



Concrete — A Century of Innovation

AGENDA

TAC Specifications Committee

Hilton San Francisco
Union Square 4
Wednesday October 27, 2004
7:00 to 10:00 AM

Voting Members:

Nicholas J. Carino, Chair
Todd R. Watson, Secretary (Non-voting)
Jon B. Ardahl
William L. Barringer
William C. Bretnall
Jeffrey W. Coleman
D. Gene Daniel

I. Leon Glassgold
Ronald L. Hollrah
Alfred L. Kaufman, Jr.
W. Calvin McCall
Myles A. (Tony) Murray, TAC
Contact
Aimee Pergalsky
Arthur T. Weiss, Jr.

Associate Members

Karl J. Bakke
James R. Baty
Daniel P. Dorfmuehler
Sidney Freedman

Kenneth G. Kazanis
William H. Oliver, Jr.
Robert J. Ryan
Michael S. Stenko

1. Call to Order and Introduction of Members and Visitors

1.1 Approval of Agenda

ACTION: Are any changes to the agenda required?

1.2 Approval of Minutes

ACTION: Does TSC approve the Minutes of the 2004 spring meeting in Washington DC?

1.3 Membership Report

REPORT: The current TSC roster is shown as Exhibit 1. Members are asked to review the roster and inform Secretary Watson of any corrections.

ACTION: Are there any ACI members that should be encouraged to join TSC?

2. ACI Specification Manual (*ASpM*)

The 2002 version of the *ACI Specifications Manual* is available on the ACI Web site at:
http://www.concrete.org/COMMITTEES/com_forms.htm

2.1 Punchlist

As a result of the TAC review and comments received during the balloting of the 2002 edition, new items to be considered in the next revision have been identified. A punchlist of these items is shown as Exhibit 2.1. Volunteers have been assigned to develop draft language to address these items. Some of the items were approved by TSC Ballot 03-1 and these are ready for submission to TAC as noted on the punchlist. Other items were submitted for approval in TSC Ballot 04-1, with a canvassing date of October 23, 2004. The seven ballot items are covered in Sections 2.2 to 2.8 of this agenda.

ACTION: Are there any other proposed changes to the *Manual* that should be added to the punchlist?

2.2 TSC Ballot 04-1 Item 1 (Revise Paragraph F4 in Foreword)

Rationale: Current wording in F4 allows for conflicts on items that are common to a Code and a Specification. In TSC ballot 03-1, it was proposed to delete F4 as explained in the March 04 meeting minutes. A negative voter was found persuasive and it is proposed that F4 be modified to clarify the recommended method of specifying more stringent requirements than the Code minimum. The intent of the revision is to reduce the likelihood on conflicts between ACI Codes and Specifications.

Change the wording of F4 as follows:

F4. Building codes set minimum requirements necessary to protect the public. ACI Specification ____ may stipulate suggest in the *Optional Requirements Checklist* requirements more restrictive than the minimum. The Specifier shall make adjustments to the needs of a particular project by reviewing each of the items in the checklists and including those the Specifier selects as mandatory requirements in the Project Specification.

ACTION: Negative votes will be discussed and resolved.

2.3 TSC Ballot 04-1 Item 2 (Revise 5.3.4)

Rationale: The word “may” should be avoided in a mandatory language document, because a statement with “may” is not enforceable. The proposed revision explains the conditions under which “may” is acceptable, that is, to allow an option if prescribed conditions are satisfied. It is, however, best to avoid using “may” by rewriting the sentence. The proposed change responds to negative votes on previous ballot (see minutes of Washington DC meeting).

Revise 5.3.4 as follows:

5.3.4 Options—~~Use~~It is acceptable to use the verb “may” to indicate that Contractor can exercise an option ~~of its own choice if prescribed conditions are satisfied. If possible,~~ however, it is better to rewrite the sentence to avoid using “may.” Use “~~shall~~ either ... or...” where Contractor has limited, specified alternatives. Do not use “may” to indicate an alternative choice, because when “may” is used, Contractor is not obligated to perform the actions.

Examples:

Use: When surface temperature of concrete is within 20 °F of ambient or surrounding temperature, protection measures may be removed.

Use(best): Protection measures are not required when surface temperature of concrete is within 20 °F of the ambient or surrounding temperature.

Do not use: Concrete may be consolidated by vibration or rodding.

Use: Consolidate concrete either by vibration or rodding.

ACTION: Negative votes will be discussed and resolved.

2.4 TSC Ballot 04-1 Item 3 (Revise 2.3)

Rationale: During TAC review of the 2002 Manual, it was suggested that Section 2.3 should be modified to clarify which sections are required in reference specifications. Art Weiss provided suggested language to clarify that the outlines in 2.3.1 are intended to be mandatory, but not all the topics mentioned in Section 3 are required.

