

AISI Standards Development Strategic Planning - Process, Responsibilities and Priorities

RESEARCH REPORT RP17-3

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American Iron and Steel Institute



Documents

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PREFACE

North American standards for cold-formed steel construction are developed on a six-year cycle by two ANSI-accredited committees of the American Iron and Steel Institute. The completion and publication of the complete suite of AISI design standards in 2015 and 2016 afforded an opportunity for the committees to push back from the grind of balloting changes and engage in some long-range planning. The Strategic Planning Committee of the AISI Standards Council facilitated a process that defined areas of focus (vision statements) for the committees and generated prioritized lists of key issues for the subcommittee to address. This paper provides a description of the strategic planning process and its significant outcomes, which will guide the efforts of AISI standards development over the next cycle and beyond.

The American Iron and Steel Institute is grateful to the following members of the Strategic Planning Committee of the AISI Standards Council who helped manage and guide this effort, and memorialize its findings in this report.

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The American Iron and Steel Institute wishes to express their appreciation to the leadership of the AISI standards developing committees.

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CF-6: Test Based Design		Randy Daudet
CF-22: Stability and Combined Actions		Jim Crews
CF-24: Member Design		Bob Glauz
CF-31: General Provisions		Al Harrold
CF-33: Diaphragm Design		Tom Sputo

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AISI STANDARDS DEVELOPMENT STRATEGIC PLANNING – PROCESS, RESPONSIBILITIES AND PRIORITIES

A. BACKGROUND

A1 General

North American standards for cold-formed steel construction are developed on a six-year cycle by two ANSI-accredited committees of the American Iron and Steel Institute. The completion and publication of the complete suite of AISI design standards in 2015 and 2016 afforded an opportunity for the committees to push back from the grind of balloting changes and engage in some long-range planning. The Strategic Planning Committee of the AISI Standards Council facilitated a process that defined areas of focus (vision statements) for the committees and generated prioritized lists of key issues for the subcommittee to address. This paper provides a description of the strategic planning process and its significant outcomes, which will guide the efforts of AISI standards development over the next cycle and beyond.

A2 Process Notes

1. In September 2016, Ben Schafer and Jay Larson met to begin preparatory work.
2. On October 4, 2016, the members of the Strategic Planning Committee (Ben Schafer, Rick Haws, Roger LaBoube, Don Allen, Helen Chen and Jay Larson) met along with several guests (Maribeth Rizzuto and Robert Wills) for a full-day, face-to-face meeting at AISI Headquarters in Washington, DC ([Appendix 1](#)).
3. On January 20, 2017, Ben Schafer made a presentation of the recommendations of the Strategic Planning Committee to the AISI Standards Council ([Appendix 2](#)). He noted that there were no items requiring immediate action by the AISI Standards Council, but that feedback, questions and comments at this stage would be appreciated. Helen noted that the schedule for the February 2017 face-to-face meetings had been rearranged, with a significant amount of time devoted to the Main Committee meetings to allow for review and discussion of strategic planning for the 2017-2022 development cycle.
4. At the winter 2017 meetings, subcommittees were guided through an exercise to review the focus of the committee, review the scope and responsibilities of the subcommittee, and generate lists of key issues for the subcommittee to consider in the next standards development cycle.
5. Following the winter 2017 meetings, the Strategic Planning Committee compiled and categorized the notes and developed a scheme for prioritizing the key issues, as follows:
 - *Impact*. Define as H, M or L (high, medium or low). The key metric is impact on tonnage, which is influenced by such factors as improvement in cost competitiveness, improvement in reliability, elimination of regulatory barrier, fostering of innovation and new product development and/or applications, increase in number of users/specifiers, etc.
 - *Level of Effort*. Define as 1, 2, 3 or 4 (low-to-high), as follows:
 - 1 = easy / volunteer effort sufficient
 - 2 = moderately easy / needs modest funds for research/contractor
 - 3 = moderately hard / needs significant stakeholder engagement/funding
 - 4 = hard / needs significant external involvement/funding

- *Priority*. Define as green, yellow, orange or red, as follows:
 - Green = delegate to subcommittees
 - Yellow = take to stakeholders (for buy-in and resources) with subcommittees monitoring
 - Orange = take to CFSRC and/or others with Standards Council* monitoring
 - Red = do nothing

Scheme for Prioritizing Key Issues				
Impact	Level of Effort			
	1	2	3	4
H	Green	Yellow	Yellow	Orange
M	Green	Yellow	Yellow	Orange
L	Red	Red	Red	Red

* Note: An AISI Standards Council Research Committee could to handle this task.

