



500 Tallevast Road • Suite 101  
Sarasota, FL 34243 USA  
Tel: 941-747-7733 • Fax: 941-746-5374  
[www.hpcnet.com](http://www.hpcnet.com)

## Course Information Letter ---- B320

### ASME QFO EXAM PREPARATION COURSE B320

The American Society of Mechanical Engineers (ASME), at the request of the U.S. Environmental Protection Agency (EPA) and, in recognition of the needs and benefits associated with standard qualifications of operators of high capacity fossil fuel fired plants, established the Qualifications of High Capacity Fossil Fuel Fired Operator (QFO) Committee in 1994. This committee developed and maintains the Standards for the Qualification and Certification of High Capacity Fossil fuel Fired Plants. The standard itself does not require certification but rather it serves as a means for complying with federal, state, and local regulations which may require operators of fossil fuel fired plants to be certified.

HPC Technical Services offers a training program for operators to prepare for the certification examination. HPC Technical Services has qualified, licensed instructors to present a course in preparation for the certification examination. It is expected that eventually all states will mandate this QFO Certification for the operators of fossil fuel plants. HPC's QFO Certification Training for Plant Operators includes training in the following categories:

- Part 1 - This section addresses general knowledge.
- Part 2 - This section addresses the specific fossil combustion designation:
  1. Pulverized Fuel Fired Plants and Cyclone Furnaces
  2. Single Burner Oil, Gas, or Combination
  3. Multiple Burner Oil, Gas, or Combination
  4. Stoker Fired Fossil Plants
  5. Fluidized Bed Fossil Plants
  6. Auxiliary Fired Heat Recovery Steam Generators (HRSG)

Contact us today for the training to get your operators certified for your Fossil Fuel Fired Plant. Open Enrollment dates are available or contact us to have training delivered at your plant.

#### Prerequisites:

- High School Diploma or equivalent
- Two (2) years experience in general industry or industrial process. A portion of this experience shall include boiler operations. An associate's degree in technical studies or 60 credits of course work from an accredited institution pertaining to a technical degree in the mechanical or environmental engineering field may be substituted for one (1) year of experience.

#### Intended Audience:

Anyone requiring QFO Certification should take this Exam Preparation Course.

HPC Technical Services uses training materials developed specifically for Clean Air Act Amendment of 1990. This material combined with instructor excellence is the surest way to prepare for this examination.

# ASME QFO Exam Preparation Course

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**BENEFITS:** At the completion of this course the participant will be able to:

1. Acquire a general knowledge of plant systems and equipment (to include: fundamentals of steam systems, fundamentals of hot water systems, primary and secondary air flow paths and the combustion gas flow path.
2. Acquire a general knowledge of plant systems equipment operation (to include: monitoring a steam/water circuit, monitoring combustion, combustion efficiency, boiler efficiency, start-up/shut-down procedures, controls and instrumentation, and maintenance programs).
3. Acquire a general knowledge of combustion quality (to include: proper combustion terms, fossil fuel characteristics, fuel analysis, fundamentals of air/fuel mixtures, and the products of combustion.
4. Acquire a general knowledge of air pollution control (to include: fundamentals of fuel dependent pollutants and combustion dependent pollutants).
5. Acquire a general knowledge of EPA Air Emissions (to include: clean air act amendments, performance standards and permitting).

## COURSE DATES/LOCATION/FEE

For current dates / locations / prices, please see HPC's website, [www.hpcnet.com](http://www.hpcnet.com).

## COURSE OUTLINE

### Day 1

- Registration
- Introduction and pre-test
- Water and Steam Circuit
- Combustion Gas Circuit
- Fossil Fuels
- Combustion Principles
- Air Pollution Fundamentals
- Natural Gas Fired Boilers
- Oil Fired Boilers

### Day 2

- Pulverized Coal Boilers
- Stokers
- Fluidized Bed Boilers
- Gas Turbine with HRSG
- Package Boilers
- Normal Operation
- Instrumentation
- Electrical Theory

### Day 3

- Turbine-Generator
- Preventive Maintenance
- Safety
- Air Pollutants of Concern
- Environmental Regulations
- CEM Systems
- Particulate Control
- Nitrogen Oxide Control

### Day 4

- SO<sub>x</sub> Control
- Water Pollution
- Wastewater Treatment
- Solid Wastes
- Solid Waste Management
- Post-test and Course Closure

