



AGENDA

ACI 301—Specifications for Structural Concrete

Subcommittee A General Requirements, Definitions, Tolerances

**Sunday November 6, 2005
1:00 PM – 5:00 PM, Providence 3
Westin Hotel, Charlotte, NC**

1. Call to Order
2. Self-introductions (Exhibit 2)
3. Approval of minutes of fall meeting in Kansas City
4. Review ballot results
 - a. Subcommittee ballot 06-1 (Exhibit 4a)
 - b. Full committee ballot 06-1 (Exhibit 4b)
5. New business
6. Adjourn

ACI 301 Subcommittee A Roster

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Subcommittee Ballot 301A 2006-1 Summary

Item #	Affirmative	Affirmative with Editorial Comments	Negative	Abstain	Not Returned	The 1/2 Rule	The 2/3 Rule
1	1	2	2		1	Item Meets	Item Does Not Meet
2	4		1		1	Item Meets	Item Meets
3	2		3		1	Item Does Not Meet	Item Does Not Meet
4	2	2	1		1	Item Meets	Item Meets
5	5				1	Item Meets	Item Meets
6	3		2		1	Item Meets	Item Does Not Meet
7	1	1	3		1	Item Does Not Meet	Item Does Not Meet
8	4		1		1	Item Meets	Item Meets
9	5				1	Item Meets	Item Meets

Initials	Item	Page	Ref.	E/P/S	Comment
WCS	1	3 -6	4 & 5	E.	Combine the Notes to Specifier and Foreword.
MC	1	3	4	E	Duplication. Note N2 is identical to N1.
WCS	1	3	4	E.	Items N1 & N2 read the same??
CJ	1	4	4	N	Change to ACI 301-08.
WCS	1	5	5	E	The Preface should address how Checklists are to be used.
WCS	1	5	7	Neg.	In Checklist item F2, the last sentence is incorrect – responsibilities of the Owner are also addressed.
NJC	1	6	11	E	All the references in F7 will need to be checked and updated as necessary.
CJ	1	8	28	N	Delete (99) from SP-2, there will probably be a new edition in 2006.
CJ	1	8	36	N	Delete item, the test in line 37 is most appropriate. ASTM D 698 is rarely if ever specified in structural work. It is not desirable to mislead user by referring to it.
WCS	2	15	55	Neg.	In 1.1.1, move “designed in accordance with ACI 318” to the ORC. The Contractor is not concerned with how the structure was designed, but the specifier is.
WCS	2	15	69	Neg.	1.2: Definition of “acceptance” must indicate more than the fact that the document has been submitted. Also, acceptance may need to apply to information other than “documents” submitted by the Contractor.
MC	3	15-22	67-117	P	General: Many of the definitions in Section 1.2 are inconsistent with ACI 116R. Unless it is determined that an alternative definition will in no way change the meaning of the term as it is used in this document,

Initials	Item	Page	Ref.	E/P/S	Comment
					definitions per ACI 116R should be adopted.
MC	3	15	69	P	This is the only location in proposed Chapter 1 that uses the term “specifying authority.” For consistency, change “specifying authority” to “Architect/Engineer.”
MC	3	16	74	S	Delete “to measure” and replace with “A test performed for the purpose of measuring”
MC	3	17	76	E	Add comma after “expansive”
NJC	3	17	76	P	There is a typo in the second line. Do we really need the cement chemistry notation and the description of how the cement is made? I suggest we rewrite this definition along the lines of ASTM C 845. “a cement that expands during the early period after setting containing anhydrous calcium aluminosulfate (4CaO·3Al ₂ O ₃ ·SO ₃), calcium sulfate, and uncombined calcium oxide, which meets the requirements of ASTM C 845.”
MC	3	17	78	P	Define per ACI 116R. High-early strength is a performance attribute, and it can be achieved in more ways that are mentioned. This definition should not be prescriptively restricted to C 150 Type III or C 1157 Type HE cement.
NJC	3	17	78	E	Add space in “C 150”.
MC	3	17	79	P	Define per ACI 116R. Note that for the purpose of this document, lightweight concrete is equivalent to structural lightweight concrete. Therefore, it would be appropriate for Committee 301 to define lightweight concrete according to Committee 116’s definition of structural lightweight concrete.
WCS	3	19	100	Ed.	1.2: Delete the words “of good practice”. Also row 101
WCS	3	20	102	Neg.	1.2: Adding “ACI” implies that the reference must have been developed by ACI – not ACI reference specifications should also be acceptable.
W CS	3	21	116	Ed.	1.2: Why are the definitions different for pretensioning and post-tensioning?
NJC	3	22	116	P	Add definition of “tilt-up— a construction technique for casting concrete elements in a horizontal position at the jobsite and then tilting them to their final upright position in a structure.”
CJ	4			N	There are some later editions of the ASTM standards. Please check.
NJC	4	22		E	All titles need to be checked when ACI 301 is ready for public comment.
WCS	4	22	124	Ed.	1.3: I’ve had reviewers insist that I include the word “standard” when referencing ASTM’s, since that is part of the legal title.
CJ	4	24	114	N	there is a later edition of C31.
CJ	4	24	146	N	change to '-04a'
CJ	4	24	148	N	change to at least '-04a', I think a later version is also

Initials	Item	Page	Ref.	E/P/S	Comment
					out.
CJ	4	24	150	N	change to '-05'
CJ	4	25	155	N	change to '-05'
CJ	4	27	182	N	Change to '-05'. Also on row 184, same change.
CJ	4	28	197	N	Change to E329-05b Specification for Agencies Engaged in Construction Inspection and/or Testing
CJ	4	28	200	N	change to 'ANSI/AWS D1.4-05'
CJ	4	28	207	N	change to -08,
CJ	4	29	210	N	change to -08,
CJ	6	30	221	N	Section 1.5.2, first sentence-delete all after Owner. The Owner is the client; he decides who he wants to get copies. 2nd sentence-change 'batch' to 'truckload' in 2 places. Delete 3rd and 4th sentences. The ASTM standard determines the information to be reported and you cannot 'order' the Owner's testing agency. If this is the contractor's QC agency say so.
MC	6	30	221	P	Stating "Reports of strength tests will include detailed information of storage and curing of specimens before testing" is too vague and ambiguous. What constitutes detailed? Any information that should be reported which exceeds the requirements of ASTM C 31 should be explicitly stated if it is to be enforced. "Detailed" information might include: <ol style="list-style-type: none"> 1. Initial curing storage method used. 2. Air temperature and humidity range during initial curing period. 3. Duration of initial curing period. 4. Final curing storage method used.
CJ	6	31	221	N	add a new item:'1.5.3-Contractors Quality Control (QC) Plan-Submit a comprehensive QC plan showing means and methods to be used to control purchase, use, placement of materials and processes, including those of offsite producers.'
WCS	7	39 - 41	268	Neg.	Sections 1.6.5.2, 1.6.6.2, and 1.6.7.2 appear to be inconsistent with respect to evaluation of concrete strength tests. Are there any circumstances under which Nondestructive testing can be used for testing of strength or not?
NJC	7	31	223	E	We need to search through the document and remove all occurrences of "the" in front of "Work," "Contractor," and "Architect/Engineer," "Contract Documents," and so forth.
CJ	7	31	224	N	Change --'meet the--' to --be accredited to'. In second sentence after 'inspect' add 'placement of' for clarity. In third sentence change 'equivalent' to 'an ACI Concrete Construction Special Inspector.' We should not be saying equivalent--who can determine that? This