Revise 2.3 as follows:

“2.3 Outline of an ACI Reference Specification

An ACI reference specification shall be a single or multiple-item specification. A single-item specification deals with a single product or process, and is analogous to a CSI narrow-scope specification. A multiple-item specification contains more than one Section, and is similar to a CSI broad-scope specification. The general outline of an ACI reference specification shall take the form required as either a single-item specification or a multiple-item specification as depicted by the outlines in Article 2.3.1. ~~include such topics as identified in Section 3. Not all topics listed in Section 3 are required for an ACI reference specification, but applicable topics shall be included in the order shown in Section 3 and subsection 2.3.~~

Items in an ACI reference specification shall be ordered as follows: 1- A reference specification may include such topics as identified in Section 3 of this Manual. Not all topics listed in Section 3 are required for an ACI reference specification, but applicable topics shall be included in the order shown in Section 3 of this Manual, and in the case of a multiple-item specification, properly incorporated into the appropriate Section of the specification.

2.3.1 ~~Single item format~~ Outline of single-item specification

2.3.2 ~~Multiple item format~~ Outline of multiple-item specification”

ACTION: Negative votes will be discussed and resolved.

2.5 TSC Ballot 04-1 Item 4 (Revise 4.4)

2.4 Rationale: During review of the 2002 *Manual*, it was recommended that 4.4 should be revised to clarify whether guide specifications require checklists. Art Weiss provided draft language. The following revision is proposed for clarification.

Revise 4.4 as follows:

4.4 Contents of Guide Specification and Commentary

ACI guide specifications consist of example specifications language and alternatives in mandatory language, accompanied by commentary in nonmandatory language. There are no default requirements or values provided. ~~checklists and relevant options are identified in the commentary and within the specification.~~ A two-column format is recommended to ~~separate guide specification from commentary.~~

4.4.1 Checklist—A Mandatory Requirements Checklist is provided that designates all job specific information to be supplied by the Specifier.

4.4.2 Commentary—The accompanying commentary provides relevant options as identified by the ACI technical committee that prepares the guide specification. A two-column format is recommended to separate guide specification from commentary.

ACTION: Negative votes will be discussed and resolved.

2.6 TSC Ballot 04-1 Item 5 (New Article on methods of specifying)

Rationale: During balloting of the 2002 *Manual*, there was a recommendation to add information to describe the methods of specifying. It proposed to add a new Article 1.3.2 and to add new definitions to Article 1.2.1.

a) Add the following definitions of terms in Article 1.2.1 *Terms used in this Manual*:

“descriptive specification—a specification in which the exact properties of materials and methods of installation are defined.

Discussion: It is a detailed, written description of the required properties of a product, material, piece of equipment and the workmanship required for its proper installation. No proprietary names are used. Also referred to as *prescriptive specification*.

performance specification—a specification that defines required results, criteria by which performance will be judged, and methods of verification.

Discussion: Performance specifications are statements of required results and methods for verifying compliance.

proprietary specification—a specification in which brand names, model numbers, type designations, manufacturers are specified.”

b) Add the following new Article 1.3.2 under Section 1.3 *Development of a Specification*:

“1.3.2 *Methods of specifying*—There are different methods for specifying Contractor requirements, including:

1. descriptive (or prescriptive) specifications;
2. performance specifications; and
3. proprietary specifications.

ACI specifications are of the first two types. The more common method is descriptive specifications in which the required attributes of products, materials, and workmanship are stated explicitly. Performance specifications state the required results and provide criteria for verifying compliance. The writing of effective performance specifications is challenging because standard methods for verifying compliance need to exist. In practice, ACI specifications typically include characteristics of descriptive specifications and performance specifications.”

ACTION: Negative votes will be discussed and resolved.

2.7 TSC Ballot 04-1 Item 6 (Add new Article on Checklist Format)

Rationale: During balloting of the 2002 Manual, there was a recommendation to provide additional guidance on the format of checklist items. The following is proposed by the Chair.

Add the following Article:

3.4.5 Format for checklist items—Use the following format for each checklist item. In the left column provide the numbering of the Article and provide a brief description of the subject. In the right column include the following:

- Concise statement of the requirement;
- Concise guidance to Specifier (optional); and
- References for additional guidance (optional).

3.4.5.6 Examples of Checklists—...

ACTION: Negative votes will be discussed and resolved.

2.8 TSC Ballot 04-1 Item 7 (Revise section on “definitions” in 3.3)

Rationale: During the balloting of the 2002 Manual, it was recommended that the wording on “definitions” be improved. The Chair developed proposed language.

