

# The Building Standard: What Have We Learned?

Now that building fabricators have been audited to the *Certification Standard for Steel Building Structures*, what information can we glean from our experiences?

BY DAN KAUFMAN

“Do not put your faith in what statistics say until you have carefully considered what they do not say.”

—William W. Watt, a debt collector from the early 1800s

**WE NOW HAVE SEVERAL YEARS OF EXPERIENCE IN USING THE CERTIFICATION STANDARD FOR STEEL BUILDING STRUCTURES (BUILDING STANDARD).** We have been

thanked. We have been cursed. We have accumulated information. The Corrective Action Requests (CARs) written at audits to the *Building Standard* have been collected and sorted, and are ready to be digested. So what, exactly, are we going to “digest” here? Are we looking to find where evil-doers are cheating the system? Are we looking for something to hold up to pronounce that it was all done for the good of baseball stadiums, courthouses, and high-rise nursing homes? Not exactly—we’re trying to identify patterns or trends in the data that we can use to help our customers navigate, avoid, or overcome these obstacles in the future. We thought an important place to start would be the 10 most common reasons for CARs.

After all these years of working and problem solving, I’ve learned a few really solid things. One of the lessons I’ve come to treasure most is that if you measure something that hasn’t been measured before, you are going to see things you didn’t expect. So let’s be surprised together!

First, we will look at the occurrences by major element as they relate to the *Building Standard*, and then will dig a little deeper into the paragraphs within them. Finally we will look at the 10 sub-elements from the *Building Standard* that are associated with the most CARs.

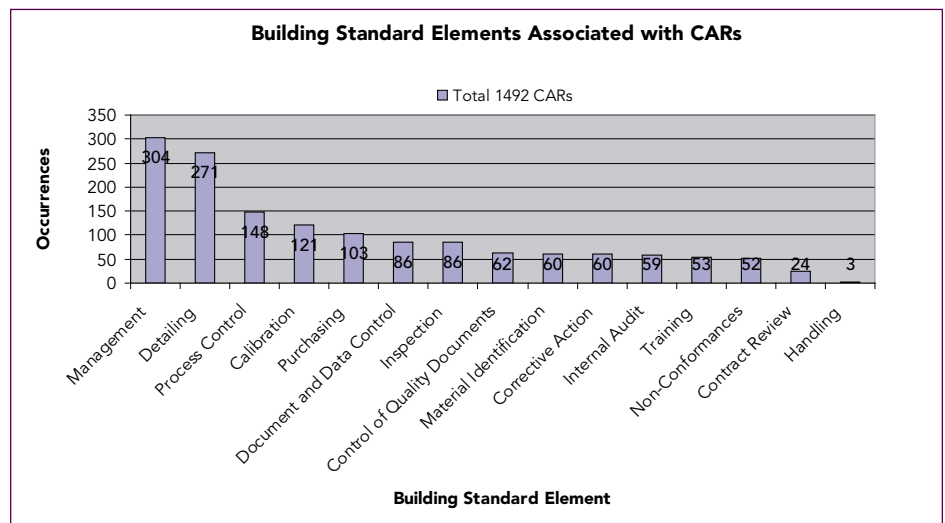
Admittedly, the element related to the majority of CARs wasn’t much of a surprise: Management Responsibility (element five). Documentation of management direction, including documentation of the quality system, is a major new requirement of AISC Certification for Building Fabricators. So it’s not really surprising that most of the kinks in implementation showed up there. It also has the most requirements, as evidenced by the number of lines in the

*Building Standard*. Revising quality manuals to reflect this change was not an easy task for our fabricators, to say the least.

The element that triggered the next-largest count of CARs is the Detailing section (element seven). This was probably the biggest revelation from the study. The only indicator we have to explain why this was a heavy hitter was the size of the element itself. This element didn’t contain many new requirements when compared to the old audit “checklist” program, but is second in length to the Management Responsibility element.

Third place in the stack-up of CARs is Process Control (element 12), which includes shop operations. While there aren’t very many lines in this portion of the *Building Standard*, the activities it refers to include volumes of specifications by other specifying entities (AWS, SSPC, etc.). Again, this element didn’t contain many new requirements.