Initials	Item	Page	Ref.	E/P/S	Comment
					is ACI we should not be lowering our standards by allowing an 'equivalent'. Delete last sentence.[If you want this sentence put in 'optional requirements'.
CJ	7	31	224	N	Add after 'materials' in first sentence: 'for quality control or quality acceptance'--
WCS	7	31	224	Ed.	1.6.2: Confirm that ASTM E329 applies to “inspection”.
WCS	7	31	226	Ed.	In 1.6.3.1., move the word “proposed” after “Contractor’s”. In the Submittals Checklist, add “Data on qualifications of” to the beginning of the item.
CJ	7	31	226	N	Change 'acceptance' to 'approval'.
CJ	7	31	227	N	In 'checklists' column, put a period after 'proportions', and delete balance of sentence. We should not encourage or even mention this!
CJ	7	32	228	N	Start sentence with 'Test and--', finish sentence with ' in accordance with ACI 211.'
CJ	7	32	229	N	Change 'and handling' to 'handling and transporting --'.(for example union rules may not allow inspectors to move or transport cylinders since they consider that a 'labor' job).
CJ	7	32	230	N	Change '24' to '48', add after-'--quality tests' the words ', review of project requirements'
CJ	7	32	232	N	add 'current ' after Submit'
CJ	7	32	233	N	Add 'meeting the requirements of NRMCA' after 'program'
MC	7	32	233	E	The title of this NRMCA document is “Ready-Mixed Quality Control Guide.”
CJ	7	33	235	N	Add 'and 1.6.3.3e.' to end of sentence. In 'checklists' delete '--or any testing---by the Contractor's testing agency'. This is contrary to requirement s of IBC special inspection to be done by Owner, and in any event is NOT a good idea!
CJ	7	33	237	N	after 'Contractor' add 'to fulfill his Quality Control Plan
WCS	7	33	238	Ed.	Delete the word “Testing” in 1.6.4. The information provided under “Checklists” does not define what options the specifier should consider – it just provides background information.
CJ	7	34	240	N	In second sentence add 'Owner' after 'Architect/Engineer', delete 'Contractor and concrete supplier'. They are supposed to have their own QC and are not to rely on the Owner's. Also, it is up to Owner who gets reports.
CJ	7	34	241	N	[also Row 242], delete 'nor to ---Work'. It is up to Owner if he wants to grant authority. Also, The IBC gives Special Inspectors right to accept or reject.
CJ	7	34	242	N	In 'checklists column, after 'distributed' add the words 'and to whom'.

Initials	Item	Page	Ref.	E/P/S	Comment
WCS	7	34	242	Neg.	1.6.4.1.c: The Contractor needs to know that test results that may affect acceptance will be provided in a timely manner – the revision make this a concern.
CJ	7	34	246	N	In 'checklists' add as an optional requirement, 'Provide inspection at the concrete plant'.
CJ	7	35	247	N	To 'checklists' add 'Testing for air content and density should be optional depending on type of concrete specified'.
WCS	7	35	248	Neg.	1.6.4.2.d: The Contractor needs to know the general frequency of testing due to impacts on construction and the Engineer may want to require testing at a frequency greater than required by the building code.
CJ	7	35	248	N	Change 'applicable building code' to 'project specifications'. Also in row 249.
CJ	7	37	256	N	add after 'intervals', 'specified in the project documents'
CJ	7	39	268		After 'place add ',not strength' to reinforce this statement.
CJ	7	41	276	N	Add as last sentence, 'These tests will not be used to replace tests of the concrete cylinders specified for acceptance testing.'
MC	7	41	278	P	Define the number of specimens that would constitute a “strength test.” To be consistent with ACI 318, a strength test is the average of two cylinders (it should be the average of two or more cylinders).
CJ	7	41	282	N	And 283, make language the same in the last sentence in both.
WCS	7	42	283	Neg.	1.6.8.2 & 1.6.8.3: Replace “is permitted to be rejected” with “shall not be used in the Work, unless otherwise approved by the Engineer.” The current wording does not provide a default requirement.
NJC	8	42	287	P	Section 1.7 contains many occurrences of “will” and “may be”. We need to look at these carefully so that we have enforceable wording.
NJC	8	43	291	E	Should “Contract Documents” be used instead of “Project Specification”? The previous paragraph uses the former.
NJC	8	44	307	E	This should appear as part of 1.7.4.2.e.
NJC	8	46	324	P	It is not clear who is responsible for the actions under 1.7.5.2. Need to look at wording carefully.

Ballot 06-01

**Issued: February 17, 2006
 2006**

Canvass Date: March 17,

Ballot Summary: ACI Ballot 06-01

Item	Yes	No	Abs / No Vote	
1 – Sec 1	11	15	7	Number of voting members = 33 Ballots not received (voting members) = 4
2 – Sec 2	16	9	8	
3 – Sec 7	14	10	9	Number of Subcommittee members = 24 Votes from Subcommittee members = 8
4 – Sec 8	13	10	10	
5 – Sec 10	13	11	9	
6 – Sec 11	14	11	8	

Voting: Y – Approve; Y/C – Approve with Comment -N – Negative; A – Abstain.

Voting Members	Ballot Item					
	1 – Sec 1	2 – Sec 2	3 – Sec 7	4 – Sec 8	5 – Sec 10	6 – Sec 11
Anderson, James						
Ardahl, Jon B	N	N	N	N	N	N
Carino, Nicholas	N	N	N	N	N	N
Carrasquillo, Ramon	N	Y	Y	Y	Y	Y
Carreira, Domingo J	N	N	N	N	N	N
Chrzanowski, Mark F.	Y	Y	Y	Y	Y	Y
Close, Steven	N	N	A	A	N	N
Covarrubias, Juan Pablo						
Diaz, Mario R	A	A	A	A	A	A
Dorfmueller, Daniel	Y	Y	Y	Y	Y	Y
Engelman, Alphonse E	Y/C	Y	Y	Y	Y	Y/C
Freedman, Sidney	Y/C	A	A	A	A	A
Foreman, Barry						
Gustafson, David P	A	Y	A	A	A	A
Hanskat, Charles S.	N	N	N	N	N	N
Haught, Jerry	N	Y	Y/C	Y/C	Y/C	N
Hover, Kenneth C.	Y/C	Y	Y/C	Y/C	Y	Y/C
Jaycox, Claude E	N	N	N	N	N	N
Lee, James A.	N	A	N	N	N	A
Lobo, Colin	N	A	N	N	N	N
McCall, W. Calvin	N	N	N	N	N	N
Neff, Ted	N	Y	N	N	N	N
Parnes, Jerry	Y/C	Y	Y	Y/C	Y	Y
Pergalsky, Aimee	A	Y	Y	Y	Y	Y
Prenger, Henry B.	N	N	Y	N	N	Y
Robinson, Michael	Y/C	Y/C	Y	Y/C	Y/C	Y/C
Suprenant, Bruce	N	Y/C	A	A	A	Y/C
Tadros, Wahid	Y/C	Y/C	Y	Y	Y/C	Y
Tarr, Scott M.	Y/C	N	N	A	Y	Y/C
Teerman, Robert L.	Y/C	Y	Y/C	Y/C	Y/C	Y/C

