BPE/CRN Course Instructors:

William M. (Bill) Huitt
Owner
W. M. Huitt Co.

Author of:
Several articles on industrial Piping.
Book titled "Bioprocessing Piping and Equipment Design – A Companion Guide for the ASME BPE Standard"

Memberships:
ASME B31.3 Section Committee, Subgroup on High Purity Piping
ASME BPE Subcommittee on General Requirements, Subcommittee on Certification – Secretary, Subcommittee on Material Joining, Subcommittee on Metallic Materials
ASME Board on Conformity Assessment BPE Certification – Vice Chair
ISPE Co-author of ISPE Water and Steam Systems – Baseline Guide Chapter 10 Rouge and Stainless Steel
API Co-author of API RP-2611

Rob McGregor
CEO
Titan Research Group

Key Focus Items:
Founder of Titan Research Group (TRG).
Assistance in obtaining and renewing CRNs.
Strong alliance with government regulatory bodies.
Support advancement of new technologies

Memberships:
ASME B31.3 Section Committee, subgroup on High Purity Piping
ASME BPE subcommittee on seals (SG), subcommittee on valves (SC sub-part of SG), and process instruments (PI)
ASME Section VIII committee contributor
Licensed Professional Engineer, Professional Engineers of Ontario

W. M. HUITT CO.

in partnership with

TITAN RESEARCH GROUP

presents

The ASME BPE Standard

and

Understanding CRN's

Based on Current BPE Standard and CRN Regulations

The following contains information on Mr. William M. (Bill) Huitt (ASME BPE Standard) and Mr. Rob McGregor (Canadian Registration Numbers)

ACKNOWLEDGEMENT

W. M. Huitt and Rob McGregor are independent consultants and training instructors. Their interpretation and guidance on industry Codes, Standards, and government regulations are theirs and not those of ASME or any other accredited organization. All instructional material has been provided by and is the sole property of W. M. Huitt and Rob McGregor, respectively.

Testimonials

"Bill Huitt has long been the expert amongst experts when it comes to piping systems and their design."
Earl Lamson Sr. Engineering Project Manager at Eli Lilly & Co.

"Bill has great insight in determining what is needed to make a piping project successful and then making it happen."
Jeff Bradley Engineering Consultant at Eli Lilly and Company

"Bill is extremely knowledgeable in his field of piping and materials. He is a wonderful person to work with and I highly recommend him."
John Calvert Sr. Process Engineer, Independent Consultant

"Bill is well-organized in all of his activities and consistently exceeds expectations."
Ken Kimbrel Vice President at Ultraclean Electropolish, Inc.

"Thanks to Rob and his team for working to meet deadlines so CRNs could be obtained before product launch. This is the first time we've had CRNs prior to product release. Greg Tischler (Product Manager) is very happy with how this project turned out."
Bill Shreve, Engineering at VEGA Americas

"Thank you Rob very much for your training seminar about CRN application and certification, also on behalf of my colleagues. We all, Project Manager, Product Manager, Product Safety and Design Engineers could strongly benefit from learning from you about this complex subject. We highly appreciated your sharing not only of knowledge, but mainly of your experience and daily practice from your numerous application projects. We would be glad to repeat the training here in-house probably next year and shall invite our colleagues from our other production centers."
Dr. Roger Wenige, Product Safety Eng, FES, Endress+Hauser GmbH+Co. KG

"Thanks a lot Rob. We give full credit to your perfect guidance. Thanks again."
Ajay Kumar Goel, DEE Piping Systems

"Thanks Rob for your amazing support."
CH Lee, Manager, Wise Controls Inc.

Course Overview

This 2-day course will provide the attendee with broad, but specific information needed to perform their work in accordance with the BPE Standard more efficiently and effectively. It also provides a better understanding of regulatory compliance, system ratings, and leak testing requirements. In gaining an understanding of ASME codes and standards the attendee will also gain a better understanding into the complexities of obtaining Canadian Registration Numbers (CRN) for virtually any pressure containing device. The course on CRN's will help in understanding the nuancing necessary in navigating the registration process for the various Canadian provinces.

Day 1: Helps the attendee better understand why the BPE Standard was created, how it is formatted, and how to interpret the Standard. It explains the BPE Certification process in preparation for learning about registering for a CRN, which is explained on Day 2.

