THE CODE & COMMON ARC

Assuring Integrity While Bringing Efficiencies to American Industry

Common Arc

What Is Common Arc?

- Formed by NACBE – January 1988
- Not-for-profit corporation formed to:
  - Foster and advance interests of Construction BM employers
  - Promote and further high standards and quality of construction industry welders
  - Develop and maintain voluntary system for certifying welders
  - Collect and distribute information regarding certification status of welders (i.e., continuity)
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- Managed by a Board of Directors
- Executive Administrator – day-to-day operations
- Committees assisting BOD and Executive Administrator
  - Executive Committee
  - Operating Committee

How Did It Get Started?

- Mid 1980s – Owners, contractors, Boilermakers met to discuss ways to increase efficiencies
- Agreed that, with cooperation by all, multiple test sessions and maintenance of welder continuity was doable and would benefit all
The Code - Can You Do That?

- It’s new! It must not be allowed!
- 1986 - The National Board was consulted and advised that “it isn’t prohibited”
- Process initially restricted to repairs performed in accordance with the NBIC
1986 – BPV IX substantiates National Board’s Opinion - Issues Interpretation IX-86-25

Question (1): Per QW-300.2, may several contractors simultaneously conduct the performance qualification test(s) of a welder?
Reply (1): Section IX does not address this situation.

Question (2): Per QW-301.2, may a welder simultaneously weld performance qualification test coupons in accordance with the Welding Procedure Specification of several contractors when only the essential variables are documented as equivalent?
Reply (2): Section IX does not address this situation.

1989 – BPV I supports process for Section I Construction - Issues Interpretation I-89-50

Question (1): In accordance with PW-28 and PW-1.2, can several contractors or assemblers simultaneously conduct performance qualification test(s) of a welder?
Reply (1): Yes.

Question (2): In accordance with PW-28 and PW-1.2, can a welder simultaneously weld performance qualification test coupons in accordance with Welding Procedure Specifications of several contractors or assemblers when the essential variables are documented as identical?
Reply (2): Yes.

Process used for Section I construction and alterations and repairs performed in accordance with the NBIC
The Code - Yes, You Can Do That
1992 – BPV IX revises Section IX, QW-300.3

- Rules for simultaneous testing established
- WPS essential variables to be identical except for pre- and post-heat treatment
- A single WPS may be used – contractors must have supporting PQR
- When welder changes employers, new employer must verify continuity has been maintained
- When a welder’s qualification is revoked by a contractor, other participating contractors to be advised

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Assuring Integrity
The Code established rules, thus a level playing field.

How is conformance to the rules and program integrity assured?

Each Participating Contractor:

- Signs agreement to abide by the program requirements
- Certifies having a written QC system with provisions for assuring welder qualification and maintenance conform to ASME Code, Section IX
Each Participating Contractor:

- Has a NB or ASME Certificate of Authorization
  - Copy of current CoA maintained on file
  - NB and ASME assure conformance with triennial reviews and renewal of CoA

Or;

- Contractor has an ISO program certified by a registrar recognized by the Registrar Accreditation Board
  - Copy of current certificate maintained on file
  - Registrar assures conformance via periodic reviews and recertification

Or;
Contractor has a 10CFR50 Appendix B quality program addressing welding control in accordance with ASME Code, Section IX
- Copy of portion of program addressing welding control maintained on file
- Program reviewed and accepted by AIA selected by Operating Committee
- Copy of AIA approval letter maintained on file

Or;

Contractor has a written QC system meeting the program requirements and addressing welding control in accordance with ASME Code, Section IX
- Contractor’s program audited on a triennial basis by an AIA selected by the Operating Committee
- AIA audit report maintained on file
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Test Session Proctors
- About 30 Proctors report to the Executive Administrator
- Provide orientation and instructions to the contractors and welders
- Assure adequate equipment and supplies are available
- Monitor process to assure witness points observed, test coupon identity and traceability, completion of paperwork, etc.

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Internal Reviews
- Periodic reviews and assessments of multiple test sessions performed by the Operating Committee
- Copy of report maintained on file
- Action to correct deficiencies taken by Executive Administrator
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Annual Program Audit
- Annual audit of program performed by independent team comprised of representatives of
  - Contractor - Lead
  - Jurisdictional Authority
  - Boilermaker
  - Authorized Inspection Agency
- Copy of report maintained on file
- Response to report by Executive Administrator maintained on file

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Efficiencies
To
American Industry
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- Over 200 participating contractors
- Over 12,000 welders in program (over 10,000 of which have both GTAW & SMAW certs)
- Over 60,000 qualifications maintained

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- Facilitates compliance with QW-300.3
  - Multiple testing sessions
  - Monthly Welder Qualification Maintenance reports
  - Advise contractors when welder is removed from list by a participant
- Provides access to records via internet – Host On Demand
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- Tested 5,216 welders in 2010
- Costs about $22.70 to test and $4.84 to maintain welder qualification the first year
- Costs about $4.84 a year to maintain qualification in subsequent years
- Costs to test at site estimated to be $865.18 per qualification test

What is the actual impact to a project through utilizing a Contractor participating in the Common Arc program?
Typical Project: 200,000 Man-hours
($10 million in Payroll Cost at $50/mh)

100 Boilermakers:
40 hours per week for
50 weeks

Crew: 100 Boilermakers

Consisting of:
55 Mechanics and Supervision
45 Welders
Without Common Arc

- Test on Jobsite
  Welder Passing Rate (current about 47.5%) would require testing 95 welders to certify 45.

- $865.00 per test x 95 welders = $82,175

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<table>
<thead>
<tr>
<th>Without Common Arc</th>
<th>With Common Arc</th>
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<tbody>
<tr>
<td>$82,175.00</td>
<td>$ 0</td>
</tr>
<tr>
<td>760 hours lost production</td>
<td>0 hours</td>
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Moving forward

- Continue assisting industry in testing and maintaining qualified welders by facilitating compliance to Section IX rules
- Program integrity maintained via internal and external conformity assessment practices
- On-going efficiencies to industry benefiting participating contractors, welders and owners
- 11 multiple testing sessions already schedule for 2011–45 expected for year