6. At the summer 2017 meetings, subcommittees reviewed the compiled lists, added any missing items, and assigned the impact and level of effort priorities (*i.e., added priorities that were missing and edited assigned priorities, as needed*). The following was noted:
 - H1 or M1 items should have an action plan (task group, etc.).
 - H2 or M2 items should have a champion(s) to draft a statement of work.
 - H3 or H4 items should have a champion (s), which could be the chair or any member, to draft a statement of work and additional background as needed.
 - For all other items, the prioritization provided by the subcommittee should be utilized to determine a resource allocation plan, with work items potentially to follow.
7. Following the summer 2017 meetings, subcommittee chairs identified the “top 5” items for their subcommittees to work on, and the Strategic Planning Committee then met to organize the output of the process for use at the winter 2018 meetings.

A3 Next Step in Process

8. At the winter 2018 meetings, subcommittees should establish an action item for each of their “top 5” items. These items should be moved to the agenda for the summer 2018 meetings with champions and task groups assigned, as needed.

B. COMMITTEE ON SPECIFICATIONS

B1 General

The AISI Committee on Specifications (COS) is charged by the AISI Standards Council with developing and maintaining standards for construction with cold-formed steel.

Responsibilities of the COS include:

- AISI S100 – Specification
- AISI S310 – Profiled Steel Diaphragm Panel Design
- AISI S900-series – Test Standards

As presented to the AISI Standards Council at its meeting on January 20, 2016, the COS focus (2017-2022) is to leverage analysis to advance CFS structural efficiency and in the long-term enable performance-based design (PBD), or in short “leverage simulation”.

B2 Connections and Joints (CF-3)

B2.1 Scope and Responsibilities

The COS Subcommittee on Connections and Joints (CF-3) is charged with developing and maintaining design provisions for construction with cold-formed steel related to connections and joints.

Responsibilities of CF-3 include:

- Chapter J of AISI S100 – Connections and Joints
 - General Provisions
 - Welded Connections
 - Bolted Connections
 - Screw Connections
 - PAF Connections
 - Rupture
 - Connection to Other Materials

B2.2 Key Issues for Next Cycle

Key issues for CF-3 to consider in the next standards development cycle were identified, as follows:

- Maintain and improve strength limit state predictions for connections and joints:
 - **M2** - Update fastener prediction based on fasteners in current use (*vs. older int'l. testing*)
 - **M2** - Improve transverse fillet weld predictions
 - **L2** - Settle block shear vs. tear-out predictor expressions
 - **M2** - Implement results from UNT load bearing clip angle design project in standard
 - **M3** - Develop SAE bolt prediction equations
 - **L1** - Explore slip-critical and pretensioned bolted connections ($t \leq 3/16''$)
 - **L3** - Screw Pullover and pullout with and without insulation (*from CF-4*)
- Improve (strength) reliability application for connection/joint strength:
 - **M1** - Provide clarity in connection design objectives (from COFS)
 - **L1** - Define consequence of existing strength limit states

- **H3** - Define target reliability for connections and joints
 - For case when nothing is known about system
 - For case when system application is known
 - As a function of consequence of failure (*see ASCE 7-16*)
 - For different levels of QA/QC (*say field vs. factory*)
 - **M1** - Update standards based on selected/justified target reliabilities
- **M2 to H3** - Encourage innovation in the application of fastening technology:
 - **M2** - Foster deeper engagement w/current stakeholders (producers/suppliers/manufacturers):
 - Welding
 - Bolts
 - Screws
 - PAFs
 - **H3** - Identify and engage new stakeholders (producers/suppliers/manufacturers): (*survey of technology → proof of concept applications → prioritize*)
 - Adhesives
 - Clinching
 - Rivets
 - Other: _____
- **H3** - Identify and clear barriers to use of proprietary (*i.e., non-standard*) solutions through:
 - Tests (*i.e., improved and expanded suite of AISI test standards and guidance*)
 - Rational engineering analysis (*i.e., improved and expanded use of simulation*)
- **L1 to M2** - Improve and expand suite of AISI test standards and guidance (*w/CF-6*):
 - **M2** - Develop new test standards
 - Specific topics: *e.g., for new fastener technologies*
 - **L2** - Encourage consistency in (*i.e., establish standards for*) reporting results
 - For AISI standards (*e.g. AISI S310 model vs. current AISI S100 model*)
 - For manufacturers' data
 - **L1** - Encourage use of consistent terminology
 - Across AISI standards
 - Across manufacturers' data
- **H4** - Encourage and expand use of simulation of CFS connection and joints:
 - Establish state-of-art (understand current capabilities) (*e.g., MBMA rod bracing*)
 - Develop guidance/practice documents (spread the capabilities)
 - Validate the tools and methods (and define applicability limits)
 - Establish standards (standardize the methodology)
 - Improve existing provisions (*e.g. resolve old issues like block shear*)
 - Develop new provisions (*e.g., address new issues like insulation between plies*)
 - Develop new provisions for new fastener technologies
- Expand connection predictions to full range for evaluating performance of systems:
 - **M2** - Aggregate experimental summary of full connection performance
 - **M1** - Align and make explicit connection performance expectations across AISI standards
 - For seismic review S310, S100, S400, ASCE 41