Weiss, Arthur T						
Whisonant, Mike	Y	Y	Y	Y	Y	Y
Wilson, Michelle	N	Y	Y	Y	A	N

Subcommittee Members	Ballot Item					
	1 – Sec 1	2 – Sec 2	3 – Sec 7	4 – Sec 8	5 – Sec 10	6 – Sec 11
Anderson, Scott Michael						
Becker, Roger J						
Caldarone, Michael						
Fricks, Greg						
Gajda, John W	Y/C	Y/C	Y	Y	A	A
Gebler, Steve						
Greene, Thomas	Y	Y	Y	N	Y	N
Jenkins, Robert S	A	A	A	A	A	A
Jorn, Larry						
Kaufman, Alfred L						
Keck, Roy H						
Krohn, Jason J						
Lemay, Lionel A	N	N	Y/C	N	N	N
MacDonald, Kevin A	Y/C	Y/C	Y	Y	Y	Y
Malerk, Tomas O						
Meinheit, Donald F						
Phillips, Dennis						
Richardson, Robert C	Y	Y	A	A	Y	Y
Ries, John						
Russell, Edward						
Sennour, Larbi M						
Sherman, William C	N	Y/C	N	N	N	N
Steinbicker, Joseph J						
Wagner, Gregory R	Y/C	Y	Y/C	Y/C	N	Y/C

Comments sorted by Item and Ref numbers. Multiple refs indicated in “comment” column

L. Name	Item	Page	Ref	Vote	Comment
Ardahl	0	0	0	C	This and all future ballots for this committee need to be issued using the ACI web balloting procedures. By using the ACI balloting procedures the ballot results will be immediately available to every member of the committee as soon as the ballot closes. There is no need for anyone to compile the responses before the committee members can see the results and comments on the ballot. It is very important that every member of the committee see every comment submitted. This committee has a lot of work to do in a very short time. This form could be used in conjunction with the ACI balloting procedures since it can be completed by each member and uploaded as their response. Officers of the committee may view and even download any responses before the ballot closes.
Jaycox	1	0	0	N	See reasons on Sub 'A' Ballot
Sherman	1	0	0	E	The Preface should address how Checklists are to be used.
Sherman	1	0	0	E	Combine the Notes to Specifier and Foreword.
Ardahl	1	2	1	N	Move this paragraph to the nonmandatory part of the document. This being changed by TSC.
Carrasquillo	1	2	1	E	A statement should be added to give an example of a structural concrete as well as an example of what is not considered structural concrete in line with ACI 318. For example, residential slabs on grade are not considered structural concrete...
Carreira	1	2	1	N	Precast concrete and tilt-up construction are covered by PCI. It should not be in any ACI Specification. Beside, ACI 301 as it is does not cover them properly.
McCall	1	2	1	N	ACI 301 can be used for non structural applications if desired by the A/E.
Carreira	1	2	2	N	Precast concrete and tilt-up construction are covered by PCI. It should not be in any ACI Specification. Beside, ACI 301 as it is does not cover them properly.
Freedman	1	2	2	E	Remove “exposed aggregate finish”; more than this finish are covered.
Gajda	1	2	2	E	Add “Mass Concrete”
Parnes	1	2	2	E	Consider adding “Self-Consolidating Concrete”
Robinson	1	2	2	E	Add “mass concrete” to keywords of the specification.
Tadros	1	2	2	E	Keywords should include Mass Concrete
Tarr	1	2	2	E	Add “Mass Concrete” and “Slab-on-Ground”
Wilson	1	2	2	E	Add “mass concrete” to list.
McCall	1	3	3	N	Item requires TSC input. Suggest that proposed changes be forwarded to TSC
Ardahl	1	3	4	N	The wording for these notes must be as indicated in the ACI Specification Manual.
Close	1	3	4	N	Delete N2 – same as N1. Ed: ACI 301-05
Freedman	1	3	4	E	N5 - Insert “or fabricator” and “or fabricator’s” after “Contractor”, because “Contractor” means something different regarding precast concrete.
Hanskat	1	3	4	N	These items are similar to the P1 thru P5 sections of the TAC Spec Manual, however N2 is just a duplicate of N1 and the text deviates from the TSM. The text of the TSM should be used here.
McCall	1	3	4	N	Item requires TSC input. Suggest that proposed changes be forwarded to TSC

L. Name	Item	Page	Ref	Vote	Comment
Parnes	1	3	4	E	N1 and N2 appear to be the same text.
Parnes	1	3	4	E	N3-- Add bold "ACI 301 -XX "
Teerman	1	3	4	E	N2 - Delete duplicate note.
Wagner	1	3	4	E	N1 and N2 are identical paragraphs.
McCall	1	4	5	N	Item requires TSC input. Suggest that proposed changes be forwarded to TSC
Ardahl	1	4	6	N	The wording for these notes must be as indicated in the ACI Specification Manual
McCall	1	4	6	N	Item requires TSC input. Suggest that proposed changes be forwarded to TSC
Ardahl	1	4	7	N	The wording for these notes must be as indicated in the ACI Specification Manual
Freedman	1	4	7	E	F2 - Insert "or fabricator" after "Contractor"
Lobo	1	4	7	E	ACI 301 does address "responsibilities" of project participants besides the contractor, such as a material supplier. It probably does not address contractual requirements for others.
McCall	1	4	7	N	Item requires TSC input. Suggest that proposed changes be forwarded to TSC
Sherman	1	4	7	N	In Checklist item F2, the last sentence is incorrect – responsibilities of the Owner are also addressed.
Ardahl	1	4	8	N	The wording for these notes must be as indicated in the ACI Specification Manual
McCall	1	4	8	N	Item requires TSC input. Suggest that proposed changes be forwarded to TSC
Ardahl	1	4	9	N	The wording for these notes must be as indicated in the ACI Specification Manual
Hanskat	1	4	9	N	F4 has been changed in the TSM and needs to be updated here to match the TSM.
Lemay	1	4	9	N	Change second sentence in F4 to read: ACI Specification 301 stipulates requirements to meet the minimum. Reason: ACI 301 should not arbitrarily make the specification more restrictive than ACI 318. The design professional should make that choice through optional and/or mandatory checklists.
McCall	1	4	9	N	Item requires TSC input. Suggest that proposed changes be forwarded to TSC
Ardahl	1	4	10	N	The wording for these notes must be as indicated in the ACI Specification Manual
Lobo	1	4	10	E	Is it true that the MRC addresses requirements and criteria "not" defined in 301?
McCall	1	4	10	N	Item requires TSC input. Suggest that proposed changes be forwarded to TSC
Lobo	1	5	11	E	Suggest indicating that the ORC is triggered when the specification clause permits an option. Following the options are additional notes provided as guidance to the specifier.
Carino	1	5	12	E	All the references in F7 will need to be checked and updated as necessary.
Hanskat	1	5	12	N	F7 has been revised in the TSM. The old F7 is now F8 and a new F7 addressing the Optional Requirements checklist has been added. Our F7 and F8 should match the TSM.
Wilson	1	5	15	E	Are we intending to follow recommendations in 201 vs. 318 for durability?
Gajda	1	5	16	E	207 is moving sections to different documents, so this will need to be revisited. ACI207 should also be included as a reference.

