### **HalfMoon Education Live Continuing Education Webinars**

# **Pumping and Piping Systems**

### **Online**

Thursday, February 23, 2023 | 11:00 am - 2:15 pm CST Friday, February 24, 2023 | 11:00 am - 2:15 pm CST

### **Credits:**

Professional Engineers: 6.0 PDHs

Architects: 6.0 HSW CE Hours AIA: 6.0 LU|HSW

International Code Council: .6 CEUs (Building)

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### **Webinar Agenda**

### Agenda Day One: Thursday, February 23, 2023

11:00 am - 2:15 pm CST (including a 15-min. break)

### **Introduction to Pumps:**

### Operations, Principles and Calculations

Operation of centrifugal dumps

- · Intro, terms, definitions
- Centrifugal pump construction, components, impeller, motor, volute
- · Incompressible fluid, pumping equations
- Closed system, open system, parallel and series pumping applications

Reviewing hydraulic principles and calculations

- · Fixture units & GPM
- · Friction losses/allowable pressure drop
- · Static pressure vs. dynamic pressure
- · Equivalent lengths

### **Design Standards and Codes**

IPC – International Plumbing Code – state amendments NFPA UFC – Unified Facilities Criteria (military requirements)

WBDG - Whole Building Design Guide

AHJ - Authority having jurisdiction

The interpreter of the code, plumbing inspector, fire marshall

LEED – Leadership in Energy & Environmental Design USGBC

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### Agenda Day Day: Friday, February 24, 2023

11:00 am - 2:15 pm CST (including a 15-min. break)

### Piping System Components, Materials and Calculations

Piping system components and materials

- $\boldsymbol{\cdot}$  Copper vs. plastics, galvanized steel and stainless steel
- When, where, why
- · BFP, PRV, meters
- Valves, ball valves, gate valves, butterfly valves, flow balancing valves

Making basic system calculations

- Pipe sizing
- Friction loss calculation
- Pump sizing

### Handling Pump and Piping System Problems

Booster pumps

Circulating pumps, chilled water, hydronic heating, domestic hot water

Fire pumps

### Presented by

### George Walters III, PE, CPD Mechanical

Engineer at BMH Engineering LLC

Mr. Walters is a professional engineer and is certified in plumbing design through the American Society of Plumbing Engineers. His responsibilities overlap into the professional engineering areas of civil engineering, mechanical engineering, chemical engineering, fire protection engineering, and process engineering. He performs calculations, sizes equipment, and prepares plumbing design and construction documents. Mr. Walters is a member of the Atlanta Chapter of the American Society of Plumbing Engineers (ASPE). He earned his B.S. degree in Mechanical Engineering from Georgia Tech.

### **Credit Information**

This webinar is open to the public and is designed to qualify for 6.0 PDHs for professional engineers and 6.0 HSW continuing education hours for licensed architects in all states.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider No. 0004647), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700) and North Carolina (S-0130). HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and architects via its registration with the American Institute of Architects Continuing Education System (Regulations of the Commissioner \$68.14(i) (2) and \$69.6(i)(2)). Other states do not preapprove continuing education providers or courses.

The American Institute of Architects Continuing Education System has approved this course for 6.0 LUIHSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .6 CEUs in the specialty area of Building (Preferred Provider No. 1232).

Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

#### **Tuition**

**\$319** for individual registration **\$289** for two or more registrants from the same company at the same time.

Included with your registration: PDF seminar manual.

Can't Attend? Order the Webinar as an On-Demand Package! Recordings of this webinar are available for purchase. See details online for more information.