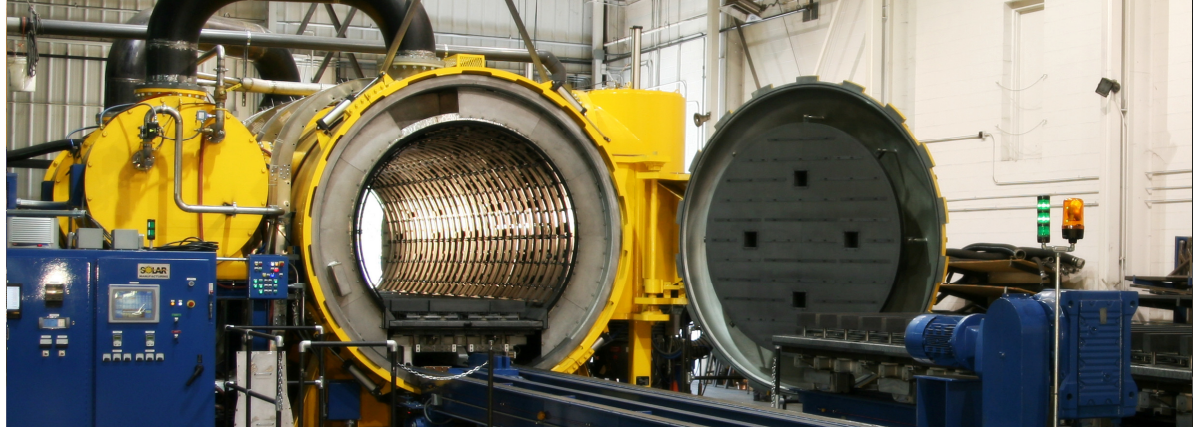


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# THE SPOTLIGHT

December 2010, Vol. 17

A Solar Atmospheres Publication

## Solar Atmospheres Partnership with ASM



Bob Hill (far left) with his colleagues of the ASM Board of Trustees at their Annual Meeting in Houston.

ASM International was started in 1913 as a club where heat treaters and automotive engineers would meet to exchange their technical information. This gathering was first called the Steel Treaters Club. After World War I, a group of 200 in the Chicago area seceded from the Steel Treaters Club to form the American Steel Treaters Society. This group evolved across the country and eventually became known as the American Society of Metals - later to be called American Society of Materials.

Since Solar Atmospheres is a national company, our employees are extremely active at various chapter levels across the country. From each respective plant, we support the ASM Philadelphia PA, Pittsburgh PA, Akron OH, Warren OH, Cleveland OH and Orange County CA chapters. We are responsible for supporting each chapter by attending their yearly activities, which include educational programs, seminars and social events. We are also involved at a national level with ASM on various committees, organizing the ASM Heat Treating Show, guest lecturing, and participation on the ASM Nominating Committee.

Most recently, Robert Hill, Jr, President of Solar Atmospheres of Western PA was nominated to serve on the ASM International Board of Trustees through October 2012. Bob was nominated because of his 30 years of metallurgical experience which led to specializing in large furnace technology and titanium processing capabilities involving a wide range of heat treating methods. He was also chosen for this prestigious position due to his previous ASM Chapter work, his managerial skills, and his understanding of the objectives of ASM.

The purpose of the ASM Board of Trustees is to direct the Society as a whole by managing their budget, assets and affairs. They also hire a director to provide counsel to the officers. The Board meets at least once a month to discuss the Society's objective of optimizing the knowledge of materials worldwide.

Since elected to the Board, Bob has been asked to be a Board of Trustees Speaker at the Hartford CT, Worcester, MA, Pittsburgh, PA and Puget Sound, WA chapters. The presentation that he has taken "on the road" is entitled "The Vacuum Heat Treatment of Titanium Alloys for Commercial Airframes." This presentation describes how the heat treating of titanium and their corresponding thermal specifications are most important to the aeronautical engineers today and in the future.

You can download Bob Hill's speech on our website on the white paper download section under the media tab at [www.solaratm.com/white-paper-downloads](http://www.solaratm.com/white-paper-downloads).