- **H2** - Develop and agree on idealized models for full connection performance
 - Review ASCE 41 approach
 - Consider initial stiffness, ductility, post-peak cap, strain rate effects (at least)
- **H2** - Provide methods for predicting connector performance
 - Classical expressions, simulation guidelines, test standards, etc.
- **H2** - Integrate developed approaches with CFS system modeling/prediction

B2.3 Liaisons

Key relationships and liaisons for CF-3 to maintain were identified, as follows:

- AISC TC 6 on Connection Design - Larry Kruth
- AWS - Tom Sposito
- RCSC - Al Harrold

B2.4 To/With Education Committee

Items to be pursued by CF-3 in collaboration with the Education Committee were identified, as follows:

- Welding vs. fastening decision-making for the designer
- System reliability education, history of target reliability, where we are at today, more
- Understanding the intersection of connection choice inclusive of labor and economics

B2.5 To/With/From Other Subcommittees

Items to be pursued by CF-3 in collaboration with other technical subcommittees were identified, as follows:

- Improve and expand suite of AISI test standards and guidance → w/CF-6

B2.6 Prioritized “Top 5” Items (from Chairperson)

The following were prioritized by the CF-3 chair as a “Top 5” item:

- Improve (strength) reliability application for connection/joint strength
 - Provide clarity in connection design objectives (M1)
 - Define consequences of existing strength limit states (M1)
 - Define target reliability for connections and joints (H3)
 - For case when nothing is known about system
 - For case when system application is known
 - As a function of consequence of failure (see ASCE 7-16)
 - For different levels of QA/QC (say field vs. factory)
- Encourage innovation in the application of fastening technology
 - Foster deeper engagement w/current stakeholders (producers/suppliers/mfrs) (M2)
 - Welds, bolts, screws and PAFs
 - Identify and engage new stakeholders (H3)
 - Adhesives, clinching, rivets and other
- Improve and expand suite of AISI (connection) test standards and guidance (this would be done along with /CF-6)
 - Develop new test standards (M2)
 - Encourage consistency in (i.e., establish standards for) reporting results (L2)

- Encourage use of consistent terminology (L1)
- Update, validate, confirm screw fastener predictions in Chapter J
 - Update fastener prediction based on fasteners in current use (vs. older int'l. testing) (M2)
 - Screw Pullover and pullout with and without insulation (from CF-4) (M1)
 - Prying action on screws on pullout and pullover (M1)
- Develop SAE bolt prediction equations Chapter J (M3)

B2.7 Suggested Additional Items (from Strategic Planning Committee)

The following additional items were suggested for CF-3 to pursue by the Strategic Planning Committee:

- Improve transverse fillet weld predictions (M2)
 - Existing small project fellowship on this topic, report next time (Torabian champion).
- Settle block shear vs. tear-out predictor expressions (M1)
 - Subcommittee ballot already exists. Not aligned with Australia on this now.
- Implement results from UNT load bearing clip angle design project in standard (M1)
 - Ongoing project with PMTG in place, possibility of more work to implement needed.
 - Will this even go in Sub3, or will it go to COFS Design Methods?

B3 Assemblies and Systems (CF-4)

B3.1 Scope and Responsibilities

The COS Subcommittee on Assemblies and Systems (CF-4) is charged with developing and maintaining design provisions for construction with cold-formed steel related to assemblies and systems, with the exception of diaphragms. For diaphragms, CF-4 is to collaborate with CF-33.