Day 2: The attendee will learn the intricacies of preparing and registering for a CRN. The CRN registration process has become a complex and convoluted process on its own merits. Multiply that complexity by the different processes and procedures among the various provinces and it is no wonder that many manufacturers of pipe, fittings, valves, and pressure vessels simply shy away from what could be a lucrative market. Learn the ins and outs of CRN registration from an expert.

Who Should Attend

This course is beneficial to process engineers, utility engineers, piping designers, pipe spec writers, piping fabricators, CAD operators, fitting manufacturers, plant maintenance personnel, instrument engineers, mechanical engineers, pipe and fitting suppliers and distributors. Anyone associated with pressure containing component and equipment manufacture, or the design, construction, installation, and maintenance of process facilities, and more to the point, bioprocessing facilities, can benefit from this 2-day course.

Why You Should Attend

It is suggested that you attend this 2-day course if you wish to better understand the ASME BPE standard, and how to interpret what you read in the Standard. What part of the Standard effects the work you are doing and what does not. When are you required to follow the requirements of the BPE Standard? And how about the B31.3 Process Piping Code? How does the BPE relate to B31.3? Pressure vessel fabricators and manufacturers of pressure containing components who wish to learn how to go about obtaining a CRN for your components. You should attend if you wish to learn about CRN registration in order to market and sell your pressure containing components in Canada. This is a complex and convoluted process that requires an understanding of how the system works for each of the Canadian provinces. Like many government regulations, it takes an expert to help you through the minefield of bureaucracy.

Course Agenda – BPE Standard
Day 1 – Day Month Year

8:30 Start of class

1. The 2016 ASME BPE Standard – An Overview
2. Preamble
3. Body
4. Proposed Chapter 7
5. Appendices
6. Understanding Codes & Standards
    a. Requirement or Recommendation

~10:30 to 10:45 Mid-morning break

6. (Cont.) Understanding Codes & Standards
    b. Requirement or Recommendation
    c. Code Cases
    d. Request for Interpretation
7. High Purity Design
    a. The premise for High Purity Design
    b. Cleanability
    c. Belgium Research
    d. CDC Study
    e. Design Elements
    f. Slope
    g. Valves
    h. Dead Leg Requirements
    i. Weld joint acceptance criteria
    j. The BPE Clamp Joint

~12:30 to 13:30 lunch break

8. High Purity Fabrication
    a. Orbital Welding
    b. The effect of sulfur in 316L SS
    c. Fabrication drawings
    d. Turnover Package
9. Examination, Inspection, Testing
    a. Defining Examiner and Inspector
    b. ASME Certification Mark
    c. Surface anomalies

~15:30 to 15:45 Mid-afternoon break

9. (Cont.) Examination, Inspection, Testing
    d. Leak Testing
    e. Hydrostatic
    f. Pneumatic
    g. Initial Service Leak Test
    h. Sensitive Leak Test
    i. Alternative Leak Test
10. ASME BPE Certification

~17:00 End of Day 1

Course Agenda – Obtaining A Canadian Registration Number
Day 2 – Day Month Year

8:30 Start of class

1. What is a Canadian Registration Number (CRN)?
    a. Did you really say 'design registration'?
    b. History of CRN.

~10:30 to 10:45 Mid-morning break

2. CRN Across Canada.
    a. Legislative basis of CRN.
    b. Pressure safety regulatory framework of Canada.
    c. Who are the safety authorities and what do they do?
    d. Critical provincial acts and regulations to have handy.
    e. CSA B51 – the governing fitting, piping and pressure vessel code of Canada in a nutshell.

~12:30 to 13:30 lunch break

3. Pressure safety regulatory framework of Canada
    a. Are my products exempt?
        1. A listing of universal and particular exemptions.
    b. Fittings, piping system and pressure vessel CRNs explained.
    c. What technical data do I need to submit to obtain a CRN?
    d. What to provide when a test is required – getting it right to avoid re-testing.
    e. To test or not to test, that is the question – a quick code refresher for the CRN applicant.
    f. What additional paperwork do I need to submit and to whom?
    g. A rough overview of lead times and costs to obtaining a CRN.

