

JUNE 3, 4, & 5 2008

MEMPHIS, TN

# Steam System Specialist Level II Training

*Investment:  
\$960*



Classes provided by:  
SEA ,Inc., formerly PSE, Inc.  
Kelly Paffel—Lead Instructor  
Certification provided by:  
QuantumSteam.org

Gleason Technical, Div. of AWC, Inc.  
3150 Stage Post Road  
Suites 106-107  
Bartlett, TN 38133

Phone: 901-323-9069

Fax: 901-323-9072

E-mail:

[service@gleasontechnical.com](mailto:service@gleasontechnical.com)

Steam System Specialist Level II Training is an exciting three (3) day course. Steam System Specialist Training Level II is for the individuals who have passed Steam System Specialist Level I training or individuals that possess steam system knowledge and want to take the next step to enhance their steam system skills.

At Steam System Specialist Level II Training, the steam teams will be designing a process and HVAC plant steam system.

The Steam Team Training Concept (STTC) is to ensure maximized comprehension of the training course. During the program, our instructors will teach and illustrate steam system principals, independent of specific products and manufacturers. The teams will use and reference AutoCAD prints of an actual steam system operation while completing tasks to practice and demonstrate the acquired knowledge. This ensures maximized comprehension of the training course.

Call today and reserve your spot! 901.323.9069 or  
email us at: [service@gleasontechnical.com](mailto:service@gleasontechnical.com)

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## LEAD INSTRUCTOR: Kelly Paffel—Technical Manager

Kelly Paffel is a recognized worldwide authority in steam and condensate systems. Mr. Paffel is able to combine a lifetime of technical expertise with a down-to-earth style of lecturing that has assisted many of his students in grasping some very difficult topics. In addition to his lecturing, Mr. Paffel has published many papers on the topics of steam system design and operation. Over the past 28 years, Mr. Paffel has personally conducted thousands of steam system audits and training sessions in the United States and overseas in such places as Egypt, Singapore, and other countries. He has 32 years of experience in steam and condensate systems and power operations, which has provided a "real-world" grasp of trouble-shooting actual and potential problems in the utilities of steam. Mr. Paffel is also a member of the USA Department of Energy's (DOE) Steam Best Practices Committee and Steam Training Committee. Mr. Paffel has worked with many different companies with "Steam Best Practices" and Steam System Benchmarking.

# Steam System Specialist Workshop

## Level II Outline

There will be pre-training assignments that will be provided to each attendee. At Level II Training each team will be designing a steam system, selecting products and developing prints for contractors to install the steam system. This exercise is a tremendous learning experience for anyone working in the world of steam systems.

Everyone will be working in teams of two or three people. Each team will have a set of AutoCAD drawings for the different tasks that will be required to be accomplished during the training class.

### **1. Heat Transfer**

- 1.1. Examples
- 1.2. Calculations

### **2. Heat Transfer (Shell & Tube)**

- 2.1. Applications
- 2.2. Designs
- 2.3. Operation
- 2.4. Installation
- 2.5. Testing

### **3. Heat Transfer ( Plate & Frame and Plate Coil)**

- 3.1. Applications
- 3.2. Material Selection
- 3.3. Operation
- 3.4. Installation

### **4. Heat Transfer (Coils)**

- 4.1. Applications
- 4.2. Designs
- 4.3. Material Selection
- 4.4. Operation



4.5. Installation

**5. Bare Pipe**

5.1. Tracing design

5.2. Other applications

**6. Direct Injection**

6.1. Basics of direct injection

**7. Unit Heaters**

7.1. Types

7.2. Operation

**8. Steam Separation and Filtration**

8.1. Types

8.2. Selection

8.3. Sizing

**9. Process Control Schemes**

9.1. Review of all control applications

**10. Desuperheaters**

10.1. Design

10.2. Types

10.3. Operation

**11. Flash Steam and Tank Sizing**

**12. Thermo Compressing**

12.1. Types

12.2. Operation

12.3. Selection

12.4. Installation

**13. Piping**

13.1. Layout with components

13.2. Sizing requirements

13.3. Condensation calculations

**14. Condensate Return System**

14.1. Different types

14.2. High pressure and low pressure selection

14.3. Venting

14.4. Piping

[www.plantsupport.com](http://www.plantsupport.com)

14.5. Electric vs. other designs

14.6. Water hammer issues

**15. Design a Steam System for Bid Purposes (Contractor Evaluation)**

15.1. Design a steam system

15.2. Outline specifications

15.3. Interview contractors



**GLEASON**  
TECHNICAL  
DIVISION

## WORKSHOP REGISTRATION

Tel: 901-323-9069 Fax: 901-323-9072

3150 Stage Post Road, Suites 106-107

Bartlett, TN 38133

E-mail: service @gleasontechnical.com

Gleason Technical invites you to attend one of our training classes designed to promote steam systems knowledge, understanding, efficiency, to emphasize positive effects on production, efficiency gains, safety, energy costs, and overall operational savings. Each participant will receive in-depth, hands-on training of the steam system, the interrelationships of the system, and finally a complete understanding of the system.

NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY / STATE / ZIP: \_\_\_\_\_

PHONE: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

**\*Includes instructions, textbook, and refreshments.**

CLASS ATTENDING: \_\_\_\_\_ DATE: \_\_\_\_\_

# OF ATTENDEES: \_\_\_\_\_ @\$ \_\_\_\_\_ = \_\_\_\_\_ (Total Fee)

**METHOD OF PAYMENT:**

Check Enclosed \_\_\_\_\_ \* Make Payable to Gleason Technical div of AWC Inc.

Purchase Order, P.O. # \_\_\_\_\_

VISA / MC/ AE \_\_\_\_\_ Exp. Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**\* Quantum Steam is an independent steam certification organization. Quantum Steam will provide exams and certification of attendees.**