

# D1 Bridge Subcommittee (SC J) Update to T17

AASHTO SCOBS Meeting  
Spokane, Washington  
13 June 2017

Ronnie Medlock  
SCJ chair

VP Technical Services, High Steel

# Meetings

	Spring	Fall
2016	Miami	Chicago
2017	Miami	Nashville
2018	Miami	Denver
2019	Miami	

# Spring 2017 Miami

## Advisors Present

Byron Horn	Consultant
Dale Ison	Tampa Tank & Florida Structural Steel
Jay Mellinger	Pennoni Associates, Incorporated
Justin Ocel	Federal Highway Administration
Paul Rimmer	GPI
Maury Tayarani	Massachusetts Department of Transportation

## Voting Members Present

Ronnie Medlock, Chairman  
 Nina Choy, Vice Chairman  
 Steven Duke

## Applicants Present

Jon Edwards	Chris Ahlskog	Modjeski and Masters
Karl Frank	James Cochran	Kiewit - Louisiana
Heather Gilmer	James Gravley	Bureau Veritas
Mary Grieco	James Hilton	KTA-Tator, Incorporated
Brandon Harris	Andrew Lye	Schuff Steel Company
Nate Lindell	Raymond Monson	Bureau Veritas

## Guests

Robert Mertz	N. J. Altebrando	STV, Incorporated
Duane Miller	Jason Chattin	Tampa Tank & Florida Structural Steel
Kent Nelson	Miguel Diaz	Bureau Veritas North America
Todd Niemann	Caleb Haven	Hobart Brothers
Randy Ringstmeyer	Joel Hernandez	Kansas Department of Transportation
Thomas Rogers	Preston Huckabee	Gill Engineering
Robert Stachel	Dave Johnson	Industrial Steel Construction
Ray Stieve	Chris Lausch	High Steel Structures
	Tim McCullough	Florida Department of Transportation
	Kate Mantkowski	HRV

# Membership

<b>AASHTO</b>	<b>AWS</b>	<b>General Interest</b>
Nina Choy	Karl Frank	Jon Edwards
Steven Duke	Brandon Harris	Heather Gilmer
Mary Grieco	Nate Lindell	Duane Miller
Kent Nelson	David McQuaid	Tom Rogers
Todd Niemann	Ronnie Medlock	Robert Stachel
Randy Ringstmeyer	Robert Mertz	Ray Stieve

- New officers
  - Ronnie Medlock, chair
  - Nina Choy, vice chair
- New members
  - Brandon Harris, AFCO
  - Robert Mertz, Altavista
  - Tom Rogers, Modjeski and Masters

# Publication Cycle

- 2015 – edition published
- 2018
  - Major SCJ ballots following Spring meeting
  - Final SCJ ballots (lesser items) following Fall meeting
- 2019
  - Final SCJ ballot approvals at Spring meeting
  - Final D1 Main Committee approvals at Fall Meeting
  - Proforma to TAC
- 2020
  - TAC approval
  - SCOBS meeting - final ballot before publication
  - Edition published in the Fall

# Major SCJ Ballot: Tubular Welding

- TG chair: Preston Huckabee, Gill Engineering
- Noted directions:
  - Drawing largely from D1.1
  - Design not included
    - Fatigue improvement applied when shown in the plans
  - Joints
    - From D1.1
    - PJP
    - Process specific
    - Welder qualification

# Major SCJ Ballot: Tubular Welding

- Noted directions:
  - Materials – Justin leading sub TG
    - Include A709 – sections made from plate
    - A1085 – HSS: Cold-Formed Welded Carbon Steel Tube
      - Note: Doesn't go to zone 3
    - A500 – Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
      - Not for cyclic
    - A501 – Hot-Formed Welded and Seamless Carbon Steel Structural Tubing
      - good but not presently made domestically
    - API5L – Seamless and Welded Pipe
      - include to get sections over 20" in diameter
  - Elements
    - Fabricated
      - 5t bending radius
    - Manufactured
      - Have resistance-welded seam – seam not to D1.5