Bob Hill, President, SAWPA



**The Materials  
Information Society**

## MISSION

The Mission of Solar Atmospheres is to add significant value to our customer's operations by thermally treating parts, principally in a vacuum environment, with an unwavering commitment to honesty in all relationships.

*We will strive to fulfill this mission while...*

- Performing our work with an emphasis on quality and responsiveness.
- Operating with an awareness and appreciation of the value of our customer's parts while in our care.
- Forever looking "forward" in the area of technical capabilities.
- Demonstrating a willingness to "accept the challenge."
- Providing and maintaining a work environment that is safe, clean, and reflects our respect for human dignity.
- Providing our employees with an opportunity for personal growth, challenge and reward.
- Maintaining a workplace that is environmentally friendly.
- Sustaining long-term growth and profitability.

The Spotlight is a quarterly publication of Solar Atmospheres

Chief Executive Officer  
William R. Jones

Corporate President  
Roger A. Jones

President, Hatfield Facility  
A. Bruce Craven

President, Western PA  
Robert Hill, Jr.

President, California  
Derek Dennis

Marketing Manager  
Tim Williams

Spotlight Editor  
Jenna L. Hand

## Solar Atmospheres in Souderton Adds New Personnel

Solar Atmospheres in Souderton, PA is pleased to announce the hiring of Edward Bullard for the Quality Engineer position. He comes to Solar Atmospheres after 24 years with Sermatech International, where he worked in Production, Quality Assurance and as an Applications Engineer. Ed now reports to Michael Moffit, Quality Manager. Mike states "Ed has hit the ground running. His experience and talents will go far in the Solar Corporation."

After Ed returned from serving his four year enlistment in the Navy, he graduated from Reading Area Community College with an Associate's degree in Industrial Management. He then started working for Sermatech International as a Production Supervisor. Upon moving to the Quality Engineer position, Ed went back to school for his Associate's degree in Information Technology.



Ed Bullard - Quality Engineer

Ed Bullard lives in Bechtelsville with his wife, Patricia, and his three children, Shannon, Mike and Beth. He is also a volunteer fireman with the Bechtelsville Fire Company.



## Did you know?

### Solar Atmospheres has been Low Pressure Vacuum Carburizing (LPVC) steel parts for over four years.

When compared to conventional atmospheric gas carburizing, the LPVC process is considerably more precise and repeatable as all process parameters are inputted, monitored, and recorded by state-of-the-art computerized controls.

#### Specific benefits include:

- Better quality control of the overall process
- Clean, soot free, oil free parts
- Absence of oxygen and thus absence of intergranular oxidation (IGO)
- Uniform and precise case depths
- Less part distortion due to uniform case profiles coupled with Vacuum Gas Quenching, as opposed to a traditional, more intense oil quench
- Reduction or elimination of post heat treat finishing operations
- Penetration of holes and recesses
- Activation of all surfaces, even on highly alloyed steels, by using hydrogen gas during heat-up
- Reduction of cycle times, up to half that required for atmospheric gas carburizing, resulting in faster turnaround

*Do you have a need for superior quality carburizing in less time for your parts?*



# Solar Atmospheres of California (SCA) Commissions their First Two Vacuum Furnaces

Solar Atmospheres of California (SCA) is pleased to announce the installation and commissioning of the first two vacuum furnaces in a series specifically designed for our new facility in Fontana, CA. Both furnaces have been designed and manufactured by Solar's manufacturing arm and sister company, Solar Manufacturing, located in Souderton, PA. The first vacuum furnace is a 24' Horizontal Car Bottom Vacuum Furnace.

