TPC Policies
Version 6.15

February 2020

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TPC Membership

A list of the current TPC Member companies can be found at http://www.tpc.org/tpc_documents_current_versions/pdf/tpc_membership.pdf
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<th>Version</th>
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<tr>
<td>September 12, 2013</td>
<td>6.0</td>
<td>Benchmark Class, TPC Enterprise and TPC Express changes</td>
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<td>February 6, 2014</td>
<td>6.1</td>
<td>Clause 6 Supporting Files changes, Clause 8 Fair Use update and conversion to new format</td>
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<td>March 27, 2014</td>
<td>6.2</td>
<td>Clause 8.1 Use of TPC material, Clause 10 &amp; 11 changes to differentiate an Express Benchmark vs. an Enterprise Benchmark</td>
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<td>February 19, 2015</td>
<td>6.3</td>
<td>Clause 3.5.1 defining Benchmark Subcommittee, added 3.5.2 defining Working Group, added Clause 10 Pre-Publication Certification, changed Clause 6, Clause 9 and Clause 12 for new Express Audit rules.</td>
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<td>April 23, 2015</td>
<td>6.4</td>
<td>Added clause 2.2.7 and updated 9.3.2.1</td>
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<td>June 25, 2015</td>
<td>6.5</td>
<td>Wording changes to 8.1.3, 8.2.1.6, 11.2.4 and 12.2.4. Delete 8.2.1.8.1, Add 8.2.1.8.3. Minor edits.</td>
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<td>August 28, 2015</td>
<td>6.6</td>
<td>Updated 1.1, 4.8.2.2 &amp; change General Council to Council in 2.2.1.1, 8.4.3.3.3 &amp; 9.5.1.1.4</td>
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<td>November 12, 2015</td>
<td>6.7</td>
<td>Added CLA and EULA clauses</td>
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<td>6.8</td>
<td>Updates to 3.3.1, 11.7 &amp; 12.6</td>
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<td>6.9</td>
<td>Updated 0.2.50, 0.2.58, 0.2.59, 5.3.4, 8.1.2, 12.1.4, 12.2.4, 12.3.2 &amp; 12.3.3 Added clause 5.3.5. Rewrote 5.4. Added 2.3</td>
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<td>February 24, 2017</td>
<td>6.10</td>
<td>Updated 0.2.15, 0.5.4, 5.3.1, 5.3.3, 5.3.4, 5.3.5, 5.4.5.1, 6.12.1, 9.6.2.5., 11.3.4, 12.3.4 Rewrote 5.4. Added 2.3</td>
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<td>Updated 0.2.14, 0.2.16, 0.2.32, 0.2.38, 2.5.4, 3.2.3.1, 3.3.3.6, 3.3.5.3, 4.5.2.5, 5.3.2.1, 5.3.2.2, 5.3.2.3, 5.4.1.1, 5.4.2.2, 6.3.1, 10.2, 10.4, 10.5, 10.5.1, 10.5.2 Added 0.2.36, 9.4.6, 10.2.2, 10.2.4</td>
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<td>June 2018</td>
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<td>Updated 3.2.3.4, 3.2.3.6, 3.5.2.3</td>
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<td>6.14</td>
<td>Added 0.2.7, 0.2.64, 6.9.3, 13.1, 13.2, 13.3 Updated 0.2.12, 0.2.13, 0.2.20, 0.2.29, 0.2.23, 0.2.63, 0.4.1, 0.5.4, 2.1.1, 2.2.1, 2.2.2.2, 2.6.2, 3.1.1, 3.1.2, 3.1.4, 3.1.5, 3.2.1.4, 3.2.2.5.1, 3.3.2.4, 3.3.5.3, 3.5.11, 3.5.13, 3.5.16, 3.5.2.3, 3.5.4.4, 3.5.4.5, 4.4, 4.5.1.1, 4.5.1.2.1, 4.5.1.2.2, 4.5.1.3, 4.5.1.5, 4.5.1.7, 4.5.2, 4.6, 4.5, 5.2, 5.2.2, 5.2.3, 5.3.1, 5.4.1.2, 5.4.1.3, 5.4.1.4, 5.4.1.5, 5.4.5.8, 6.9, 7.1, 7.1.1, 7.1.2, 7.1.2.2, 7.1.3.5, 8.1.2, 11.2.8, 11.3.1, 11.4.1.1, 12.4.1.1, 12.6, 13.4.14, 13.4.5.8 Moved 3.2.1.4, 3.3.2.4, 3.4.2.4, 3.5.4.3, 3.5.4.4, 5.2.3, 5.4 to 13.4 Renamed Clause 5, 5.4 Restructured Section 4</td>
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<td>February 2020</td>
<td>6.15</td>
<td>Added 0.2.30, 0.2.34, 0.2.35, 0.2.64, 0.2.65, 2.3.0, 3.2.2.2, 6.18, 8.1.1, 9.3.4.4, 10.2.2 Added 0.1.1, 0.2.3, 0.2.11, 0.2.27, 0.2.58, 0.2.69, 0.4.3, 0.5.2, 0.5.4, 2.5.4, 3.2, 3.2.1.1, 3.3, 3.3.1, 3.3.2.1, 3.3.6.1, 3.3.6.2, 3.4, 3.4.2.1, 3.5.1.5, 3.5.4.1, 3.5.4.2, 4.2.1, 4.5.1.2.2, 6.4.1, 6.4.4.2, 6.4.5.1, 6.4.5.2, 6.5.4.1, 6.5.4.2, 6.7.4, 6.12.8, 6.13.1, 6.14.1, 7.1.3.3, 7.1.3.4, 7.5.1, 8.1, 8.4.1.1, 8.4.1.2, 8.4.1.3, 9.3.4.1, 9.3.4.1.1, 10.2, 10.2.1, 10.5.1, 10.5.3, 11.3.4.2, 12.3.4.2, 13.4.1, 13.4.1.1, 13.4.1.5 Moved 13.4.2 through 13.4.5.8 to Procedures document</td>
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Typographic Conventions