Responsibilities of CF-4 include:

- Chapter I of AISI S100 – Assemblies and Systems
 - Built-up Sections
 - Floor, Roof, or Wall Steel Diaphragm Construction
 - Mixed Systems
 - CFS Light-Frame Construction
 - Special Bolted Moment Frame Systems
 - Metal Roof and Wall Systems
 - Rack Systems

(Need scope clarity between CF-4 and CF-22 on system stability issues.)

B3.2 Key Issues for Next Cycle

Key issues for CF-4 to consider in the next standards development cycle were identified, as follows:

- Improve strength design method for built-up/composite members:
 - **H1** - Determine subcommittee responsibility:
 - If method focuses on providing a path to design as a member → Sub 24 purview

- If method focused on designing as assembly of different bits → Sub 4 purview
- **H2** - Develop general strength method for all-steel built-up members → COFS/Sub24
 - Leverage int'l and domestic research to improve existing provisions (*this is in Ch. I but better for Sub 24 to handle this work*)
- **H4** - Develop general strength method for comp. (conc.) members → COFS/Sub 24
 - **H1** - Determine if provisions go in Section I3 or appendix or new standard
 - **H4** - Develop general approach to continuously and discretely braced system where (partial) composite action is considered → Sub24
 - **H4** - Maintain efficient/prescriptive approach to same systems → COFS/ others
- **M1** - Determine whether/how to achieve “convergence” on how various CFS systems are handled
 - **M1** - Diaphragm-like behaviors (e.g., *shear wall where we ignore all of the details and just give full capacity, versus a steel diaphragm where we design against many limit states and use very fine resistance factor calculations, as an example*)
 - **M1** - Braced-member/system behavior (e.g., *COFS joist with sheathing allowing full capacity with no specific checking vs. a beam in RMI that spends a lot of time trying to figure out how pallets brace a beam; or purlin continuous sheathing bracing vs joist/stud continuous sheathing bracing; or roof truss bracing vs. others*)

(The scope and responsibility of what Ch. I references is an important conduit for AISI S100's ability to fully support CFS systems. In essence the subcommittee should understand what is in the reference standards - generally applicable information should be in Ch. I for all systems to take advantage of, system specific information should continue to live where it is best served (in other standards, sometimes in Ch. I, etc.). This is a fair bit of work for the committee and needs to be considered an important work item on its own.)

- **H1** - Coordinate with CFS stakeholders and their standards; serve as liaison and clearinghouse for the systems that it supports/references in Chapter I.
 - **H1** - Framing (COFS/SFIA):
 - Discuss latest trends in the use of CFS framing systems and examine what changes in AISI S100 are needed, etc.
 - Handle coordination issues between the AISI framing standards and AISI S100 and process/monitor corrections, back-and-forth, etc. as needed.
 - **H1** - Roof and Wall Systems (MBMA/MCA):
 - Discuss latest trends in the use of CFS in metal building systems and examine what changes in AISI S100 are needed, etc.
 - **M1** - Consider whether the metal and wall roof material should move into an appendix or its own standard.
 - **H1** - Racks (MHI/RMI):
 - Discuss latest trends in the use of CFS in rack systems and examine what changes in AISI S100 are needed, etc.

- Handle coordination issues between the MHI/RMI standards and AISI S100 and process/monitor corrections, back-and-forth, etc. as needed.
- **H1** - Deck (SDI):
 - Discuss latest trends in the use of CFS in deck systems and examine what changes in AISI S100 are needed, etc.
 - Handle coordination issues between the SDI standards and AISI S100 and process/monitor corrections, back-and-forth, etc. as needed.
 - Coordinate with Roof Systems
- **M1** - Joists (SJI):
 - Discuss latest trends in the use of CFS in joist systems and examine what changes in AISI S100 are needed, etc.
 - Handle coordination issues between the SJI standards and AISI S100 and process/monitor corrections, back-and-forth, etc. as needed.
- **M1** - Consider other opportunities for engagement:
 - **L1** - NAAMM - National Association of Architectural Metal Manufacturers
 - **M1** - Solar panel support structures
 - **L3** - Sheet piling
 - Other: _____

(Strategic Planning's expectation is that the above effort will take regular (meeting) time, and a fair bit of coordination and sharing.)