## Features and benefits of this unique piece of equipment include:

- A work zone of 54"W x 54"H x 288"D
- Handling loads of up to 100,000 pounds
- Temperature uniformity of  $\pm 10^{\circ}$  F
- A super energy efficient graphite insulated hot zone for high temperature applications up to 2500° F
- Thin segmented graphite resistance heating elements for uniform radiant heat up and cool down
- Dual high performance external gas quenching systems to provide high velocity 2-Bar (15 PSIG) cooling of large work loads
- Single loading X/Y transverse loading cart (allows for minimal downtime while exchanging furnace loads thus reducing or eliminating the waste associated with setups)
- Fully automated and programmable industrial controls package for optimum cycle performance and control
- A rugged design for easy maintenance, minimal downtime and low cost operation
- Double large vacuum pumping systems (with 35" diffusion pumps) capable of operating vacuum levels in the low 10 - 6 Torr range
- An ability to closely monitor workloads with (24) type "K" workload thermocouples

## The second vacuum furnace is a Low Torr Range Vacuum Carburizing Furnace. The features and benefits of this particular piece of equipment include:

- A work zone of 24"W x 24"H x 72" D
- Handling loads of up to 1,500 pounds
- Temperature uniformity of  $\pm 10^{\circ}$  F
- A super energy efficient graphite insulated hot zone provides insulation for high temperature applications up to 2400° F
- High performance internal gas quenching provides rapid cooling at positive pressures up to 10-Bar (135 PSIG)

In conjunction with day to day vacuum heat treating operations, this furnace allows SCA to perform Solar Atmospheres patented Low Pressure Vacuum Carburizing, also known as LPVC, which is a heat treat process that supplies additional carbon to the surface of the steel. Performed in a vacuum furnace, this vacuum carburizing process is designed to achieve optimum case hardening properties for various alloy materials. This vacuum carburizing service is typically used when critical parts are utilized in high-wear applications. The wear resistant surface is supported by a relatively ductile shock-absorbing core, capable of withstanding high load bearing applications. The benefits of LPVC over traditional carburizing processes are case depth uniformity, maximum case integrity, and improved gear root to pitch case depth ratios, deep blind-hole vacuum carburizing, minimal distortion, and bright clean parts.

These are just two examples of the many furnaces that are currently manufactured, installed and commissioned by SCA in conjunction with Solar Manufacturing. Solar Atmospheres of California will strive to become the West Coast's choice for vacuum heat treating services and continue to uphold the Solar Atmospheres, Inc reputation.

For questions or comments regarding this article or to contact a SCA sales representative, please call 866-559-5994 or email us at [info@solaratm-ca.com](mailto:info@solaratm-ca.com)



SCA's 24' Horizontal Car Bottom Vacuum Furnace



SCA's Vacuum Carburizing Furnace

 Derek Dennis, President, SCA



## Company New Years Safety Renewal

Solar Atmospheres wishes you and your company a prosperous and healthy New Year. As we enter this New Year, it is a good time to evaluate what is important in life, and I believe we would agree that good health is very high on our priority scale.

Statistics overwhelmingly show that employees working in companies which take safety seriously are healthier and far more productive than companies where there is little or no emphasis on safety.

The start of the New Year is a good time to evaluate company safety policies and procedures, and make the necessary changes. All vibrant companies change industrial processes and add new processes over time. As a result, company safety policies and procedures also need to change so that they adequately address current processes.

For example, early each year, Solar Atmospheres conducts training that covers Cardio-pulmonary Resuscitation (CPR), first aid, and bloodborne pathogens. Training is tailored for both "first timers" and employees that only need their annual re-certification.

*Other important health and safety training is then scheduled by Solar in topics such as the following:*

- Lock-out / Tag-out - Electrical Safety / Arc Flash
- Personal Protective Equipment (PPE)
- Safe Operation of Forklift Trucks
- Crane Operation Safety
- Safe Furnace Entry Procedures
- Manual Lifting and Ergonomics
- Safety Hazard Communications (MSDS)
- Employee Health and Safety Concerns Form
- Fire Protection / Fire Extinguishers

The above mentioned training is how we provide safe work environments for the employees working in all Solar Atmospheres facilities.

Also, Solar Atmospheres of Western PA has been working with Indiana University of Pennsylvania on their safety program to be accepted into the OSHA funded SHARP Program.

### "The On-site Consultation Program's Safety and Health

Achievement Recognition Program (SHARP) recognizes small employers who operate an exemplary safety and health management system. Acceptance of your worksite into SHARP from OSHA is an achievement of status that singles you out among your business peers as a model for worksite safety and health. Upon receiving SHARP recognition, OSHA exempts your worksite from OSHA programmed inspections during the period that your SHARP certification is valid."<sup>1</sup>



At the present time, there are less than fifty companies in the state of Pennsylvania that have reached this goal.