L. Name	Item	Page	Ref	Vote	Comment
Tarr	1	5	16	E	207 is moving sections to different documents, so this will need to be revisited. ACI207 should also be included as a reference.
Wilson	1	5	16	E	ACI 207 is in the process of reorganizing their documents. Need to update references when complete.
Robinson	1	5	17	E	Add "ACI 211.2 Standard Practice for Selecting Proportions for Structural Lightweight Concrete" in the checklist.
Robinson	1	5	17	E	Add "ACI 213 Guide for Structural Lightweight Aggregate Concrete" in the checklist.
Tarr	1	5	17	E	ACI 209R should be added as it should be referenced in the new Section 11 on Industrial Floors – the document contains an equation to predict the ultimate shrinkage of concrete that is recommended by ACI 360.
Wagner	1	6	24	-	ACI 303.1 is dated 1997 and has conflicts with ACI 301 (e.g. it references ACI 301-96 and ACI 318-95). Suggest referencing ACI 303R Guide to Architectural Concrete Practice instead of 303.1. ACI 303R was updated in 2004.
Carreira	1	6	27	N	Do not delete "Standard Practice" it is the name of this publication.
Tarr	1	6	32	E	Add ACI 360 to list as it is referenced in the new Section 11 on Industrial Floors
Engelman	1	6	33	E	Add ACI 551.1R Tilt-up Concrete Construction Guide
Tarr	1	6	35	E	Add ASTM C 157 as it is referenced in the new Section 11 on Industrial Floors
Carreira	1	6	36	N	Do not delete "Standard Practice" it is the name of this publication.
Carreira	1	6	37	N	Do not delete "Standard Practice" it is the name of this publication.
Tarr	1	7	41	E	Add the new PCA Floors on Ground to be published later this year which will offer a method to evaluate the shrinkage potential of concrete for industrial floors (new Section 11).
Ardahl	1	7	46	N	Add web site addresses per ACI Style and Spec Manuals.
Ardahl	1	7	47	N	Add web site addresses per ACI Style and Spec Manuals.
Ardahl	1	7	48	N	Add web site addresses per ACI Style and Spec Manuals.
Ardahl	1	7	49	N	Add web site addresses per ACI Style and Spec Manuals.
Freedman	1	7	49	E	Insert "Precast/" before "Prestressed."
Ardahl	1	7	50	N	Add web site addresses per ACI Style and Spec Manuals.
Ardahl	1	7	51	N	Add web site addresses per ACI Style and Spec Manuals.
Freedman	1	8	51.5	E	TOC - Where does precast concrete and other added areas fit in?
Engelman	1	9	51.5	E	Add sections: 12-Pre-cast concrete 13- Tilt-up construction
Robinson	1	9	51.5	E	The contents of chapter 7 will have changed after this ballot and will need review/correction
Robinson	1	9	51.5	E	The contents of chapter 8 will have changed after this ballot and will need review/correction.
Carrasquillo	1	11	52	N	Add a statement to indicate that the purpose of the review by the Architect/Engineer is to determine compliance with the applicable sections of the specifications and/or contract documents that were developed by the Architect/Engineer. Suggestion: "...reviewed by the Architect/Engineer to determine compliance with the Project Specifications and/or Contract Documents as applicable."
Freedman	1	11	52	E	Insert "or fabricator" after "Contractor", Appears twice.

L. Name	Item	Page	Ref	Vote	Comment
Wagner	1	11	52	-	My understanding of the checklist is that it identifies items in the specification that require action (M – mandatory specification action by the A/E; O – optional specification action by the A/E; S – items to be submitted by the contractor). Comments have been added in the different sections for information that require no action (e.g. many of the checklist comments in ballot item 6). Suggest adding a fourth checklist designation for comments that are for information only and require no action by either the A/E or contractor (perhaps 'I' for information, or 'C' for commentary)
Ardahl	1	11	55	N	Do not make any reference to ACI 318 code. A code should not be referenced in a specification. Codes are written to designers and specifications are written to the contractor. A contractor is not required to read and use a code unless there are design requirements assigned to them. This specification must comply with the minimum requirements in 318 but they must be included in the specification not referenced.
Carreira	1	11	55	N	Precast concrete construction is covered by PCI. It should not be in any ACI Specification. ACI 301 is not limited to ACI 318.
Freedman	1	11	55	E	Insert "architectural and" after "precast"
Hanskat	1	11	55	N	ACI 318 does not cover slabs-on-ground (ACI 302), yet 301 does include them (item 22). Further, is it appropriate to refer to a Code in a Specification? The old 301 did not include the 318 reference and I don't believe we need it here. Delete the reference to ACI 318.
Lee	1	11	55	N	There is no need to limit the use of 301 to only items designed in accordance with 318; e.g. we have not excluded slab on grade which 318 does not cover. This is info the contractor does not need to know
Lobo	1	11	55	E	301 goes beyond just structures designed by 318.
Sherman	1	11	55	N	In 1.1.1, move "designed in accordance with ACI 318" to the ORC. The Contractor is not concerned with how the structure was designed, but the specifier is.
Ardahl	1	11	58	N	Do not delete the precast concrete products. Edit to indicate that ASTM precast products are not covered by this specification.
Carreira	1	11	58	N	Precast concrete construction is covered by PCI. It should not be in any ACI Specification.
Gajda	1	11	59	E	Heavyweight concrete often is considered to be mass concrete because it is placed in sections that are at least 3 ft thick. If it is excluded by name here, would thickened sections of it still be included under mass concrete?
Hover	1		59	E	Later in 1.7 we refer to "Acceptance of the structure," and in Chapter 4 and 5 we speak of "Acceptance of Concrete." It would appear that the definition of the word "acceptance" needs to be expanded beyond the one proposed. I suggest adding the following to the proposed definition, "...or that work has been completed in accordance with this specification.
Tarr	1	11	59	E	Heavyweight concrete often is considered to be mass concrete because it is placed in sections that are at least 3 ft thick. If it is excluded by name here, would thickened sections of it still be included under mass concrete?
Wilson	1	11	59	E	Recommend heavyweight shielding concrete be included under Section 8-Mass Concrete.
Gajda	1	11	65	E	Some slip formed walls are also mass concrete. This may be

L. Name	Item	Page	Ref	Vote	Comment
					increasingly true for elevator core walls in new high-rise buildings after 9/11. If it is excluded by name here, would thickened sections of it still be included under mass concrete?
Tarr	1	11	65	E	Some slip formed walls are also mass concrete. This may be increasingly true for elevator core walls in new high-rise buildings after 9/11. If it is excluded by name here, would thickened sections of it still be included under mass concrete?
Wilson	1	12	65	E	Should we exclude slip formed walls for any particular reason? If we are moving towards a performance based specification for structural concrete, it would seem appropriate not to leave it out as it is a common method of construction for high-rise buildings.
Carreira	1	12	66	N	Tilt-up construction are covered by PCI. It should not be in any ACI Specification.
Ardahl	1	12	69	N	No need to include a definition for this term since the definition in the dictionary is adequate.
Carreira	1	12	69	N	And ref 74 Changes in definitions need to consult with other committees.
Close	1	12	69	N	...in <u>substantial</u> accordance... Nothing is perfect
Hanskat	1	12	69	N	When I review the usage of the word "acceptance" throughout the document, it often does not meet the definition we have here. Do we really need a definition for "acceptance"?
Lee	1	12	69	N	Definition of acceptance is not correct; the A/E is not to just acknowledge that a submittal was made. This means nothing. The A/E is to acknowledge that the submitted item, procedure, etc, is in accordance with the spec and is acceptable.
Lobo	1	12	69	N	This definition does not suit the term "acceptance tests"
Sherman	1	12	69	N	Definition of "acceptance" must indicate more than the fact that the document has been submitted. Also, acceptance may need to apply to information other than "documents" submitted by the Contractor.
Lobo	1	12	71	E	Change "or administering" to "for administering"
Ardahl	1	12	74	N	Suggest considering changing term in 1.6.4.2
Hanskat	1	12	74	N	Is "check-test" a term used in the industry? Looking at 1.6.4.2 and its sub-sections I think using just the phrasing "Review and test proposed materials" is better than the current "Review and check-test proposed materials...". Delete the new term and change 1.6.4.2 to simply say "test".
Lee	1	12	74	N	Change to "test performed as a check or verification of results obtained from a previous test"
Lobo	1	12	74	N	Check test is an additional test conducted to verify a test result that indicates non-compliance with Contract documents. This is the context in which it is used in 1.6.8.1 and 1.6.8.2
Ardahl	1	12	76	N	Definition not needed since the cement is defined by ASTM.
Carino	1	12	76	N	There is a typo in the second line. Do we really need the cement chemistry notation and the description of how the cement is made? I suggest we rewrite this definition along the lines of ASTM C 845. "a cement that expands during the early period after setting containing anhydrous calcium aluminosulfate (4CaO·3Al ₂ O ₃ ·SO ₃), calcium sulfate, and uncombined calcium oxide, which meets the requirements of ASTM C 845."
Carreira	1	13	76	N	Thru ref 88 Changes in definitions need to consult with other committees.
Ardahl	1	13	78	N	Thru ref 92