~15:30 to 15:45 Mid-afternoon break

4. Tips and tricks for successful CRN applications
    a. Technical report format and presentation.
    b. Key examples of report content, drawing content and test.
    c. Dealing with Canadian bureaucracy for dummies.
    d. What buttons to press and how hard to press them: ways to expedite, respond, and progress an application.
    e. The Canadian mindset: how to successfully work with Canadian engineers & regulators.

~17:00 End of Day 1

These training courses have been thoroughly researched and carefully structured to provide practical and exclusive training applicable to all attendees.
Benefits include:
- **Customized program to address the attendee's specific interests as it relates to the BPE Standard and CRN's**
- **Instructors provide firsthand knowledge of code and standard development and Canadian regulations**
- **Comprehensive course documentation**
- **Controlled class size**
- **Open classroom communication**
- **Instructors are open to responding to any specific and proprietary type questions**

COURSE INSTRUCTORS

W. M. (Bill) Huitt has been involved in industrial piping design, engineering and construction since 1965. Positions have included design engineer, piping design instructor, project engineer, project supervisor, piping department supervisor, engineering manager, and president of W. M. Huitt Co. a piping consulting firm founded in 1987. His experience covers both the engineering and construction fields and crosses industry lines to include petroleum refining, chemical, petrochemical, pharmaceutical, bioprocessing, pulp & paper, nuclear power, biofuel, and coal gasification. He has written numerous specifications, guidelines, papers, and magazine articles on the topic of piping design and engineering, as well as a 544 page hardcover book titled “Bioprocessing Piping and Equipment Design – a Companion Guide to the ASME BPE Standard.” Bill is a past member of ISPE (International Society of Pharmaceutical Engineers) where he was a member of the Task Group on ISPE Water and Steam Systems – Baseline Guide Chapter 10 Rouge and Stainless Steel, CSI (Construction Specifications Institute) and ASME (American Society of Mechanical Engineers). He is a member of the B31.3 Section Committee and Chairs Subgroup H on High Purity Piping, a member of four ASME-BPE subcommittees and several Task Groups, ASME Board on Conformity Assessment for BPE Certification where he serves as Vice Chair, a member of the API (American Petroleum Institute) Task Group for RP-2611, he serves additionally on two corporate specification review boards, and was on the Advisory Board for ChemInnovations 2010 through 2012 a multi-industry Conference & Exposition sponsored by Chemical Engineering magazine.

Memberships:

ASME Board on Conformity Assessment BPE Certification – Vice Chair
ASME B31.3 Section Committee
ASME B31.3 Subgroup H on High Purity Piping
ASME BPE Subcommittee MM on Metallic Materials
ASME BPE Subcommittee MJ on Material Joining
ASME BPE Subcommittee CR on Certification – Secretary
ASME BPE Subcommittee GR on General Requirements
ISPE Co-author of Baseline Guide on Chapter 10 Rouge and Stainless Steel
CSI
API Co-author of RP-2611 Terminal Piping Inspection

(Note: ASME (American Society of Mechanical Engineers), ISPE (International Society of Pharmaceutical Engineers), CSI (Construction Specification Institute), and API (American Petroleum Institute)

Rob McGregor, PE has been engaged in the analysis and qualification of B31.1 Power Piping, B31.3 Process Piping, B31.5 Refrigeration Piping systems as well as ASME VIII pressure vessel design reviews for over a decade. Prior to founding Titan Research Group in 2007, Rob as served as group leader, installation manager, design engineer, senior design engineer, and C.O.O for multi-national engineering and construction companies abroad and in Canada. In his capacity as CEO and Director of Engineering at Titan Research Group, he has assisted companies from around the world obtain and renew Canadian Registration Numbers across Canada. Through his membership in ASME code and standards committees, Rob has taken steps to expand the perspective and approach of committee members and regulators as to the current challenges of Canada’s pressure regulatory regime and advanced ways to improve the ease by which manufacturers and designers of pressure systems and component may improve sales while ensuring safety.

Memberships:

ASME B31.3 Section Committee, subgroup on High Purity Piping
ASME BPE subcommittee on seals (SG), subcommittee on valves (SC sub-part of SG), and process instruments (PI)
ASME Section VIII committee contributor
Licensed Professional Engineer, Professional Engineering of Ontario