The safety programs that Solar Atmospheres implements consider the well being of our employees and customers to conform to the ever-changing industrial processes. Again, all of us at Solar Atmospheres extend our best wishes to you and your company for a safe and healthy New Year.

<sup>1</sup> OSHA website [www.osha.gov/dcsp/smallbusiness/sharp.html](http://www.osha.gov/dcsp/smallbusiness/sharp.html)



Ken Baubhof, Vice President, Corporate Synergy  
Bob Sandora, Vice President of Operations, WPA



# TEAMWORK



## Solar Atmospheres has Great Teamwork

Everyone has heard the sayings, “there is no I in team,” and “together everyone achieves more,” but does anyone actually follow those kinds of rules to include their co-workers in making their products or services something great? Solar Atmospheres, Inc prides itself on the teamwork within the company that allows us to perform the tasks necessary to provide our customers with the best service possible. Not only do we accomplish that, but the teamwork within the company proves that the employees work hard to help the company achieve its goals.

Solar Atmospheres, Inc. works very hard to put together the Spotlight that gets mailed out three times a year. With all of the players that are involved in this mailing, they need to know that they are much appreciated. So what is involved in this kind of

what is involved in this kind of mailing? First, the marketing department converses with other departments (sales, quality, R&D and/or customer service) to come up with the articles. These articles may be new processes, upcoming events, personal achievements, or new customers. Once these are established, the employee with the most experience on that topic will write the article. After that, the article is critiqued by numerous Solar personnel. The finished articles get formatted in the Spotlight and arranged by the marketing department. Finally, the whole Spotlight is looked over again and finalized.

With all of these players involved in such a big task, they need to know how appreciated they are.

A thanks goes out to all involved, including Bill Jones, Mike Moyer, Don Jordan, Mike Drakeley, Bob Hill, Josh Isaak, Derek Dennis, Virginia Osterman, Jamie Jones, Trevor Jones, Mike Johnson, Eric Carothers, Les Teale, Roger Jones, Tim Williams, Tim Steber, Brittney Dhein, and Sharleen Way. Without people that take time out of their busy schedule to help with this project, it would never be accomplished. Thanks again for all of your hard work.



*Jenna Hand, Marketing Coordinator*

## Looking Forward

to tell a story of  
**progress** • n. /proh-gr  
movement towards a  
development; improve

Progress, loosely defined, keeps organizations from growing stale. It is this ideology, at Solar Atmospheres, that enables our leadership to be successful in their various ventures. Even in hard times, our group always looked ahead to develop and provide new services, efficiencies and technology to help our customers with their product requirements. As we close this year we look back and see success, both in respect to our customers and our own programs.

We have seen our economy ebb and flow with no rhythm or consistency, causing the manufacturing industry to ultimately be at the mercy of our country's administration.

We have made some brave decisions in this past year; the biggest was to continue our development of the new California facility. These decisions we made after many meetings and roundtable discussions with senior level management in our company. Looking back, we wouldn't change a thing.

Concentrating on our economic uncertainty is not the answer, as proven by Solar Atmospheres and their customers. Looking forward, we continue to improve our company with new developments and services for 2011.



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Souderton, PA 18964

Return Service Requested

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800-347-3236  
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info@solaratm.com

### **Western, PA**

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866-982-0660  
Fax: 724-982-0593  
wpa@solaratm.com

### **Fontana, CA**

8606 Live Oak Avenue  
Fontana, CA 92335  
866-559-5994  
Fax: 909-854-0509  
info@solaratm-ca.com

## **UPCOMING TRADE SHOWS**



Anaheim Convention Center  
February 8-10  
Anaheim, CA  
Booth # 3474



Anaheim Convention Center  
April 5-7  
Anaheim, CA  
Booth #



George R. Brown Convention Center  
March 13-17  
Houston, TX  
Booth # 1337



Greater Philadelphia Expo Center  
April 13-14  
Oaks, PA  
Booth #