The following revision is proposed:

Definitions—Define technical terms used in the specification that are not included in ACI 116R or terms that have different meanings than those in ACI 116R~~are used in unique ways.~~ In the latter case, the committee should submit the definitions to ACI Committee 116 for possible inclusion in ACI 116R.

ACTION: The negative votes will be discussed and resolved.

3. Status of Specification Activities

Background: TSC members are assigned as liaisons to ACI committees known to be working on or planning to work on a specification. Committee members are appointed as associate members of TSC (unless the TSC liaison is also a member of the committee). Exhibit 3 summarizes ACI specification activities and current membership assignments.

REPORT: TSC Liaison and Associate Members are asked to report their respective committees' activities, update Exhibit 3, and discuss any actions required of TSC.

Committee 117: Liaison Tony Murray. Associate Member Karl Bakke.
Committee 301: Liaison Jon Ardahl.
Committee 303: liaison Alfred Kaufman. Associate Member Dan Dorfmueller.
Committee 305: liaison Aimee Pergalsky. Associate Member Robert Ryan.
Committee 306: liaison Aimee Pergalsky. Associate Member Robert Ryan.
Committee 308: Liaison Aimee Pergalsky.
Committee 330: Liaison Art Weiss. Associate Member Ken Kazanis.
Committee 336: Liaison Art Weiss. Associate Member Billy Oliver.
Committee 346: Liaison Alfred Kaufman.
Committee 347: Request for a specification pending.
Committee 350: Liaison Jon Ardahl.
Committee 423: Liaison Gene Daniel.
Committee 503: Liaison Tony Murray.
Committee 506: Liaison Jon Ardahl.
Committee 530: Liaison pending committee decision on future of specification.
Committee 533: Liaison Art Weiss. Associate Member Sidney Freedman.
Committee 548: Liaison Art Weiss. Associate Member Mike Stenko.
Committee 551: Liaison Alfred Kaufman. Associate Member Jim Baty.

4. Specification Review

Background: Section 1.3.3 of the *ASpM* explains the TSC review process for ACI specifications. The intent is for TSC to review new and revised documents when they are being balloted by the committees. The process has yet to be implemented fully. ACI staff has been made aware of all specification-writing committees so that TSC reviews will be triggered when documents are being balloted.

REPORT: No specifications were submitted for review:

5. Requests for New Specifications

REPORT: Staff has received no new requests.

6. Planning

6.1 TSC Mission

The TSC mission is: “Assist the technical committees in preparing and maintaining specifications in the correct format and language, and manage specification development by the Institute.”

6.2 Goals for 2004

- Oversee reorganization of ACI 301 in accordance with TAC directives;
- Maintain database of ACI specification activities;
- Review draft specifications in a timely manner;
- Develop training program for writing ACI specifications;
- Maintain punch list for future revision to the *ACI Specifications Manual*;
- Develop proposal for ACI e-Specifications.

ACTION: None required, for information.

7.0 ACI Specification Policy

7.1 Background

Refer to the minutes of the Boston and Washington DC TSC meeting. On February 8, 2004, Chair Carino submitted to TAC the TSC recommendation for the reorganization of ACI 301. TAC is proceeding with the selection of a new Chair of Committee 301 who will implement the expanded scope of the 301 Specification. Exhibit 7.1 is a copy of the President's Memo from the June 2004 issue of *Concrete International*, in which President Fiorato discusses the new direction of ACI's specifications.

REPORT: Carino will report.

7.2 e-Specifications

ACI Staff, TSC, and ACI 301 Chair McCall have been discussing the idea of preparing an "active" electronic specification that can be tailored to a specific project and included directly in the project specifications. At the Phoenix meeting, a task group composed of Art Weiss (Chair), Jon Ardahl, Al Kaufman, Jeff Coleman, and Jim Shilstone was asked to discuss alternative approaches and prepare a draft plan for discussion.

REPORT: Art Weiss is asked to report on the task group's progress.
[Note: This is an important activity requiring TSC action].

8. Training on Specification Writing

8.1 Workshop

Art Weiss has been working on developing presentation materials for an upcoming training session on writing specifications. The focus will be on discussing how an ACI specification fits into the project specification and a review of the main features of the *ACI Specifications Manual*. Exhibit 8.1 is the current version of the Outline to be used in developing the session.

REPORT: Art Weiss is asked to report.

ACTION: Is the Outline acceptable?

Appoint Team to assist in preparation of PowerPoint slides for presentation.