- Catalog and monitor CFS assemblies and systems under CF-4 consideration (by AISI staff)
- Organize and goal set for Metal Building Wall and Roof Systems *(This system is recognized for this subcommittee as having separate status, since it is fully detailed in Chapter I, and the subcommittee chair has vested interest)*
 - **H1** - Decide on separate reference vs. staying in Chapter I (both acceptable, but decide)
 - **M3** - Resolve North American differences in system - such as base test for Canada
 - **H3** - Expand use of analysis path for structural strength limits states as initiated in S100-16 (eliminate base test method through analysis)
 - **M3** - Support use of analysis path for anchorage forces etc. (Align Moen and Seek work)
 - **H3** - Examine and determine action regarding disconnect between analysis for bracing and determination of strength in purlin roof systems
 - **H2** - Monitor and implement work on purlins with paired torsion braces (small project) *(See simulation, system reliability, and performance-based efforts of this subcommittee)*
 - **L1** - Define and mitigate differences for CFS walls and roof design when it matches metal building applications vs. when similar systems are used in other buildings (potential overlap issues between S310 and S100 Chapter I, metal wall and roof systems) *(e.g., design a wall/roof system by Chapter I vs. similar system by S310) (Is this limited to steel construction, or is wood post and beam construction included (NFBA)?)*
 - **M1** - Help maintain and improve test standards S906, S908, S912

- **H2** - (Maintain) tweaks to deal with wind loads
- **H3** - Develop CFS system provisions (guidance) that leverage/support structural simulation of CFS systems or assemblies and reduce testing (*The ideas, and terms, and maybe objectives are defined here/Ch I. for (structural) system models and then the various other standards and sections pickup those ideas/terminology and use them in describing and expanding their system simulation applications - for example provisions for shear walls. Parallel to Sub 24 but for systems.*)
 - **H3** - Support system linear analysis: (*This is our current practice for finding demands, and how our capacities are then used. Goal here is to understand the assumptions that we make today implicitly in our linear analysis.*)
 - Support integration of member and connection level information
 - For each assembly/system committee is pursuing
 - Examples (current practice benchmarks)
 - **H3** - Support system linear buckling analysis (*This is not generally used today at system level.*)
 - **H3** - Support system geometric nonlinear analysis (*New for AISI we need to get torsion nailed down for future system analysis work. Goal here is to understand the impact of the Ch. C provisions we have approved and learn how to use them better, modify them as needed, and keep up with AISC provisions.*)
 - **M2** - Expand System Linear Analysis examples to Geometric Nonlinear per Ch. C
 - For each example determine barriers, suggest solutions, assess impact
 - Include at least some systems with sheathing/sheeting bracing
 - **H2** - Support Sub 24's work to improve how we handle unsymm. members + torsion
 - **M4** - Support system material nonlinear analysis (*Plastic mechanism analysis not typically used for AISI at this time.*)
 - **M3** - Support system geometric and material nonlinear analysis w/ imperfections (*New. Gives the potential to replace the member checking in AISI S100 with analysis. Goal here is to make an entirely new provisions/guidance that allows us to skip the traditional specification approach as much as possible and replace it with system analysis.*)
 - Guidance/provisions on imperfection modeling for CFS systems
 - Guidance/provisions on connection modeling within the CFS system
 - Guidance/provisions on system boundary conditions
 - Guidance/provisions on solution specific issues: solver, computer efficiency, etc.
- **H4** - Encourage and develop supporting provisions for (non-structural) simulation of CFS assemblies (Engage stakeholders to understand where CFS has comparative advantage when we pursue such simulations → determine how to verify such models → determine how to validate such models → determine how to gain building official acceptance of such models.)
 - **M2** - Thermal
 - **H3** - Fire
 - **H3** - Acoustic
 - **?** - Nonstructural - COFS?
 - Other: _____