L. Name	Item	Page	Ref	Vote	Comment
					These definitions for different types of concrete need to be minimized. We need to resolve the remainder of the text for the 301 spec before these definitions can be completed. As stated several of them if actually needed need to be revised.
Carino	1	13	78	E	Add space in "C 150".
Haight	1	13	78	E	High-early strength concrete can also be obtained by the addition of cement. Suggest rewording definition as follows: Concrete, high-early-strength – structural concrete capable of attaining a given level of strength earlier than ordinary concrete through <u>the addition of cement</u> , use of ASTM C150 Type III cement, ASTM C 1157 Type HE cement, or chemical admixtures.
Hover	1		78	E	Would high early strength by means of high temperature curing be included here?
Lee	1	13	78	N	The propose definition is vague and has no meaning; By definition 301 specifies a 28-day strength criteria for "ordinary" concrete. Use previous definition
McCall	1	13	78	E	Add "adding additional ASTM C 150 Type I cement," after of in the third line.
Wilson	1	13	78	N	The new definition is still prescriptive vs. performance. What if early strength was obtained with a Type I cement plus SF, or an ASTM C 595 cement (Type IS, IP, P, I(PM), or I (SM)) plus SF or an accelerator, and not an ASTM C 1157 cement?
Robinson	1	13	79	E	In the specification, substitute "concrete, lightweight-structural concrete containing lightweight aggregate conforming to ASTM C 330 and having equilibrium density, as determined by ASTM C 567, between 70 and 120 lbs/ft3." This definition is found in ACI 213R-03.
Robinson	1	13	79	E	In the specification, add "concrete, specified density-structural concrete containing lightweight aggregate conforming to ASTM C 330 and having equilibrium density, as determined by ASTM C 567, between 50 and 140 lbs/ft3." This definition is found in ACI 213R-03.
Close	1	13	80	E	"normal weight"? two words?
Close	1	13	81	N	"no admixtures" – doesn't make sense to me
Hanskat	1	13	81	N	I don't see why this definition is needed to help quantify high-early-strength. It isn't a term used in 116 and there are many examples of non-high-early-strength that use admixtures and pozzolans. I think we can delete the definition. If the definition is retained we need to elaborate more completely on what makes it "ordinary" and I don't think excluding admixtures is correct.
Lee	1	13	81	N	Revise definition of high-early-strength as above and delete definition of ordinary concrete; if not, address effect of admixtures on classification of "ordinary"
Lobo	1	13	81	N	Definition not needed. The term "ordinary concrete" is not used in 301. Consider defining "cast-in-place" if "precast" is defined.
Wilson	1	13	81	N	Why allow ASTM C 1157- GU and not ASTM C 595 cements? "Ordinary", to me, is strictly ASTM C 150 Type I cement. "Ordinary concrete" may be better defined as "ordinary portland cement concrete" (OPC). Rationale should pertain to definition on ordinary concrete, not high-early-strength.
Freedman	1	13	82	E	Insert "or architectural" after "structural."
Teerman	1	13	82	N	Precast members may be both structural and architectural. Suggest deleting "structural" from the definition.

L. Name	Item	Page	Ref	Vote	Comment
Carrasquillo	1	13	83	E	Add a statement indicating that structural concrete refers to structural concrete as defined by ACI 318 and any other ACI specifications covering structural concrete.
Lee	1	13	83	N	Definition needs work; to define structural concrete as concrete used for structural purposes is a "circular definition"
Neff	1	13	83	N	We should not use a definition that differs from the 318 definition: "All concrete used for structural purposes including plain and reinforced concrete." negative resolved if we use 318 definitions
Tadros	1	13	88	E	There needs to be a definition for lightweight concrete. Suggest "Concrete containing lightweight aggregate"
Gajda	1	13	89	E	Subcommittee 8 is working to improve this definition.
Hover	1		89	E	Suggest "Any volume of concrete in which a combination of the dimensions of the member being cast, the adjacent members or boundary conditions, characteristics of the concrete mixture, and the ambient conditions can lead to undesirable thermal stresses, cracking, deleterious chemical reactions, or degradation of compressive strength as a result of elevated concrete temperature." This seems to me to be more comprehensive and in line with the proposals of Section 8.
Tarr	1	13	89	E	Subcommittee 8 is working to improve this definition.
Wilson	1	13	89	E	Subcommittee-D recommends reworking definition for "mass concrete".
Gajda	1	14	90	E	Eliminate this definition. The distinction between plain and reinforced mass concrete was removed from the mass concrete section.
Tarr	1	14	90	E	Eliminate this definition. The distinction between plain and reinforced mass concrete was removed from the mass concrete section.
Wilson	1	14	90	E	Eliminate this definition. Distinction between plain and reinforced mass concrete is also suggested for removal from Section 8 by Subcommittee-D.
Gajda	1	14	91	E	Eliminate this definition. The distinction between plain and reinforced mass concrete was removed from the mass concrete section.
McCall	1	14	91	E	Delete or define "adequate."
Tarr	1	14	91	E	Eliminate this definition. The distinction between plain and reinforced mass concrete was removed from the mass concrete section.
Wilson	1	14	91	E	Eliminate this definition. Distinction between plain and reinforced mass concrete is also suggested for removal from Section 8 by Subcommittee-D.
Carreira	1	14	92	N	Thru ref 102 Changes in definitions need to consult with other committees.
Lobo	1	14	94	E	The term "permitted" is also used when more than one option can be used.
Neff	1	14	95	N	The existing definition matches ACI 318 and the IBC. Furthermore, the proposed language is not always correct in that in some instances, tendons are tensioned after a prescribed period of time. negative resolved if we use 318 definitions
Neff	1	14	97	N	Prestressed concrete is used in non-structural applications as well; consequently, the word "structural" is technically incorrect. Also, we should use the 318 definition to avoid conflicts.