## ASTM A500-13 GRADE B

## ASTM A1085

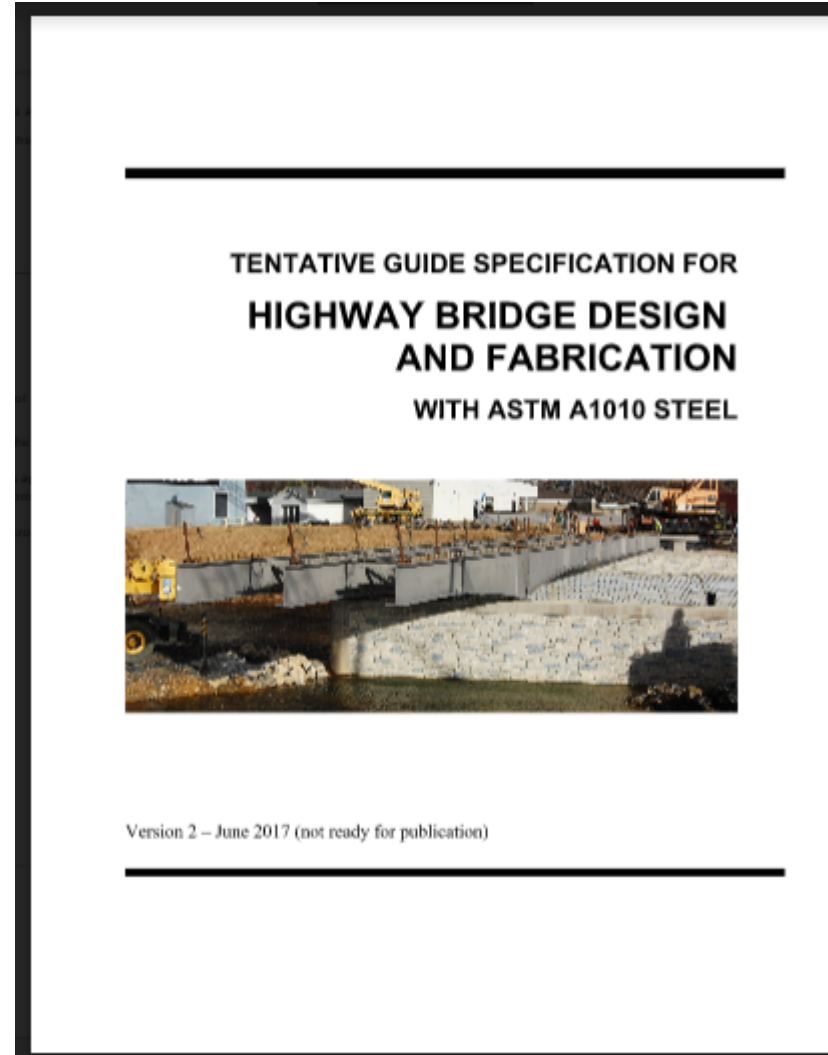
Scope	Cold-formed welded & seamless		Cold-formed welded	
Max Perimeter	88"		88"	
Thickness Range	$t < 0.875"$		$.148" < t < 0.875"$	
Yield Stress	Round	42 ksi min	All shapes	50 ksi min
	Sq/Rect	46 ksi min		70 ksi max
Tensile Stress	Round	58 ksi min	65 ksi min	
	Sq/Rect	58 ksi min		
Wall Thickness	-10%		-5%	
Mass Tolerance	N/A		-3.5%	
Corner Radii (Rectangular and Square HSS)	$r < 3t$		$t \leq 0.400"$	1.6 t to 3.0 t
			$t > 0.400"$	1.8 t to 3.0 t
CVN	N/A		25 ft.-lbs. @ 40° F	
Supplemental Requirements	N/A		Optional heat-treating Optional varying CVN	

*Brad Fletcher, Atlas Tube*



# Major SCJ Ballot: A1010

- D1.5 TG
  - Chair: Don Rager
  - Draft sections by 30 June
- ASTM A709 – grade “50CR”? - up in the air
- AISI WAG Fabrication Guide Spec
  - Have rough draft
  - Pass to AASTHO/NSBA Steel Bridge Collaboration?
    - Incorporate into S2.1 (new fab spec)?
    - Fab in S2.1 / welding in D1.5
- Bridges by Oregon (2), Virginia, Iowa
- Research
  - NCHRP
    - Intended to look at hybrid connections
    - Not yet under contract
  - Virginia DOT
    - Weldability



# Strategic Plan Update

Active Participation	Ongoing	Good
TG work within one year	Ongoing	Improving
Phased Array UT	Done; ongoing	Monitoring NCHRP research
Tubular fabrication	Next edition	New sub TG – very active
Welding & fabrication training	Ongoing	FHWA will pursue manual, then training
New welding processes	Monitoring	HLAW? Homopolar?
Digital RT	Monitoring	D1 leads; making good progress; is in use
HAZ toughness	Monitoring	NCHRP research is ongoing
Welding alt materials	No action	Need to re-energize?
A1010	Next edition	Have TG; working with D1M