8.2 Coordination with EAC and Faculty Network

At the Spring 2004 meeting Gene Daniel stated that colleges do not teach specification writing, and as a result specifications are often poorly written. Sharon Wood said that if two hours of

lecture materials were provided, it would get used. Wood suggested TSC bring this topic up with ACI's faculty network and EAC. Colin Lobo suggested that with professional development hours for professional engineers to maintain their licenses, a specification writing course for PEs would also be well received. The Chair will contact EAC and the Chair of the Faculty Network.

Report: The Chair will report

9. New Business

10. Next Meeting

The next TSC meeting will be held on Wednesday morning at the 2005 Spring Convention in New York City.

11. Adjournment

EXHIBITS:

- Exhibit 1 — TSC Roster with Contact and Assignment Information
- Exhibit 2.1 — *ASpM* Punch List
- Exhibit 3 — ACI Specifications Activity Database
- Exhibit 7.1 — June 2004 President's Memo
- Exhibit 8.1 — Outline for Specification Writing Workshop

Copies:

Anthony E. Fiorato, President, ACI
James R. Cagley, Vice President, ACI
Thomas Verti, Vice President, ACI
José M. Izquierdo, Past President, ACI
William R. Tolley, Executive Vice President, ACI
Sharon L. Wood, Chair, ACI TAC
Daniel W. Falconer, Secretary, ACI-TAC

**Exhibit 1
TSC Contact Information**

September 2004			
Name	Assignment	Telephone No.	E-Mail Address
TSC Officers and TAC Contacts			
Nicholas J. Carino	Chair	301/975-6063	ncarino@nist.gov
Todd R. Watson	Secretary TSC (NV)	248/848-3728	todd.watson@concrete.org
Sharon Wood	Chair TAC	512/471-7298	swood@mail.utexas.edu
Daniel W. Falconer	Secretary TAC	248/848-3726	daniel.falconer@concrete.org
Voting Members			
Jon B. Ardahl	301, 350, 506	785/887-9991	ard00097@netzero.net
William L. Barringer		505/293-8368	joy2Bill@aol.com
William C. Bretnall		216/241-7078	bbretnall@gba-engineers.com
Jeffrey W. Coleman		952/841-0200	jwcoleman2@cs.com
D. Gene Daniel	305, 423	479/636-1856	dgedinc@aol.com *
I. Leon Glassgold		410/3355-4390	102126.1102@compuserve.com
Ronald L. Hollrah		KC Phone: 913-897-3651 CO Phone: 970-752-1990	hollrahjr@earthlink.net
Alfred L. Kaufman, Jr.	303, 346, 551	925/866-2780	akaufman@rmcpmi.com
W. Calvin McCall		704/392-1506	wcmccall@structuralservicesinc.com
M. A. (Tony) Murray	TAC Contact, 117, 503	303/688-8244	tmurray@restruaction.com
Aimee Pergalsky	306, 308	216/491-9265	geoaimee@aol.com
Arthur T. Weiss, Jr.	330, 336, 533, 548	770/860-1942	aweiss7501@aol.com
Associate Members			
Karl J. Bakke	117	303/674-2290	karl.bakke@kalmanfloor.com
James R. Baty	551	319/895-6911	jbaty@cfawalls.org
Daniel P. Dorfmueller	303	513/933-0489	dorf@go-concepts.com
Sidney Freedman	533	312/786-0300	sfreedman@pci.org
Kenneth G. Kazanis	330	248/354-9050	ken.kazanis@lafarge-na.com
William H. Oliver, Jr.	336	713/207-4379	billy.oliver@centerpointenergy.com
Robert J. Ryan	305, 306,	216/839-7500	robert.ryan@degussa.com
Michael S. Stenko	548	914/636-1000	mstenko@transpo.com
*Text e-mail messages only; mail hard copies of any attached files			

