The Updated CWI Practical Exam

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Overview

- Introduction
- Book of Specifications
- Book of Exhibits
- Test Specimens
- Tool Kit
Introduction

• 4 years in development
• CWI job task analysis
• Updated ANSI/AWS B5.1
• Earlier exam had gaps
  – Edge Preparation
  – Fit up
  – In process monitoring
  – WPS, PQR, and WQTR review
Book of Specifications

• Earlier BoS was mostly collection of tables.
• Based mostly on D1.1
• CWI’s work in many industry sectors
• New BoS contains multiple industry sectors
Structure of New BoS

- 6 Clauses plus Normative and Informative Annexes
- Clause 1.0 – General
  - Standard tolerances
- Clause 2.0 – Structural Steel
  - Workmanship/Visual Inspection Criteria
  - Based on AWS D1.1
Structure of New BoS

- Clause 3.0 – Pipeline
  - Workmanship/Visual Inspection Criteria
  - Based on API 1104
- Clause 4.0 – Pressure Piping
  - Workmanship/Visual Inspection Criteria
  - Based on ASME B31.1
- Clause 5.0 – Procedure Qualification
  - WPS/PQR Qualification Variables
  - Qualification Testing Requirements
  - Based on AWS B2.1
Structure of New BoS

- Clause 6.0 – Performance Qualification
  - Performance Qualification Variables
  - Qualification Testing Requirements
  - Based on AWS B2.1

- Normative Annexes
  - Contain needed info and requirements
  - M-Numbers, F-Numbers, A-Numbers, etc.

- Informative Annexes
  - Contain useful information
  - Formulas, Pipe schedules, Abbreviations, etc.
Book of Specifications

Publicly available at AWS website (AWS.org)

Log in and search “Book of Specifications” or

Book of Exhibits

Not available to candidates before exam

- WPSs
- PQRs
- WQTRs
- Photos of NDT Methods
Groove Weld
Groove Weld
Groove Weld
Groove Weld Plate 2 Top
Groove Weld
T-Joint/Lap Joint
T-Joint/Lap Joint
Lap Joint
T-Joint/Lap Joint
Lap Joint/Intermittent Fillet
T-Joint Surface Roughness
Pipe Joint
Pipe Joint
Pipe Joint
Pipe Joint
Pipe Joint
Bend Specimens
Tool Kit
6 Inch Machinist’s Rule
1/64” Scale

Note: Contains both fractions and decimals
Dial Caliper
V-WAC Gage
Fillet Weld Gage

WELD FILLET GAGE

3/8"
.3750
9.5mm

1/2"
.5000
12.7mm

American Welding Society®
Hi-Lo Gage

- Measures internal misalignment of pipe.
- Measures root opening.
Flashlight & Mirror
Magnifier

2” Diameter, 6.5 Diopter
Protractor

Measure edge preparations for compliance with WPS.
Exam Development

• Questions written
• Numerous beta exams
• Questions revised and retested
• Data collected and psychometrically analyzed to ensure exam fair and valid prior to launch
Future Plans

• A metric version of the practical is scheduled to be launched in July 2017 for non-domestic exams.
• Book of Specifications, Book of Exhibits, Tool Kit, question bank have all been converted.
Questions?