These are the top-three elements associated with CARs, but focusing on the elements alone can give a distorted view. Some elements have just a few requirements, and some, such as Management Responsibility, have several requirements within them. That’s why we will now move on to the ten most frequently cited sub-elements from the *Building Standard*. Elements that don’t have



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## Breakdown of CARs within the Top Three Elements

MANAGEMENT RESPONSIBILITY CARs (ELEMENT 5)	# CARs
Documentation	149
Management Review	64
Goal Tracking	41
Management Representative	32
Job Description	8
Manual Approval	7
Other	3

DETAILING CARs (ELEMENT 7)	# CARs
Checking Drawings	89
Reference Documents	60
Detailing Standards	30
Subcontractor's Qualifications	27
Other	17
Checker's Qualifications	13
Customer's Drawings	13
Information Tracking	13
Drawing Approval	9

PROCESS CONTROL CARs (ELEMENT 12)	# CARs
Maintenance	47
Welding	37
Bolting	35
Other	11
Multiple	9
Painting	5
Surface Preparation	4

a lot of sub-elements are treated as a whole for this portion of the study.

The chart on the next page ranks the element or sub-element compared to the others in association with corrective actions. Ranks four and eight are shown more than once each because they are really a two-way and a three-way tie, respectively.

The "Perceived Cause" is our conclusion as to why that element or sub-element is associated with higher levels of corrective actions.

The "Recommended Follow Up" column might seem confusing, since our audit process includes closing out all CARs when adequate evidence is provided. As a result, certified fabricators shouldn't need instruction here on how to resolve them. However, the recommendations could be used to avoid a future CAR, or could help out a fabricator who is considering AISC Certification.

Keep in mind: these are only suggestions and must fit your business to be effective.

The net result, from our perspective, is that a significant change was required of fabricators, and it was not easily achieved. Some new items were not received as intended, likely due to a lack of good communication. Some items have been problems for years, and, by golly, they are still problems! Those are going into our pot for future discussions with the AISC Committee on Certification. Congratulations once again to all AISC Certified Building Fabricators for meeting these challenges head-on and successfully completing their audits to the *Building Standard*.

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RANK	# CARs	ELEMENT/SUB-ELEMENT	PERCEIVED CAUSE OF CAR	RECOMMENDED FOLLOW-UP
1	149	<b>Management Responsibility-Documentation Requirements</b>	System change from checklist criteria	Review examples online at <a href="http://www.qmconline.com">www.qmconline.com</a> .
2	121	<b>Calibration of Inspection Measuring and Test Equipment</b>	Additional requirements of the new <i>Building Standard</i>	Write procedures to recalibrate as physically needed; use calibrated tapes to check weld gauges and squares; conduct internal audits to keep current.
3	89	<b>Checking of Shop and Erection Drawings</b>	Changing landscape of contract detailers	Build into initial review of job with contract detailers. Detailing standards: use subcontractor review and internal auditing to monitor.
4 (2-way tie)	86	<b>Document and Data Control</b>	System change from checklist criteria	Review examples online at <a href="http://www.qmconline.com">www.qmconline.com</a> ; use a manual index with revision dates; conduct internal audits to keep current.
		<b>Inspection Procedure</b>	Additional requirements of the new <i>Building Standard</i>	Document minimum requirements for inspectors; clarify in-process versus final inspection plan; document inspection results.
5	66	<b>Purchasing/Selection of Subcontractors</b>	Additional requirements of the new <i>Building Standard</i>	Keep documentation of receiving simple; track exceptions: set frequency for review at level fitting to your business; conduct internal audits to keep current.
6	64	<b>Management Responsibility-Direction and Leadership</b>	Additional requirements of the new <i>Building Standard</i>	Set up standard meeting agenda covering bullet points required by the <i>Building Standard</i> .
7	62	<b>Control of Quality Records</b>	System change from checklist criteria	Define system to fit your practice; conduct internal audits to keep current.
8 (3-way tie)	60	<b>Detailing Function Resources (Required Library)</b>	Changing requirements	Monitor <a href="http://www.qmconline.com">www.qmconline.com</a> ; conduct internal audits to keep current.
		<b>Material Identification</b>	Changing requirements	Requirement tied to AISC <i>Code of Standard Practice</i> (2005): next revision expected in five years; conduct internal audits to keep current.
		<b>Corrective Action</b>	System change from checklist criteria	Use as a system to fix recurring or serious problems, not as solution to fix single piece errors; conduct internal audits to keep current.
9	59	<b>Internal Audit</b>	System change from checklist criteria	Involve more than management representative; schedule internal audits in advance; name auditors; spread out elements throughout year.
10	53	<b>Training</b>	System change from checklist criteria	Train your own trainer; keep steps small.

## Top Ten Sub-Elements Associated with CARs