**Exhibit 2.1
 2002 ACI Specification Manual Punch List of Future Changes**

Section	Issue	Action
APPROVED REVISIONS		
1.2	“Architect/Engineer” is not in agreement with ACI 116R, which uses “architect-engineer.”	Sept. 2003 Minutes, Item 2.2.2: TSC voted to keep “Architect/Engineer” and to notify ACI Committee 116 of their action. DONE
1.2.1/1.2.2	“Accepted” versus “specified” – “Accepted” is an action taken by the Architect/Engineer, rather than the Specifier.	Sept. 2003 Minutes, Item 2.2.3: Move the definition of Specifier in section 1.2.2 to 1.2.1. Revise definitions. Approved in TSC ballot 03-1. March 2004 Minutes, Item 2.3: Change definition of “accepted” in the <i>ASpM</i> to “determined satisfactory by <u>Architect/Engineer Specifier</u> .” Change definition of “submitted” to “documents or materials provided to <u>Architect/Engineer Specifier</u> .” Move the definition of “Specifier” in section 1.2.2 Terms used in specifications to section 1.2.1 Terms used in this manual . DONE – incorporate into ASpM and submit to TAC
3.2	Add new P5 to Preface to explain non-mandatory language.	Sept. 03 Minutes, Item 2.2.4. TSC Ballot 03-1, Negative by Daniel. March 2004, Item 2.4. Daniel’s negative found unrelated by a vote of 6 yes, 1 no (Daniel), and 1 abstain (Murray). Add a new P5 to the Preface: P5. The Specification is written to the Contractor. When a provision of this Specification requires action by Contractor, the verb “shall” is used. If Contractor is allowed to exercise an option when limited alternatives are available, the phrasing “either...or...” is used. Statements provided in the Specification as information to Contractor use the verbs “may” or “will.” Informational statements typically identify activities or options that “will be taken” or “may be taken” by Owner or Architect/Engineer. DONE – incorporate into ASpM and submit to TAC
PROPOSED REVISIONS		
2.3	TAC 7/02: Clarify if all topics in Section 2.3 are	March 2004: Art Weiss provided proposed wording to TSC Nick Carino, who

Section	Issue	Action
	<p>required. Current language is unclear.</p>	<p>incorporated into TSC Ballot 04-1, Item 3. The proposed wording is:</p> <p>“An ACI reference specification shall be a single or multiple-item specification. A single-item specification deals with a single product or process, and is analogous to a CSI narrow-scope specification. A multiple-item specification contains more than one Section, and is similar to a CSI broad-scope specification. The general outline of an ACI reference specification shall <u>take the form required as either a single-item specification or a multiple-item specification as depicted by the outlines in Article 2.3.1.</u>include such topics as identified in Section 3. Not all topics listed in Section 3 are required for an ACI reference specification, but applicable topics shall be included in the order shown in Section 3 and subsection 2.3.</p> <p><u>Items in an ACI reference specification shall be ordered as follows: 1-A reference specification may include such topics as identified in Section 3 of this Manual. Not all topics listed in Section 3 are required for an ACI reference specification, but applicable topics shall be included in the order shown in Section 3 of this Manual, and in the case of a multiple-item specification, properly incorporated into the appropriate Section of the specification.”</u></p> <p>Status: Pending ballot results</p>
<p>3.3 Definitions</p>	<p>TAC 7/02: “Including definitions for all terms in a spec that are not in 116R could be overwhelming; however, a clear statement that significant, important, pertinent, or etc., terms should be defined will be difficult. Also, I am not sure what is meant by terms used in unique ways.”</p>	<p>Sept. 2003: Jon Ardahl appointed to develop proposed wording.</p> <p>Carino prepared ballot item 7 on TSC Ballot 04-1. The proposed wording is:</p> <p>“Definitions—Define <u>technical terms used in the specification that are not included in ACI 116R or terms that have different meanings than those in ACI 116R</u>are used in unique ways. <u>In the latter case, the committee should submit the definitions to ACI Committee 116 for possible inclusion in ACI 116R.”</u></p> <p>Status: Pending ballot results</p>

Section	<i>Issue</i>	<i>Action</i>
	<p>Consider recommending a structured format for checklist items:</p> <ul style="list-style-type: none"> • Statement of requirement • Guidance to specifier • References 	<p>Sept. 2003: Al Kaufman appointed to develop proposed wording.</p> <p>Carino prepared ballot item 6 on TSC Ballot 04-1. The proposed wording is:</p> <p><u>“3.4.5 Format for checklist items—Use the following format for each checklist item. In the left column provide the numbering of the Article and provide a brief description of the subject. In the right column include the following:</u></p> <ul style="list-style-type: none"> • <u>Concise statement of the requirement;</u> • <u>Concise guidance to Specifier (optional); and</u> • <u>References for additional guidance (optional).”</u> <p>Status: Pending ballot results</p>
	<p>Define specification formats</p> <ul style="list-style-type: none"> • Product • Prescription • Performance 	<p>Sept. 2003: Aimee Pergalsky appointed to develop proposed wording.</p> <p>March 2004: Pergalsky sent proposed wording to Chair, who developed Item 5 on TSC Ballot 04-1. The proposal is to terms to 1.2.2 and add a new 1.3.2, as follows:</p> <p><i>“descriptive specification—</i>a specification in which the exact properties of materials and methods of installation are defined. <i>Discussion:</i> It is a detailed, written description of the required properties of a product, material, piece of equipment and the workmanship required for its proper installation. No proprietary names are used. Also referred to as <i>prescriptive specification.</i>”</p> <p><i>“performance specification—</i>a specification that defines required results, criteria by which performance will be judged, and methods of verification. <i>Discussion:</i> Performance specifications are statements of required results and methods for verifying compliance.”</p> <p><i>“proprietary specification—</i>a specification in which brand names, model numbers, type designations, manufacturers are specified.”</p> <p><i>“1.3.2 Methods of specifying—</i>There are different methods for specifying Contractor requirements, including:</p>