The following typographic conventions are used in this specification:

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<tr>
<td>Bold</td>
<td>Bold type is used to highlight terms that are defined in this document</td>
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<tr>
<td>Italic</td>
<td>Italics is used to highlight text that should be used in TPC documents verbatim</td>
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<tr>
<td>UPPERCASE</td>
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Section 0: Terms, Notation, and Policy Modification

0.1 Notation

0.1.1 A reference to a specific clause in the Bylaws, Policies, or Procedures is written as “Bylaws § x.y.z”, “Policies § x.y.z”, or Procedures § x.y.z respectively, where x.y.z is the clause number.

0.1.2 Throughout the body of this document, defined terms (see Policies § 0.2) are formatted in the same style as used in the term definition to indicate that the term has a precise meaning. For example, “Members” specifically refers to voting members of the TPC, whereas “members” does not have any special meaning.

0.2 Defined Terms

0.2.1 ACB. Abbreviation for an Auditor Certification Board. See Policies § 9.3.4.1.

0.2.2 Accepted. Status of a Result after successfully completing review period. See Policies § 6.11.

0.2.3 Administrator. The TPC Administrator is responsible for day-to-day operation of the TPC and other responsibilities as defined in the Policies. See Policies § 3.2.2.6.5.

0.2.4 Affiliate. A TPC Professional Affiliate. See Policies § 2.3.

0.2.5 Alert Message. An e-mail message sent to the TPC’s alert message alias by a Test Sponsor when a Result is submitted, modified, or withdrawn. See Policies § 6.6.

0.2.6 All Members. The entire body of members including Members, Committee Members, and Associate Members.

0.2.7 Annual Meeting. Annual Meeting as defined in the Bylaws § 3.5(d)(i).

0.2.8 Associate Members. Associate Members as defined in the Bylaws § 2.1.

0.2.9 Auditor. An individual certified by the TPC to verify that Results meet the requirements of the appropriate TPC Benchmark Standard. See Policies § 9.2.

0.2.10 Benchmark Class. A Benchmark Class is a set of Benchmark Standards that have the same characteristics and the same rules for creation, maintenance, publication, etc.

0.2.11 Benchmark Standard. A TPC benchmark Specification approved by the Members.

0.2.12 Benchmark Subcommittee: A Benchmark Subcommittee is the working forum within the TPC for development and maintenance of one or more Specifications, Umbrella Specifications, or TPC-Provided Software.

0.2.13 Board Meeting. Board Meeting as defined in Bylaws § 3.5(d)(ii).

0.2.14 Bylaws. The Bylaws of the TPC.

0.2.15 Cluster. A cluster is a distributed environment where the database workload is executing on more than one node. A node consists of one or more processors executing a single instance of an OS and one or more instances of the DBMS.

0.2.16 Committee Members. Committee Members as defined in the Bylaws § 2.1.
0.2.17 Compliance Challenge Document. Document containing the information required by the TAB Compliance Template. See Policies § 3.3.3.1.

