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## **Curriculum Vitae FRED P. SMITH, P.E., CSP**

Mr. Smith has been in consulting engineering since 1980. He is currently president of Alpine engineering & Design, Inc., a company he started in 2000. Previously, he spent 20 years doing consulting work with F.S. New Products, Inc.

While working for F.S. New Products, Inc., Mr. Smith developed and patented RF and Magnetic shielding for magnetic resonance imagers. Mr. Smith and two other partners started MRI Support Systems Corporation to exploit the patented technology. As Vice President of Engineering for MRI Support Systems Corporation, Mr. Smith was responsible for the design of RF and magnetic shields manufactured for magnetic resonance imagers and supervised the development of new shielding products. He collaborated with other engineers and architects to assure the shielding interfaced well with the complete project and tested the performance of the completed shields.

In 2004, while working for Alpine Engineering & Design, Inc., Mr. Smith, along with two partners, began a startup company, Composite Works, LLC, which designed and manufactured custom fiberglass components for OEM's. Mr. Smith designed or specified all the processes, equipment and molds required to produce the products. Composite Works, LLC was successfully sold in 2015.

Mr. Smith began his engineering career, prior to college, in the engineering department of Sargent Industries, Huntington Park Division, a company that designed and manufactured valves for nuclear submarines. He performed engineering design changes, accumulated and organized technical information for record purposes and submittal to customers on government related projects. He was tasked with writing instruction manuals for the process he developed for the preparation of Certification Data Sheets and model parts lists.

Mr. Smith worked for F.S. New Products, Inc. and attended college concurrently from 1980 through 1984. In 1984 Mr. Smith completed his B.S. in Mechanical Engineering and graduated with distinction from California State University, Long Beach, where he was on both the Dean's and the President's Honor Lists.

During his consulting career, Mr. Smith has directed the development and improvement of a wide variety of products including trucking equipment, refuse equipment, hydraulically operated mobile equipment, cranes, manlifts, specialty axles and suspensions, zip lines, amusement rides, exercise equipment, radio frequency and magnetically shielded enclosures, rotomolded containers, aerial lifts and a variety of consumer products. Mr. Smith has over 70 patents on such products with a number of patent applications still pending.

Mr. Smith's expertise extends to many areas of product design; including concept generation, design, stress calculations, finite element analysis, modeling, safety, prototyping, testing, manufacturing and assisting in the patent process. Mr. Smith is certified as a Six Sigma Lean Black Belt Professional and a Six Sigma Champion.

Mr. Smith is a registered professional mechanical engineer in the States of California, Nevada and Alabama, and a registered professional structural engineer in Utah with license numbers M025127, 016907, 28224 and 177027-2202 respectively. Mr. Smith is certified by the Board of Certified Safety Professionals (BCSP) as a Certified Safety Professional in comprehensive practice, CSP No. 18890. He has certified as a trainer in 1st aid, CPR and AED. He has certified as a train-the-trainer for lift truck operators. He has also certified as a trainer for aerial work platforms and aerial boom lifts. He has also certified as an overhead, mobile crane and rigging inspector. Mr. Smith is also licensed as an Amateur Radio Operator (License - KC7URM).

He has taken a number of continuing education courses including the OSHA 30-hour Hazard Recognition Training course, the OSHA Health and Safety course, Intellectual Property Issues, Risk Management and Assessment, Pole Top Rescue, Confined Space and Lock Out/Tag Out. He is certified in TIMS (Traffic Incident Management & Responder Safety) and has taken courses on the MUTCD (Manual on Uniform Traffic Control Devices), Advance Warning, Blocking Procedures, Safe Operations for Vehicle Fires, Special Hazards and Incident Command and Management.

Mr. Smith has been a member of the Utah Safety Council, National Safety Council, American Society of Mechanical Engineers, the Society of American Value Engineers, the National Honor Society, and Tau Beta Phi, a national engineering honor society. He was nominated for membership in Phi Kappa Phi, and has been named to Who's Who in California, Who's Who in the West and the National Registry of Who's Who in Executives and Businesses. He also received the Utah Genius Award for being one of Utah's top inventors.

Mr. Smith co-authored a white paper entitled, "An Engineering Guide for Trailer Safety Chain Installation, Attachment and Use."

Mr. Smith has been retained over 500 times as an expert in product liability, breach of warranty, negligent misrepresentation. Over 100 of those cases have been intellectual property cases where he has testified regarding claim construction, infringement and invalidity. He has testified in court over 40 times in multiple state courts, Federal Court, before the Patent Trial and Appeal Board (PTAB), the Federal Trade Commission (FTC) and the International Trade Commission (ITC).