## FREQUENTLY ASKED QUESTIONS

- Will HPC Technical Services bring this course to our location for our personnel only? YES, call or email Stephen Parker, [stparker@hpcnet.com](mailto:stparker@hpcnet.com) for a price quotation.
- Will HPC Technical Services customize the presentation at our site to suit our particular needs? Yes.
- Is HPC Technical Services' textbook available for purchase as a reference document? No it is not available at this time for purchase.
- What is the cost for HPC Technical Service to deliver this course at our location? Well, of course that can vary, but generally speaking, if you're planning on having 6+ attend, when considering your T&L, it is to your advantage to perform the course at your plant (office). You gain from the customization and price.
- Can HPC Technical Services provide "Technical Assistance" in conducting outage support or operational audits? Yes we can. Call or contact Harold Parker, [hparker@hpcnet.com](mailto:hparker@hpcnet.com) for our rate sheets and any further information required.

## WHAT YOU WILL RECEIVE:

1. 1 copy of HPC Technical Services' textbook, Boiler Operations. It is a valuable desktop reference in addition to being able to enhance the learning process.
2. A "Certificate of Completion" with 2.6 CEUs, authorized for issue by the International Associate of Continuing Education/Training.

## INSTRUCTOR (S):



**Dan Anderson** is the primary instructor for this course. Dan started his career in the US Navy as a Boiler Technician. After his discharge Dan was a civilian instructor for the US Navy at Great Lakes Naval Training Center. While there Dan instructed Navy personnel in the four-phase steam cycle including balance of plant equipment. In 1990 Dan returned to Minnesota and received his Minnesota State Chief A Engineers license. After a few years in the position as Chief Boiler Engineer For Green Giant Co. and Maintenance Manager for Minnesota Energy, Dan went to work for Hutchinson Utilities Commission in Hutchinson, Minnesota. His position there was Operator 1. His operational responsibilities included GE LM 6000 Combined Cycle, GE Frame 5 Simple Cycle, and a GE Frame 3 Combined Cycle. He also had operations of 6 Diesel Engines for power production. Dan joined HPC Technical Services, June 2001. His main area of instruction is Gas Turbine/Combine Cycle Fundamental, Steam Turbine/Generator Fundamentals, Mechanical Maintenance Courses, and The Boiler Training. Dan currently holds a Chief A Engineers License for Minnesota, A Chief NIULPE Certificate, NIULPE Instructor and Examiners Certificate, Chief ASOPE Certificate, and is a Member of ASME. Dan has successfully completed QFO examinations on the courses he instructs.

## RECENT SATISFIED CLIENTS:

ALCOA Power Generation, Goodrich Corporation, El Paso Electric, Imperial Irrigation District, Kellogg Brown & Root, Korea Midland Power, Lyondell Chemical

**HPC TECHNICAL SERVICES**  
500 Tallevast Road, Suite 101, Sarasota, FL 34243  
Telephone: 941-747-7733 .... FAX: 941-746-5374  
Website: [www.hpcnet.com](http://www.hpcnet.com)

**REGISTRATION FORM**

Company: \_\_\_\_\_

Plant: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_ FAX: \_\_\_\_\_

Course Number/Title: \_\_\_\_\_

Course Dates: \_\_\_\_/\_\_\_\_/\_\_\_\_ Thru \_\_\_\_/\_\_\_\_/\_\_\_\_

Course Location: \_\_\_\_\_ Course Fee: \_\_\_\_\_

**Please enroll the following individual(s) listed below:**

Student #1: \_\_\_\_\_

Student #2: \_\_\_\_\_

**Taking advantage of HPC's 3-4-2 Policy: Send 3, Pay for 2 when paying in advance.**

Student #3: \_\_\_\_\_

**Enrolled by:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**METHOD OF PAYMENT**

Check to Follow: \_\_\_\_\_

Check Enclosed #: \_\_\_\_\_

MC/Visa/AMEX #: \_\_\_\_\_

Expiration Date: \_\_\_\_\_ CV Code: \_\_\_\_\_

Purchase Order #: \_\_\_\_\_

**Please advise how you found out about this course initially.**

- Website search
- Fax advertisement
- Magazine advertisement
- Familiar with HPC
- HPC mailing
- Other: \_\_\_\_\_