Section	Issue	Action
		<ol style="list-style-type: none"> 1. descriptive (or prescriptive) specifications; 2. performance specifications; and 3. proprietary specifications. <p>ACI specifications are of the first two types. The more common method is descriptive specifications in which the required attributes of products, materials, and workmanship are stated explicitly. Performance specifications state the required results and provide criteria for verifying compliance. The writing of effective performance specifications is challenging because standard methods for verifying compliance need to exist. In practice, ACI specifications typically include characteristics of descriptive specifications and performance specifications.”</p> <p>Status: Pending ballot results</p>
	Recommended format for specifying performance criteria.	<p>Sept. 2003: Aimee Pergalsky appointed to develop proposed wording.</p> <p>Status: Is additional wording still required in view of the proposed revision in the previous item?</p>
3.4.1	Wording in F4 encourages conflict between codes and specifications.	<p>TSC Ballot 04-1 Item 1 proposed the following revision: F4. Building codes set minimum requirements necessary to protect the public. ACI Specification ____ may stipulate <u>suggest in the <i>Optional Requirements Checklist</i></u> requirements more restrictive than the minimum...</p> <p>Status: Pending ballot results</p>
4.4	Should guide specifications include mandatory and optional checklists? A critical review of Chapter 4 is needed.	<p>March 2004: Art Weiss provided proposed wording to Chair, who incorporated it into Item 4 of TSC Ballot 04-1. The proposed wording is:</p> <p>“2.3 Outline of an ACI Reference Specification</p> <p>An ACI reference specification shall be a single or multiple-item specification. A single-item specification deals with a single product or process, and is analogous to a CSI narrow-scope specification. A multiple-item specification contains more than one Section, and is similar to a CSI broad-scope specification. The general outline of an ACI reference specification shall <u>take the form required as either a single-item specification or a multiple-item specification as</u></p>

Section	Issue	Action
		<p>depicted by the outlines in Article 2.3.1 include such topics as identified in Section 3. Not all topics listed in Section 3 are required for an ACI reference specification, but applicable topics shall be included in the order shown in Section 3 and subsection 2.3.</p> <p>Items in an ACI reference specification shall be ordered as follows: 1-A reference specification may include such topics as identified in Section 3 of this Manual. Not all topics listed in Section 3 are required for an ACI reference specification, but applicable topics shall be included in the order shown in Section 3 of this Manual, and in the case of a multiple-item specification, properly incorporated into the appropriate Section of the specification.”</p> <p>“2.3.1 Single item format<u>Outline of single-item specification”</u></p> <p>“2.3.2 Multiple item format<u>Outline of multiple-item specification”</u></p> <p>Status: Pending ballot results</p>
5.3.4	Revise wording on “Options” to avoid “may.”	<p>TSC Ballot 03-1, Negatives by Ardahl and McCall were persuasive. Ballot TSC 04-1 Item proposed the following:</p> <p>“5.3.4 Options—Use<u>It is acceptable to use</u> the verb “may” to indicate that Contractor can exercise an option of its own choice if prescribed conditions are satisfied. If possible, however, it is better to rewrite the sentence to avoid using “may.” Use “shall-either ... or...” where Contractor has limited, specified alternatives. Do not use “may” to indicate an alternative choice, because when “may” is used, Contractor is not obligated to perform the actions.</p> <p><u>Examples:</u></p> <p><u>Use:</u> When surface temperature of concrete is within 20 °F of ambient or surrounding temperature, protection measures may be removed.</p> <p><u>Use(best):</u> Protection measures are not required when surface temperature of concrete is within 20 °F of the ambient or surrounding temperature.</p> <p><u>Do not use:</u> Concrete may be consolidated by vibration or rodding.</p> <p><u>Use:</u> Consolidate concrete either by vibration or rodding.”</p> <p>Status: Pending ballot results</p>