# Other Notes

- New fab spec – SCJ ready to cooperate once new structure is in place
  - NSBA agreed, generally, to support this
- Acknowledgements
  - Dave McQuaid – service as chair
  - Diane Long – help with ballots
  - Heather Gilmer – extraordinary contributions



is:unread from:(hgsteelfab@gmail.com)

Mail

COMPOSE

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- Inbox (2,873)
- Starred
- Important
- Sent Mail
- Drafts (557)
- 2012 Grexit (5)

- More labels
- Search people...
- Dave Painter
  - James Daub
  - Jamie Stock
  - Johnston, Stephen
  - Mark Hurd
  - Mike Kennedy
  - Mitch Long
  - Weaver, Bill
  - Wendler, Jeff
  - Williams, Cathy

- |                          |                          |                          |                                |       |                                   |   |        |
|--------------------------|--------------------------|--------------------------|--------------------------------|-------|-----------------------------------|---|--------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | me .. Peter, H (44)            | Inbox | AWS/Bridge                        | <b>Editorial Tests</b> - What came of the non-editorials? On Tue, May 30, 2017 at 4:02 PM, H Gilmer <hgsteelfab@gmail.com> wrote: what came                         | Jun 9  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | H Gilmer (2)                   | Inbox |                                   | <b>D1.5 editorial</b> - ? On Tue, May 30, 2017 at 6:19 PM, H Gilmer <hgsteelfab@gmail.com> wrote: Titles are defined as editorial but I am seeking concurrence      | Jun 9  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | H, Miller (3)                  | Inbox |                                   | <b>D1.5 clause 2.13.1.1</b> - Considering that GMAW-S isn't supposed to be used without engineer approval, should we keep it as 5.12.4? Or would we just leave      | Jun 9  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Preston .. Preston .. H (51)   | Inbox | AWS AWS/Bridge AWS/Bridge/Tubular | <b>AWS D1.1 to D1.5 Tubular Clause</b> - As I recall, here's where we ended up with procedure qualification: A. Equ   | Jun 9  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | H .. SINDEL, Peter, me, H (29) | Inbox | AWS/Bridge                        | <b>Is this editorial?</b> - latest rev per discussion with Ronnie On Tue, Jun 6, 2017 at 3:26 PM, Peter Portela <pportela@aws.org> wrote: Ok, Plea                  | Jun 9  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Peter, Miller, H (9)           | Inbox |                                   | <b>D1.5-E8-R24-CD1-BM Approval</b> - Row 12.12 is still there On Tue, Jun 6, 2017 at 2:20 PM, Peter Portela <pportela@aws.org> wrote: Here is R24 with the          | Jun 6  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | H Gilmer                       | Inbox |                                   | <b>stud welding operator qualification</b> - D1.1 clause 7.7.4 and D1.5 clause 7.7.4.1 both note that doing the preproduction test qualifies the operator. D1.5 C-7 | Jun 6  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Peter, H (4)                   | Inbox |                                   | <b>AASHTO/AWS D1J Subcommittee Ballot D1.5-E8-R26-WD1-BS Issued (Due July 6th, 2017)</b> - Thanks! Those guys are taken a lot more seriously than                   | Jun 6  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | H Gilmer                       | Inbox |                                   | <b>Re: D1.5-E8-R18-CD1-BM CRR</b> - postheat/PWHT CRR responses for your review On Tue, Jun 6, 2017 at 8:26 AM, Peter Portela <pportela@aws.org> wr                 | Jun 6  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | H, me, H, David, Peter (7)     | Inbox | AWS/Bridge                        | <b>D1.5 3.6.2</b> - Here are some small cleanup items. (Several of them Jon's.) On Tue, May 30, 2017 at 4:16 PM, H Gilmer <hgsteelfab@gmail.c                       | May 30 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | me, nina.choy, Robert, H (4)   | Inbox | AWS/Bridge                        | <b>Notes so far - AWS D1.1 to D1.5 Tubular Clause</b> - I added a little bit to Ronnie's notes On Fri, May 19, 2017 at 2:36 PM, Medlock, Ronnie <                   | May 22 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | H, Duke, Edwards, H (12)       | Inbox | AWS/Bridge                        | <b>Re: AWS D1J TG 16-06</b> - What has typically been called hot bending in bridge/structures land (meaning something other than cold bending)                      | May 22 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | H, me, H (3)                   | Inbox | AASHTO                            | <b>SCORBS</b> - At some point you were thinking of having me present the S2.1 concept to T-17. On Tue, May 16, 2017 at 9:55 AM, Medlock, Ronnie <                   | May 16 |