energy Utilization Systems, Inc., Hutchins, Texas: As V.P. of Energy Utilization Systems, Inc., O'Neill developed the first commercially available concentrating solar heat collector, which used a small extruded acrylic linear Fresnel lens as the optical element.

June 1969 – May 1974, Lockheed Missiles & Space Co., Huntsville, Alabama: As Project Engineer, after conducting research in the areas of heat transfer, phase change material energy storage, and absorption cycle cooling for space applications, O'Neill proposed to NASA in 1972 to adapt some of these space technologies for terrestrial solar energy applications. O'Neill's proposal led to the development of one of the first solar-cooled buildings in the U.S., at NASA-Marshall Space Flight Center in 1974.

Publications, Patents, Awards: O'Neill has authored or co-authored more than 170 technical publications, including 17 U.S. patents, a textbook chapter, and several new patent applications. O'Neill has won a number of awards, including a 2012 R&D 100 Award (jointly with NASA) and a 2012 NASA Exceptional Space Act Award (jointly with NASA).