Exhibit 3
ACI SPECIFICATIONS ACITIVITY DATABASE

Comm. No.	Title	Specification	Status	Comment/ Action	TSC Liaison	Nonvoting TSC Members
117	Tolerances	Standard Specifications for Tolerances for Concrete Construction and Materials	117-90	Revisions submitted to TAC 7/02. Approved. Committee responded adequately to TAC comments, and balloted revisions 7/04.	Murray	Bakke
301	Specifications for Concrete	Specifications for Structural Concrete	301-99	Submitted to TAC review 3/03. Responded adequately to TAC comments. Public discussion 5/1 – 7/31/04. Committee preparing response to public comments.	Ardahl (M)*	Not needed
303	Architectural CIP Concrete	Standard Specification for Cast-in-Place Architectural Concrete	303.1-97	Agreement reached with 301. Revising spec.	Kaufman	Dorfmueller
305	Hot Weather Concreting	Standard Specification for Hot Weather Concreting	In Preparation	Approved by TAC 9/03. 3/04, committee has responded to TAC comments and will ballot responses.	Daniel	Ryan
306	Cold Weather	Standard Specification for Cold Weather	306.1-90	No action on Spec. Working on report	Pergalsky	Ryan

Comm. No.	Title	Specification	Status	Comment/ Action	TSC Liaison	Nonvoting TSC Members
	Concreting	Concreting	(R-98)	first.		
308	Curing Concrete	Standard Specification for Curing Concrete	308.1-98	Revision reviewed by TSC 9/03; not approved by TAC Planning new Specs. Need TAC approval of request	Pergalsky (M)*	Not needed
330	Concrete Parking Lots and Site Paving	Standard Specification for Plain Concrete Parking Lots	330.1-03	New version published. Not revising at this time; working on the guide.	Weiss	Kazanis
336	Footings, Mats, and Drilled Piers	Specification for the Construction of Drilled Piers	336.1-01	No action reported.	Weiss	Oliver
346	CIP Pipe	Specification for Cast-in-Place Concrete Pipe	346-01	Review in progress.	Kaufman (M)*	Not needed
347	Formwork for Concrete	(Proposed specification on formwork)	Planning	TAC approval pending TSC recommendations on specification policy.		
350	Environmental Structures	Proposed Specification for Environmental Engineering Concrete Structures	In preparation	TSC/TAC approval to proceed given 4/02; Subcommittee drafting it; hopes to send to main before San Francisco.	Ardahl (M)*	Not needed
423	Prestressed Concrete	Specification for Unbonded Single Strand Tendons and Commentary	423.6-01/423.6R-	Committee is considering splitting it into a reference	Daniel	423 Chair (Bruce Russell) to

Comm. No.	Title	Specification	Status	Comment/ Action	TSC Liaison	Nonvoting TSC Members
			01	spec and ASTM-style materials spec.		appoint TSC rep.
503	Adhesives in Concrete	Standard Specification for Bonding Concrete, Steel, Brick and Other Materials to Hardened Concrete with a Multi-Component Epoxy Adhesive	503.1-92 R97		Murray (M)*	Not needed
		Standard Specification for Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive	503.2-92 R-97			
		Standard Specification for Producing a Skid Resistant Surface on Concrete by the Use of a Multi-Component Epoxy System	503.3-92 R97	Need to check for conflicts with 548 Specs		
		Standard Specification for Repairing Concrete with Epoxy Mortars	503.4-92 R97			
		Standard Specification for Crack Repair by Epoxy Injection	In preparation	Submitted to TAC, Fall 2002. Approved by TAC. Committee responding.		
506	Shotcreting	Specifications for Shotcrete	506.2-95	Finalizing rewrite from ballot comments.	Ardahl (M)*	Not needed
		Guide Specification for Concrete for Underground Support	In preparation	TAC approval not requested; Ardahl review recommends against Guide Spec.; develop as Guide.		
530	Masonry Standards Joint Committee	Specification for Masonry Structures	530.1-99	Carino informed TAC Chair Wood that the 530	(pending)	(pending)

Comm. No.	Title	Specification	Status	Comment/ Action	TSC Liaison	Nonvoting TSC Members
				specification should follow ACI format.		
533	Precast Panels	Proposed Specification on Precast Panels	In preparation. TAC approval needed.		Weiss	Freedman
548	Polymers in Concrete	Standard Specifications for Latex Modified Concrete (LMC) Overlays	548.4-93 R98		Weiss	Stenko
		Standard Specifications for Type EM Polymer Concrete Overlays	not approved by TAC, committee revising	Specification was submitted to TAC for review at their July 2004 meeting. The document was not approved and was returned to the committee for revision, reballoting, and resubmission to TAC.		
		Standard Specifications for Type ES Polymer Concrete Overlays	not approved by TAC, committee revising	Specification was submitted to TAC for review at their July 2004 meeting. The document was not approved and was returned to the committee for revision, reballoting, and resubmission to TAC.		