L. Name	Item	Page	Ref	Vote	Comment
					negative resolved if we use 318 definitions
Ardahl	1	14	100	C	Need to check ACI 121
Close	1	14	100	N	...in <u>substantial</u> accordance...
Lobo	1	14	100	E	This is from ACI 121. Consider the more succinct defn. used by AASHTO: All those planned activities and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality.
Sherman	1	14	100	N	Delete the words "of good practice".
Wilson	1	14	100	E	Replace with definition from 311.4R: quality assurance (QA) —A management tool for all planned and systematic actions necessary to ensure that the final product meets the requirements of the design drawings and specifications.
Ardahl	1	14	101	C	Need to check ACI 121
Lemay	1	14	101	E	Change the word "producer" to "contractor or product manufacturer".
Lobo	1	14	101	E	Consider the following too: the sum total of activities performed by the seller (producer, manufacturer and/or contractor) to make sure that a product meets Contract requirements.
Sherman	1	14	101	N	Delete the words "of good practice".
Wilson	1	14	101	E	Replace with definition from 311.4R: quality control (QC) —A production tool for those actions related to the physical characteristics of the materials, processes, and services that provide a means to measure and control the characteristics within predetermined quantitative criteria.
Sherman	1	14	102	N	Adding "ACI" implies that the reference must have been developed by ACI – not ACI reference specifications should also be acceptable.
Carreira	1	15	108	N	Thru ref 113 Changes in definitions need to consult with other committees.
Close	1	15	108	E	"Installation Drawing" Used in Section 9 – should use and define one or the other.
Freedman	1	15	108	E	Insert "or fabricator" after "Contractor".
Wagner	1	15	108	-	Suggest changing 'Engineer' to 'Engineer/Architect' since some submittals will be reviewed by the architect in lieu of or in addition to the engineer.
Wilson	1	15	110	N	Remove "made using an expansive cement that increases in volume after setting," from definition. Shrinkage-compensating concrete can also be obtained using an expansive admixture.
Neff	1	15	111	E	Use 318 definition: "High-strength steel element such as wire, bar, or strand, or a bundle of such elements, used to impart prestress forces to concrete."
McCall	1	15	113	E	Refer to Sub D for input.
Carreira	1	16	115	N	& Ref 116 Changes in definitions need to consult with other committees.
Carino	1	16	116	N	Add definition of "tilt-up— a construction technique for casting concrete elements in a horizontal position at the jobsite and then tilting them to their final upright position in a structure."
Neff	1	16	116	E	Add the words "with coating" after sheathing to be consistent with 318 definition.
Sherman	1	16	116	E	Why are the definitions different for pretensioning and post-tensioning?
Carino	1	16	118	E	All titles need to be checked when ACI 301 is ready for public

L. Name	Item	Page	Ref	Vote	Comment
					comment.
Carreira	1	16	124	N	To ref 131 Keep the word "Standard" because it is part of the given name of the document by ASTM.
Sherman	1	16	124	E	I've had reviewers insist that I include the word "standard" when referencing ASTM's, since that is part of the legal title.
Carreira	1	17	132	N	To ref 152 Keep the word "Standard" because it is part of the given name of the document by ASTM.
Robinson	1	17	145	E	Add "C 330-05" to the specification.
Carreira	1	18	153	N	To ref 172 Keep the word "Standard" because it is part of the given name of the document by ASTM.
Robinson	1	18	163	E	Change to "C 567-05 Test Method for Determining Density of Structural Lightweight Concrete" in the specification. This is the latest edition.
Wilson	1	18	167	N	The rationale is up for debate. The standard still provides information that many A/E's specify as part of their quality control regime during construction.
Carreira	1	19	173	N	To ref 192 Keep the word "Standard" because it is part of the given name of the document by ASTM.
Carreira	1	20	193	N	To ref 198 Keep the word "Standard" because it is part of the given name of the document by ASTM.
Ardahl	1	20	207	N	Duplication see 210
Neff	1	20	208	E	I do not believe that the Manual of Standard Practice sets forth requirements for CRSI Certification Program
Freedman	1	20	210	E	Add PCI documents MNL-116, MNL-117 and PCI Design Handbook
Hanskat	1	20	210	E	This is a duplication of 207 as far as I can tell.
Neff	1	21	212	E	Need to add PCI and PTI to this list
Lobo	1	21	219	E	The title does not seem correct for the content of this section.
Lobo	1	21	220	E	Conflicts with the definition of submittal – review or acceptance
Carrasquillo	1	21	221	N	Add a statement indicating that the location in the Work where the batch represented by test was deposited should be based on the coordinates and/or reference lines such as column lines established in the plans and drawings for the Work. Also add that the time when the concrete was placed should also be reported.
Ardahl	1	22	222	N	Recommend that QA and QC be as covered in separate articles and need to agree with ACI 121.
Carreira	1	22	222	N	Keep the word "Testing" because this section is specific for testing by Contractor.
Carino	1	22	223	E	We need to search through the document and remove all occurrences of "the" in front of "Work," "Contractor," and "Architect/Engineer," "Contract Documents," and so forth.
Haught	1	22	224	E	ACI Concrete Field Testing Technician Grade 4 <u>I</u> . To match changes in Definitions Ref 70
Lobo	1	22	224	E	Question the implication of mandatory language relative to requirements of a testing agency that is the owner's representative in this document
Lobo	1	22	224	N	Make this specific to testing labs that conduct tests to establish conformance to specification requirements – acceptance tests.

L. Name	Item	Page	Ref	Vote	Comment
					For instance, a concrete plant that tests sand moisture does not need to comply with C 1077.
Sherman	1	22	224	E	Confirm that ASTM E329 applies to "inspection".
Wagner	1	22	224	E	Change 'Technician Grade 1' to 'Technician Grade I' to agree with revised definition (item 70)
Carreira	1	22	225	N	Delete addition because Quality Control is part of Quality Assurance
Freedman	1	22	225	E	Needs to be revised to cover precast concrete
Lobo	1	22	226	N	I fail to see the purpose of the contractors testing agency. Is this for QC tests and why should these qualifications be in a submittal?
Sherman	1	22	226	E	In 1.6.3.1., move the word "proposed" after "Contractor's". In the Submittals Checklist, add "Data on qualifications of" to the beginning of the item.
Tadros	1	22	226	E	Contractor's should be before proposed
Haught	1	22	227	E	Change g to f at end.
Wagner	1	22	227	E	Change '1.6.3.2.g' to '1.6.3.2.f' assuming 1.6.3.2.g is omitted.
Lee	1	22	229	E	Revise: "Specify if Contractor will ..." Actually section does not call for optional checklist item; change provides commentary to A/E on additional responsibilities he may want to place on contractor
McCall	1	22	229	N	Remove the item in optional checklist; there is no optional requirement.
Lobo	1	22	230	E	Say <u>quality assurance</u> tests
Lobo	1	22	231	E	Say ... sole use of the <u>quality assurance</u> testing agency...
Freedman	1	23	233	E	Add PCI Program
Lobo	1	23	233	E	The title of the NRMCA document is Publication 190: NRMCA Guideline Manual for Quality Assurance / Quality Control. Also ACI 121 has an example of a quality plan for a contractor but this is not pertinent to this section.
Carreira	1	23	234	N	As long as ASTM 684 is not withdrawal, ACI 301 should allow this option. The fact that people don't use it because most people ignore its existence and benefits, is not a good reason to delete it from ACI 301.
Gajda	1	23	234	E	Should this be eliminated? We are involved with several projects where accelerated curing is being used to evaluate or estimate later age properties. This isn't acceptance, but it gives an early indication of whether a critical path placement is OK to build upon. Also, maturity is being used (or proposed for use) for acceptance by several state DOTs.
Tarr	1	23	234	E	Should this be eliminated? We are involved with several projects where accelerated curing is being used to evaluate or estimate later age properties. This isn't acceptance, but it gives an early indication of whether a critical path placement is OK to build upon. Also, maturity is being used (or proposed for use) for acceptance by several state DOTs.
Wilson	1	23	234	N	The rationale is up for debate. The standard still provides information that many A/E's specify as part of their quality control regime during construction.
Suprenant	1	23	235	E	Delete "at no cost to the owner"; doesn't make any sense contractor gets to decide how to bid the project.

