TPC TRAINING

Live training onsite, online, or at a seminar near you.

Chilled Water Systems

Learn About:

- Installation, operation and maintenance of generators
- Specific requirements and recommendations
- Power backup systems suitable for your facility
- Emergency planning
- Reading and understanding vendor technical information
- How to conduct tests on your equipment
- When to schedule tests and maintenance activities
- Working with parallel energy sources
- Synchronizing procedures and load sharing
- Troubleshooting your generator
- Repairing most common generator problems
- The EGSA, IEEE, NFPA, NECA and NETA as related to your generator
- What to do when the lights go out
- What to do when the power comes back online

NO RISK MONEY BACK GUARANTEE NO REGISTRATION

A Practical 2-Day Seminar on Chillers, Towers & Water Cooling Basics

- Reserve your space now! **CALL 1-877-978-7246**
- Check us out online at live.tpctraining.com for a complete listing of all seminars coming to your area
- This seminar is also available as an **Online Simulcast** or can be brought **On-Site** to your facility

SEMINAR OVERVIEW

Whether your chilled water system keeps people or equipment cool, this seminar will teach you how to keep it running efficiently. Students will learn about components used in chilled water systems, uses and applications of chilled water systems among many other things. This seminar is perfect for anyone looking to increase their knowledge about chillers, cooling towers and other chilled water systems.

WHAT YOU WILL TAKE HOME

- Comprehensive classroom materials
- A Personalized Training Certificate with 0.8 TPC Training Continuing Education Units for each day attended, 1.6 for both days.
- All the information you need from asking our instructors specific questions about your own unique equipment or facility.

CONTINUING EDUCATION

Upon completion of this seminar, the student will receive a Certification of Completion and .8 TPC Training CEUs per day attended. Most employers and many government agencies accept TPC Training CEUs to fulfill their continuing education requirements. If the student needs CEUs to renew a state license, please contact us at 303-867-5039 to ensure the state licensing board has approved the seminar. If we are currently not approved by your state licensing board, we are happy to begin the process as long as we receive your request at least one month before the training date.

TRAINING PHILOSOPHY

TPC Training's curriculum is designed to provide complete coverage of essential industrial maintenance skills, across a full range of electrical training, HVAC, plant management, and mechanical & industrial topics. Our "see, touch, do" instructional approach allows us to impart practical skills in an intensive format.

The most vital part of our seminar format is the coverage that goes beyond the course outline. Our small class sizes allow each instructor to tailor the course to address students' individual needs, concerns, and experience levels. Our instructors deliver content with hands-on exercises, demonstrations role-playing, visuals, and case study discussions.

"Comprehensive. Complete. I'll be back!"

Paul L. - Engineering

DISCUSSION TOPICS

Chilled Water Systems Overview

- Introduction
- Component tasks
- System design
- Controls
- Codes and standards

Heat Transfer Theory

- Properties of matter: solid, liquid, vapor
- Laws of Thermodynamics
- Heat transfer theory:
  - Conduction
  - Convection
  - Radiation
  - Evaporation
- Principles of heat and temperature measurement
- British thermal unit, specific heat
- Sensible heat latent heat, superheat
- Gas laws
- Atmospheric pressure, vacuum
- Pressure/temperature and pressure/volume relationships

Compression Refrigeration Cycle

- Refrigeration cycle, change of state of refrigerant
- Heat transfer within the refrigeration cycle
- Follow-the-heat™

Refrigerants

- Refrigerant composition, including new blends
- Refrigerant oils
- Refrigerant handling: recovery, recycling, reclamation

Equipment Components

- Compressors: reciprocating, scroll, screw, rotary, centrifugal
- Evaporators: tube-in-shell, tube-in-tube, coil-in-shell
- Condensers: water-cooled, air-cooled, evaporative
- Metering devices:
- Thermostatic expansion valve
- Electronic expansion valve
- High and low side floats
- Auxiliary refrigeration equipment

Heat Rejection Systems

- Cooling towers
- Evaporative coolers and condensers, heat exchangers
- Cooling tower operation and maintenance
- Water chemistry for open and closed re-circulating systems
- Glycol systems and fluids

Psychrometrics

- Principles of air movement
- Wet-bulb and dry-bulb temperatures
- Relative humidity and dew point temperatures
- Psychrometric chart exercises

SEMINAR FEE & AGENDA

This 2-day course is just $1195 (Earn 1.6 CEUs)

7:30 am	Registration
8:00 am	Class Begins
12:00 -1:00 pm	Lunch (on your own)
4:30 pm	Class Ends

NO RISK REGISTRATION & MONEY-BACK GUARANTEE

You can reserve your space in the class at any time and cancel without penalty. Cancellations made more than 14 days prior to the seminar may be refunded or rescheduled. Cancellations made within 14 days may be rescheduled for any future topic and/or date. If you're not satisfied with the course, we'll promptly refund your payment.

JOIN OUR CLASSROOM SEMINARS FROM VIRTUALLY ANYWHERE

live.tpctraining.com/simulcast

Our simulcast option allows students to connect to a live classroom seminar via a web link, with the ability to participate fully in the classroom dialogue, exercises, and Q&A. Online participants get all the benefits of the full classroom experience, plus the convenience of remote access.

Features include

- Two full days of live, interactive instruction from a TPC Training instructor
- All classroom materials in PDF format
- Certificate of completion for 16 hours of live training
- Full technical support to ensure your online experience is a rewarding one

BRING THE TRAINING ON-SITE TO YOUR FACILITY

live.tpctraining.com/on-site

Every public seminar class in our Course Catalog can be conducted on-site, with the same expert instructors. To arrange an on-site training, call or email us at onsite@tpctraining.com.

Some Advantages of On-Site Training

- Cost Savings — Save time and travel costs by keeping workers on-site
- Customized Content — Tailor the seminar to your facility and equipment
- Flexibility — Accommodate multiple shifts and different start and end times

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