



2021 Performance Knowledge Series

GP Strategies® offers integrated power plant monitoring and training to increase overall performance.

Professional Engineers Continuing Education

Individuals are strongly encouraged to check with their specific regulatory boards to confirm that PDHs issued for courses taken from GP Strategies, a PIE and NERC Authorized Provider, will be accepted by that entity.

Instructors

GP Strategies instructors have served as plant managers, operation superintendents, performance engineers, and shift supervisors at power plants. Our instructors bring hands-on experience to the classroom. They understand the problems that you may encounter and the environment you work in.

2021 Courses and Dates

Combined Cycle Plant Performance

April 27-29

September 14-16

Fundamentals of Power Plant Performance for Utility Engineers

May 3-7

September 20-24



Combined Cycle Plant Performance**

April 27-29, 2021

September 14-16, 2021

Course Description

This 2½-day course is focused on improving the availability, reliability, capacity, and efficiency of the combined cycle power plant. It teaches attendees how to diagnose root causes of combined cycle power plant performance deficiencies using a case study-based approach. Diagnostic flowcharts are provided and used interactively for the solutions to the case studies.

Prerequisites

Basic understanding of power plant thermodynamics and operations.

Course Content

- Introduction to Combined Cycle Plant Performance
- Thermodynamic Concepts
- Brayton Cycle Performance
- Gas Turbine Component Design and Function
- Gas Turbine Control and Protection
- Rankine Cycle Performance
- Rankine Cycle Equipment Performance
- Evaluating and Troubleshooting Combined Cycle Performance

Course Objectives

At the end of this course, students should be able to:

- Identify and diagnose root causes of capacity and efficiency degradation
- Quantify the benefits of performance recovery

Who Should Attend

This course is designed for operators, supervisors, engineers, and management who are directly involved in the daily operation of the plant.

Course Materials

A pdf copy of the textbook Combined Cycle Plant Performance with troubleshooting flowcharts and a personal copy of the latest version of the GPsteam™ Properties Calculator are provided.

**This course incorporates material created under the sponsorship of the Electric Power Research Institute (EPRI)



Reserve your space today!

Phone: +1.716.799.1050 | Sandy Lee, Course Registrar

Email: energyservicesregistration@gpstrategies.com

For more information visit:

www.gpstrategies.com/training-development-courses

Fundamentals of Power Plant Performance for Utility Engineers

May 3-7, 2021

September 20-24, 2021

Course Description

This 4½-day course is designed to teach attendees how to test and monitor coal-fired power plant equipment and improve unit heat rate. The course presents design and operating theories of power plant equipment. It also emphasizes efficiency and testing with full consideration given to the expectations and limits of component equipment. The laws of thermodynamics and the principles of heat transfer are reviewed and applied to equipment operation and efficiency. Actual test data is used to calculate turbine efficiency, condenser cleanliness, turbine cycle heat rate, turbine cycle heat rate corrections, boiler efficiency, and feedwater heater performance. The perspective of performance testing and monitoring is maintained throughout.

Prerequisites

Good working skills in algebra and graphical interpretation.

Course Content

- Overview of ASME Performance Test Codes
- Thermodynamics Review
- Overview of Boilers, Turbines, Feedwater Heaters, Condensers, Pumps, and Cooling Towers
- Test Instrumentation
- Data Evaluation

Course Objectives

At the end of this course, students should be able to:

- Recognize and use standard testing methods
- Determine the performance levels of major plant equipment
- Test performance accurately and interpret results
- Improve the efficiency of plant operations

Who Should Attend

This course is designed for engineers, engineering managers, and plant engineers.

Course Materials

A pdf copy of the textbook, Fundamentals of Power Plant Performance for Utility Engineers and a personal copy of the latest version of the GPSteam™ Properties Calculator are provided. Attendees are advised to have a scientific calculator to use during the class.



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2021 Performance Knowledge Series

Combined Cycle
Plant Performance

- April 27-29
- September 14-16

Fundamentals of Power Plant
Performance for Utility Engineers

- May 3-7
- September 20-24

2 Easy ways to Register

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Location

Currently, all of our classes are offered via virtual instructor led training (VILT) using Microsoft Teams or Cisco Webex Training Center. Courses are hosted from Amherst, NY USA. Class size is limited to 10 seats. We may ask you to select a second option if the desired class date is already full.

Registration & Fee

Combined Cycle Plant Performance \$1,050

Fundamentals of Power Plant \$1,500

Performance for Utility Engineers

All of our courses offer a 10% multi-registrant discount to organizations registering three or more persons for the same class at the same time. Call **+1.716.799.1050** for information on multi-course discounts.

- Fee includes textbook, the GPSteam™ Properties Calculator, and other course materials.
- Cancellations received more than 15 working days prior to the start of the course are entitled to a full refund.
- Cancellations within 11-14 working days prior to the start of the course are subject to a 20% service charge.
- Cancellations within 10 working days or fewer prior to the start of the course and “no shows” are subject to the full fee.
- Substitutions may be made at any time.
- GP Strategies reserves the right to cancel the session at least 10 working days prior to the scheduled start. Participants will be promptly notified. However, GP Strategies cannot be responsible for travel-related expenses or reservation penalties.

- • • Phone your payment information to reserve your seat in the selected session. The following information will be requested.

Method of Payment:

Charge my: MasterCard VISA AMEX OTHER

Account # _____

Exp. Date _____ Sec Code _____

Signature _____

Amount _____

This confirms my telephone reservation

- • • Email this information to reserve your seat in the selected session. The following information will be requested.

Name _____

Signature _____

Title _____

Company _____

Plant Name _____

Address _____

City/State/ZIP _____

Country _____

() ()

Business Phone

Fax

Email Address _____

Cancellations: Applicants may cancel up to 15 working days before the first course day for a full refund. Cancellations received within 11-14 working days prior to the start of the course are subject to a 20% service charge. Cancellations 10 working days or fewer prior to the start of the course and “no shows” are subject to the entire fee. Substitutions may be made at any time.



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