L. Name	Item	Page	Ref	Vote	Comment
McCall	1	23	238	N	Remove the note; there is no current provision for notes in the checklists.
Sherman	1	23	238	E	Delete the word "Testing" in 1.6.4. The information provided under "Checklists" does not define what options the specifier should consider – it just provides background information.
Suprenant	1	23	238	N	Thru ref 256 Disagree with the philosophy; it is true that there is an agreement between the Owner and testing agency, but the contractor's work is accepted or rejected based on the test results. Contractors need to be aware of the Owner's testing plan as it might affect their testing plan and/or their bid depending on test frequency.
Lee	1	23	239	N	This should be opt. checklist item, not mandatory
Wagner	1	23	239	E	The checklist commentary should be labeled 'O' instead of 'M'.
Lobo	1	23	240	E	Delete "Representatives of the"
Ardahl	1	24	242	N	Thru ref 262 The intent to change the requirements specified because they are the testing to be conducted by the owner is not acceptable. The contractor needs to know what testing will be conducted by the owner and needs to receive the results. Since the code has limits for this testing the default requirements in this specification need to agree with the code. The optional requirements may include instructions concerning modification of these requirements when owner will be doing something more.
Carreira	1	24	242	N	Keep 7 days as default. Otherwise, since in most instances the specifier will ignore it and no limit will be imposed. This is a very sensitive issue for concrete producers. Long discussions were held before on this item.
Hanskat	1	24	242	N	How can one say "a specified time" in the spec and then make delineation of the specified time an Optional requirement. It seems this must be a mandatory item to make sure the Contractor is given a firm time.
Lee	1	24	242	N	As revised, it is mandatory for the A/E to specify the time after which test and inspections reports will be submitted. If you only want to inform contractor that he will get a copy of results, delete end of sentence starting at "within a specified....performed."
MacDonald	1	24	242	E	Thru ref 249 The test results obtained by the owner and used for acceptance or rejection of the work should be qavailable to the contractor in a timely fashion. While it is in the scope of the Owner / Testing Agency Contract, the timing can affect the contractors work.
McCall	1	24	242	N	There needs to be a default time in 1.6.4.1.c or a mandatory requirement. A specified time cannot be enforced.
Sherman	1	24	242	N	The Contractor needs to know that test results that may affect acceptance will be provided in a timely manner – the revision make this a concern.
Wagner	1	24	242	-	Suggest deleting 'within a specified time' and changing the Checklist comment to something like the following. 'M The Owner's agreement with the testing agency must specify to whom and when testing and inspection reports are to be distributed.'
Carreira	1	24	247	N	I agree that a change may be needed, but don't expect that the Owner or the Architect/ Engineer will request something like this. A default requirement is needed.

L. Name	Item	Page	Ref	Vote	Comment
Hanskat	1	24	247	N	The spec says test on a random basis, but then the requirement to specify the frequency is let as optional. Shouldn't this be mandatory?
Wagner	1	24	247	-	Suggest changing the checklist commentary to M instead of O and adding the following to the first sentence 'or ACI 318, whichever is more stringent'.
Carreira	1	24	248	N	Reference to the applicable Building Code is good, but a default value is needed.
Close	1	24	248	N	We are the applicable specification – we should do this.
Hanskat	1	24	248	N	Thru ref 256 We are deleting the minimum requirements that were one of the most useful parts of 301 relating to job site testing. Why allow the Building Code to dictate the minimum? It seems entirely fitting that 301 should give the Contractor some guidance here. The building codes may still require more testing and that would not be precluded by using 301. Reinstate these sections.
Haught	1	24	248	N	Proposal is to delete all requirements for testing by the Owner's testing agency. While I agree that this is a contractual issue between the Owner and the testing agency, it also provides information to the contractor of what to expect during concrete production. The contractor is responsible for providing reasonable access for sampling, as well as incurring potential placement delays during sampling. The testing process may interrupt contractor placement operations and therefore should be communicated in the specification. Propose leaving in the specification.
Lee	1	24	248	N	thru Ref 256 In 1.6.3.2.b we require the contractor to disrupt operations and assist in handling and obtaining samples at the project site or the source of materials; In 1.6.4.1.c we tell the contractor that results of tests and inspections will be reported to him. For the contractor to know the impact of testing and inspection activities on his work, he must know the amount or frequency of testing. Revise to indicate the minimum frequency of test unless otherwise specified. Minimum frequency should conform to the existing spec requirements.
Lemay	1	24	248	N	Change to: Owner's testing agency will obtain at least one composite sample for each 150 yd ³ , or fraction thereof, of each concrete mixture placed in any one day. When the total quantity of a given concrete mixture is less than 50 yd ³ , the strength tests may be waived by the Architect/Engineer. Reason: Use the minimum required from ACI 318 and the contractor needs to know how often the concrete will be sampled.
Lobo	1	24	248	N	C 138 should not be used for jobsite acceptance of air content. It is fine for lab tests.
Lobo	1	24	248	N	The contractor and the supplier need to know the sampling frequency. Should there be an ORC item?
McCall	1	24	248	N	If we are going to hold the contractor responsible for the test results, we should tell the contractor how the concrete will be tested. The added sentence directs the contractor to the building code; this incorporates code requirements for sampling requirements into the specification. It would be better for us to

L. Name	Item	Page	Ref	Vote	Comment
					copy these requirements into the specification rather than refer the contractor to the code.
Sherman	1	24	248	N	The Contractor needs to know the general frequency of testing due to impacts on construction and the Engineer may want to require testing at a frequency greater than required by the building code.
Carreira	1	24	249	N	Reference to the applicable Building Code is good, but a default value is needed.
Close	1	25	249	E	Change "fro" to "for"
McCall	1	24	249	N	If we are going to hold the contractor responsible for the test results, we should tell the contractor how the concrete will be tested. The added sentence directs the contractor to the building code; this incorporates code requirements for sampling requirements into the specification. It would be better for us to copy these requirements into the specification rather than refer the contractor to the code.
Wagner	1	25	249	E	In last sentence change 'fro' to 'for'.
Carreira	1	25	250	N	to ref 254 Reference to the applicable Building Code is good, but a default value is needed.
Haught	1	25	250	N	Same as 248
Lemay	1	25	250	N	& ref 251 Change to match requirements of ACI 318. 2 cylinders per test at 28 days unless specified. Don't bother with 7-day test.
Lobo	1	25	250	N	Thru255 These items need to be retained, with the exception of ref 252, even if it is in non-mandatory language as it addresses the standard tests that should be used for acceptance testing
McCall	1	25	250	N	If we are going to hold the contractor responsible for the test results, we should tell the contractor how the concrete will be tested.
Wilson	1	25	250	E	Need rationale.
Haught	1	25	251	N	Same as 248
Wilson	1	25	251	E	Need rationale.
Wilson	1	25	252	N	The rationale is up for debate. The standard still provides information that many A/E's specify as part of their quality control regime during construction.
McCall	1	25	253	N	If we remove this, one cylinder can be used to evaluate concrete compressive strength.
McCall	1	26	253	N	This is not enforceable; there is no definition for more frequent intervals.
Carreira	1	26	255	N	& Ref 256 Reference to the applicable Building Code is good, but a default value is needed.
Close	1	26	256	N	Use "observe" not "inspect" – Inspect implies too much detail. Not used due to professional liability reasons.
Haught	1	26	256	E	Moved owner's testing requirements to the checklist. This is not consistent with Ref. 248, 250 and 251.
Hover	1		256	E	Contract documents do not routinely define the service environment of the concrete (although they should.) The situation will often arise that the concrete will be exposed to deicing salts, but the contract documents do not indicate such. Following the philosophy of removing code-type testing requirements from this section of 301, it appears that we should