Comm. No.	Title	Specification	Status	Comment/ Action	TSC Liaison	Nonvoting TSC Members
551	Tilt-Up Construction	Specification on Tilt-Up Construction	In preparation.	Committee ballot 12/02; Kaufman and Carino provided comments in March 2003.	Kaufman	Baty

*(M) indicates that the TSC liaison is also a member of the committee and an associate member from that committee is not necessary

Exhibit 7.1

June 2004 Concrete International President's Memo ACI Specifications— A New Direction

by Anthony E. Fiorato

I recently received an e-mail from one of our members suggesting that our specifications for structural concrete do not adequately address durability. The timing of this e-mail was relevant given an initiative that the Technical Activities Committee (TAC) has undertaken to expand and coordinate ACI's specifications activities. TAC has a plan to consolidate our specifications under one "master" document so that the specifier can more easily access ACI's guidance. The result would be an ACI specification document that complements the ACI 318 Code.

TAC defines a specification as "an explicit set of requirements to be satisfied by a material, product, system, or service." The late Bryant Mather, ACI President in 1964, wrote:

"The only good specification is that which requires only those things that need to be done to make the concrete suitable for its purpose. A good specification contains no requirements that can be ignored or slighted and omits no requirements that must be met. It is not possible to write such a specification; it is only possible to try to do so."

As usual, Mather's advice was right on target, and TAC's plan will make it easier to approach that good specification.

Currently, we have no fewer than 18 different specification documents either published or in preparation. These cover construction practices such as use of adhesives, cold- and hot-weather concreting, curing, and tolerances—and construction methods such as architectural concrete, prestressed concrete, shotcrete, and tilt-up. Probably the most used is ACI 301, "Specifications for Structural Concrete."

We provide excellent technical content in these documents. The TAC plan will package the content related to structural concrete in a format that is easier to use, and that will minimize potential for duplication, conflicting requirements, and gaps in coverage. A companion electronic product that takes the user through the process of selecting specification provisions is also envisioned. Members of committees currently preparing specifications related to structural concrete will participate in the development of the ACI "master" specification. Other ACI committees would provide input, which is analogous to the expert "feeder" committee concept of ACI 318.

Because we will have specification requirements in one source document, it should be easier to provide consistency and minimize conflicts between our specifications and our Code. A case in point: Subcommittee A of ACI 318 is currently debating whether some provisions in Part 3—Construction Requirements would be better addressed in project specifications. The ACI 318 Code is written for the design professional. Is it really necessary that it provide detailed provisions for mixture proportioning? Or should such requirements be part of the project specifications, which in turn are part of the contract between the owner and the contractor?

The late Chester P. Siess, ACI President in 1974 and former ACI 318 Chair, addressed this issue candidly in a 1998 interview when he commented as follows on U.S. practice:

"The Code is adopted by a city as an ordinance under its police power, which the Constitution has granted to the state and the states have delegated to the cities. The police power is the protection of the public health and safety. The police power was never intended to protect the owner of that building. It should be a life-safety code. It never has been. It's not going to be because people don't want it. A lot of people don't want the responsibility of decisions on their own. They want the Code to do it. ..."

Needless to say, our code and specification committee members have some meaty issues to consider.

In the discussions leading up to ACI's new direction in specifications, a recurring theme was the lack of quality project specifications being encountered in the marketplace. There is a real opportunity for ACI to help rectify this situation. We need to develop educational programs, electronic products, and possibly even certification activities to help specifiers reach the goal of writing a good specification.

The TAC plan deserves our full support. It will serve as the impetus for other ACI programs that provide knowledge and information for the best use of concrete. As always, your feedback is welcome.

Exhibit 8.1

Outline of Technical Session
Specification Workshop
(3-Hour Workshop)
TAC Specifications Committee

Scope: A PowerPoint presentation that will introduce the revised Specification Manual.

Concepts included in the manual will be covered:

1. Mission of TSC.
2. Liaison of TSC with technical committees preparing a specification.
3. Coordination of specification writing committee with TAC, TSC, and other technical committees.
4. The workshop will present the basics of proper ACI specification writing
 - A. Type of specification to write
 - B. Preliminary data accumulation and topic assignment
 - C. General specification outline
 - D. Page formatting
 - E. Section formatting
 - F. Language
 - G. Legal consequences
 - H. Editing

Session Topics:

1. Introduction to TSC
2. How ACI Specification Is Incorporated In Project Manual
3. Types of Specifications
 - Reference Specification
 - Guide Specification
 - Single Item-Specification
 - Multiple Item Specification
4. Format of an ACI Specification
 - ACI Modification to CSI Format
5. Drafting a Specification
 - Assignment of topic to Part and Article
 - a) Part I — General
 - b) Part 2 — Products
 - c) Part 3 — Execution
6. Style, Language, and Usage
 - Legal Consequences
7. Editing, Final Assembly, Submittal for the Review Process