- **M3** - Develop and propagate a consistent methodology for incorporating system reliability:
 - **H3** - Establish and agree to (system) reliability targets (*See ASCE 7-16 as starting point. Consider probability of failure and consequence of failure.*)
 - **H3** - Establish formal methodology for system reliability calculation (*NSF SysRel project begins this effort for floors, shear walls, and trusses; FEMA P695 as seismic example. Define your systems/archetypes. Can be expansive. Define your system demand, and how to simulate and use the results.*)
 - **M3** - Implement methodology in the standards (*E.g., blanket system phi's applied across components, improved phi factors for individual checks, phi=xx if I do not know the system and phi=yy if joist of a "CFS floor system".*)
- **M4** - Serve as performance-based design conduit:
 - Develop positions with stakeholders on two major aspects of PBD for CFS Systems
 - **M4** - (1) Providing means to predict higher levels of performance than current code minimum (*This is the carrot for seismic PBD = lower insurance costs.*)
 - **H3** - (2) Create provisions that stimulate innovation (new products and design) as non-prescriptive as possible (*Steel joists as an example in this context to some extent. E.g. for each chapter/section we have our performance objectives clearly stated and then have our deem-to-comply provisions provided as follows; i.e., Ch. C. is a model.*)
 - **H1** - Where maximum benefits exist for 1 or 2 (above) make an implementation plan.
 - **H3** - Expand fundamental knowledge of CFS as Systems:
 - **H3** - Create system specific performance objectives.
 - **M3** - Leverage modern sensing to quantify current CFS performance in situ.

B3.3 Liaisons

Key relationships and liaisons for CF-4 to maintain were identified, as follows:

- COFS Design Methods Subcommittee - Pat Ford
- MBMA - Vince Sagan
- RMI - Jim Crews or Victor Azzi (dedicated responsibilities in comm. education)
- SDI - Tom Sputo
- SJI - Jim Fisher

B3.4 To/With Education Committee

No items to be pursued by CF-4 in collaboration with the Education Committee were identified.

B3.5 To/With/From Other Subcommittees

Items to be pursued by CF-4 in collaboration with other technical subcommittees were identified, as follows:

- Scope clarity on system stability issues → CF-22
- Improve strength design method for built-up/composite members → CF-24 and COFS
- Are current test standards sufficient → CF-6

- Pullover and pullout with insulation → CF-3
- Torsion → CF-24 to start, CF-22 for combined, eventually comes back here
- Coordinate with rack standard advances (from CF-22)

B3.6 Prioritized “Top 5” Items (from Chairperson)

The following were prioritized by the CF-4 chair as a “Top 5” item:

- Determine subcommittee responsibility for built-up members (H1)
 - Sub 4 committee wants this in their scope. Complete.
- Develop general strength method for all-steel built-up members, leverage international and domestic research to improve existing provisions (H2)
 - First step is to get an update on current state of the art.
 - Task Group - Ben Schafer, Rob Madsen - get more members involved.
- Develop general strength method for composite (concrete) members (H4)
 - Existing Ad Hoc Task Group exists – will report up through Sub4 for now.
 - Determine if provisions go in Section IXXX or appendix or new standard.
 - Develop general approach to continuously and discretely braced system where (partial) composite action is considered.
 - Maintain efficient/ prescriptive approach to same systems for COFS/ others.
 - Transform Ad Hoc Group into a formal steering group, invite other interested members, schedule meetings, including separate meetings during AISI COS meetings, add to meeting agenda.
- Coordinate with CFS stakeholders and their standards; serve as liaison and clearinghouse for the systems that it supports/ references in Chapter I (H1)
 - Jay Larson will provide Chair a contact list for future meeting. Confirm contacts for stakeholders, add them to meeting agenda.

Note: The Strategic Planning Committee suggests that this item be expanded so that CF-4 serves not just as passive liaison and clearinghouse, but also as active mechanism to pull information from stakeholders and push information to stakeholders. (Perhaps the AISI Steel Industry Code Forum can be leveraged in this regard.)

- Metal Building Wall and Roof Systems
 - Decide on separate reference vs. staying in Chapter I. (H1)
 - Modify provision to deal with ASCE 7-16 wind load, particularly for low slope components. Form task group – Al Harrold, Vince Sagan. Will report back next meeting with plan. (H2)
 - Monitor and implement work on purlins with paired torsion braces. (H2)
 - Expand use of analysis path for structural strength limits states as initiated in S100-16 (eliminate base test method through analysis) - long -term objective. (H3)
 - Examine and determine action regarding disconnect between analysis for bracing and determination of strength in purlin roof systems. (H3)
- Monitor the structural impact of non-structural simulation - fire, acoustic, thermal, etc. (M1)
 - Discuss with Main Committee and AISI on how to keep up with all the non-structural work that impacts us and how to deal with this. Sub 4 wants to focus on structural impact. Develop a plan with Committee input, on