L. Name	Item	Page	Ref	Vote	Comment
					be encouraging 318 to require that the contract documents clearly state the expected exposure conditions. I suppose that we cannot mandate such within the 301 document.
Lobo	1	26	256	N	This is an unreasonable sampling frequency for air content. It should be deleted even from the ORC.
Close	1	26	257	E	In spec section ...testing and inspection <u>field observation</u> services... In ORC ...specific inspection items <u>to be observed</u> that may be appropriate.
Close	1	26	258	E	Inspect-Observe...
Close	1	26	259	E	Inspect-Observe...
Close	1	27	262	E	... or inspection-observation ...
Lobo	1	27	263	N	301 should not get into the business of what entity pays for what.
Lobo	1	27	267	N	The issue of payment should be deleted from 301
Prenger	1	27	268	N	We are not really comparing uniformity, we are evaluating the acceptability of the strength based on a comparison of the questionable concrete with that of concrete in another part of the structure with known equal or superior strength to that specified. Also, it does not appear to conform to section 1.6.7.2 or to ACI 318, R 5.6.5. Both of these sections seem to indicate that relative concrete strength is being measured. Also, to conform to ACI 318, other non-destructive tests should be listed. Language should state: “ ...ASTM C 597, probe penetration in accordance with ASTM C 803, pull out in accordance with ASTM C 900, or other ...” “...and relative concrete strength...” should be left unchanged In the Checklist - and “...or relative in place concrete strength of concrete...” should be left unchanged.
Sherman	1	27	268	N	Ref 275, & 279 Sections 1.6.5.2, 1.6.6.2, and 1.6.7.2 appear to be inconsistent with respect to evaluation of concrete strength tests. Can Nondestructive testing be used for testing of strength or not?
Carreira	1	27	270	N	Keep the wording as it is. This was a subject discussed at very length in the past and wording agreed under the advice of Dick Gaynor and James Shilstone Sr., and many years of coring and testing experience.
Lobo	1	27	270	N	There is no default test age for cores (in ORC)
Carreira	1	28	278	N	See Ref. 234 above.
Gajda	1	29	278	E	Are words missing in sentences 1 and 3 of the rationale?
Tarr	1	29	278	E	Are words missing in sentences 1 and 3 of the rationale?
Ardahl	1	29	282	N	Ref 283, 284 The retest option should not be part of the default requirements but may be in the optional requirements with instructions concerning when it may be permitted by architect engineer.
Carreira	1	29	282	N	to Ref 284 For consistency, revise these three References to read “shall not be used in the Work.” or better, “shall be rejected.”
Hanskat	1	29	282	E	& ref 283 Change “check test” to “test”.
Lee	1	29	282	E	Revise as follows:” If the measured air content is not within the limits of 4.2.2.4, perform a check-test immediately on a new sample. If the check-test fails, the concrete shall not be used in the Work.”

L. Name	Item	Page	Ref	Vote	Comment
McCall	1	29	282	N	The specification should require a check test; check tests are permitted with current wording.
Gajda	1	29	283	E	Does this conflict with other sections? We removed a specific slump range from Sections 7 and 8.
Lee	1	29	283	N	The A/E is writing the spec. He doesn't need to state that he is giving himself permission to reject the concrete if it doesn't meet requirements. Re-write similar to above: "If the measured slump is not within the limits of 4.2.2.2, perform a check-test immediately on a new sample. . If the check-test fails, the concrete shall not be used in the Work"
McCall	1	29	283	N	The specification should require a check test; check tests are permitted with current wording. "Shall not be used in the Work" better states the intent of the specification than "is permitted to be rejected."
Sherman	1	29	283	N.	Ref 284 Replace "is permitted to be rejected" with "shall not be used in the Work, unless otherwise approved by the Engineer." The current wording does not provide a default requirement.
Tarr	1	29	283	E	Does this conflict with other sections? We removed a specific slump range from Sections 7 and 8.
Wagner	1	29	283	E	Change 'check test' to 'check-test' to agree with definition.
Gajda	1	29	284	E	Mass concrete is affected by the delivered concrete temperature, so I recommend that we include a cross-reference to other sections.
Hover	1		284	E	Suggest that the check test be used for temperature as well as for slump and air. I just completed an evaluation of field testing and found as much as a 10F variation from sample to sample in a single 4 CY truckload.
Lee	1	29	284	N	Go back to original wording. The acceptance criteria of Section 4.2.2.8 already allows A/E to use concrete outside temperature limits.
McCall	1	29	284	N	The specification should require a check test; check tests are permitted with current wording.
Tarr	1	29	284	E	Mass concrete is affected by the delivered concrete temperature, so I recommend that we include a cross-reference to other sections.
Wagner	1	29	284	E	Should '4.2.2.8' be '4.2.2.7'?
Wilson	1	29	284	E	Cross reference temperature requirements for mass concrete in Section 8 in this section as well. Rationale should state either: "not rejecting" or "will be". As stated we would be encouraging rejecting concrete whose performance is not affected.
Carino	1	29	287	N	Section 1.7 contains many occurrences of "will" and "may be". We need to look at these carefully so that we have enforceable wording.
Carino	1	30	291	E	Should "Contract Documents" be used instead of "Project Specification"? The previous paragraph uses the former.
Suprenant	1	30	297	E	Finished slabs exceeding flatness and levelness tolerances may be corrected provided they meet an appearance requirement. On most projects, some remedial work is done, but on a rare occasion someone cites an appearance issue. Why can't the contractor be told up front if appearance will be an issue for finished slabs?
Wagner	1	30	302	-	Suggest changing 'will be rejected' to 'may be rejected'.
Carino	1	30	307	E	This should appear as part of 1.7.4.2.e.

L. Name	Item	Page	Ref	Vote	Comment
Wagner	1	30	307	E	The checklist comment should be moved to 1.7.4.2.e
Hanskat	1	31	312	N	Is it appropriate to refer to ACI 318 in the specification section?
Wagner	1	31	314	E	See previous comment (on ref 307).
Wagner	1	31	316	-	Suggest changing 'will be rejected' to 'may be rejected'.
Carreira	1	31	321	N	I agree with the idea, but the word "excessive" without establishing limits of acceptance or rejection should not be part of a specification.
Gajda	1	31	321	E	The rationale is 100% correct
Lee	1	31	321	N	Checklist item is out of place – it should go with 1.7.5.2.e
Suprenant	1	31	321	E	The other durability requirements in 317, 318, 319, 320, 322 all relate to not meeting the contract documents. 321 is a catch all phrase that has no meaning unless specification limits are imposed. For instance, what is the contractor to assume the excessive thermal gradient is?
Tarr	1	31	321	E	The rationale is 100% correct
Wagner	1	31	321	E	The checklist comment should be moved to 1.7.5.2.e
Carino	1	31	324	N	It is not clear who is responsible for the actions under 1.7.5.2. Need to look at wording carefully.
Lee	1	32	328	N	See item 321
Wagner	1	32	328	E	See previous comment (on ref 321).