0.2.18 Contributor License Agreement (also CLA). This is a legal document containing the terms and conditions under which Members and non-Members license code to the TPC to be incorporated into TPC-Provided Software.

0.2.19 Core. Execution Unit that is capable of running one or more Processor Threads. See Policies § 6.2.1.

0.2.20 Council. The Directors at a General Meeting.

0.2.21 Director. Full Members as defined in Bylaws § 2.1, subject to the restrictions in Bylaws § 2.2.

0.2.22 Distribute (also Distribution). Active dissemination of a document. This is typically done electronically, but may also be accomplished by facsimile, conventional mail, courier, or other comparable means.

0.2.23 End User License Agreement (also EULA). This is a legal document containing the terms and conditions under which the TPC allows the use of TPC-Provided Software.

0.2.24 Execution Unit. The electronic circuits necessary to implement the semantics of all possible instructions in a computer architecture. See Policies § 6.2.2.

0.2.25 Executive Summary. A two to four page summary of a Result that shows the configuration, Primary Metrics, performance data, and pricing details. The exact requirements for the Executive Summary are defined in each Benchmark Standard.

0.2.26 Fair Use Policy. The TPC policies governing the use of Results in publicity. See Policies § 8.2.

0.2.27 FDR. Abbreviation for a Full Disclosure Report, which must be submitted to the TPC when a Result is Submitted for Review.

0.2.28 Filing Fee. A fee that must be paid by a Test Sponsor to file a Result. See Policies § 6.10.

0.2.29 General Meeting. A meeting of the Board as defined in the Bylaws § 3.5. The General Meeting may be an Annual Meeting, Board Meeting, or Special Meeting. See Bylaws § 3.5(d)(ii).

0.2.30 Procedures. A document maintained by the Steering Committee that describes various operational procedures and processes of the TPC that are of sufficient import to require uniformity of execution across all Standing Committees and technical subcommittees but are sufficiently benign in that their formal inclusion in the Policies is unwarranted.

0.2.31 Historical Result. A Result that has been Accepted and is no longer required to meet the pricing and availability criteria of the TPC Pricing Specification, (see Policies § 6.11.3.2).

0.2.32 Mail Ballot. A formal, written vote by the Members. See Policies § 4.5.

0.2.33 Members. Member organizations as defined in the Bylaws § 2.1

0.2.34 Non-TPC Benchmark. See non-TPC Benchmark Standard (Policies § 0.2.35)

0.2.35 Non-TPC Benchmark Standard. A derived implementation of a TPC Benchmark Standard that does not maintain all the requirements of the TPC Benchmark Standard from which it is derived.
0.2.36 **Notify** (also **Notification**). Active communication of information. This is typically done by e-mail, but may also be accomplished by facsimile, conventional mail, courier, or other comparable means. In the case where the **Policies** call for notification of the **Council**, notification is typically done verbally as part of the appropriate committee report.

0.2.37 **Optional Metric.** A metric defined within a **Benchmark Standard** that is publishable at the option of the **Test Sponsor**. An **Optional Metric** may be designated as a **Primary Metric**.

0.2.38 **Policies.** The current published **Policies** of the **TPC**, i.e., this document.

0.2.39 **Post.** The action of making information (typically a document) readily accessible through the stated medium. For example, "**posted** to the Web Site" means the information is accessible in an appropriate location with normal hyperlinks and cross-references (i.e., not hidden or disguised).

0.2.40 **Posting Date.** Date on which a **Result** is **posted** to the Web Site.

0.2.41 **PRC.** Abbreviation for the Public Relations Committee. See **Policies** § 3.4.

0.2.42 **Pre-Publication Board.** A board consisting of individuals chosen by a **Benchmark Subcommittee** to review and certify **Results** for publication.

0.2.43 **Primary Metrics.** The primary metrics as defined in each **Benchmark Standard**.

0.2.44 **Primary Representative.** A person designated by a **Member** as a **Director** of the Corporation as defined in the **Bylaws** (Article III) or by a **Committee Member** or **Associate Member** as a primary contact.

0.2.45 **Privacy Policy.** The **TPC** policy governing personal information collected from the public. See **Policies** § 7.5.2.

0.2.46 **Private Web Site.** The **TPC** Internet web site located at **www.tpc.org** containing **TPC Confidential** information available only to **Members**, **Committee Members**, **Associate Members**, and **Affiliates**. Access to the **Private Web Site** is restricted by a password.

0.2.47 **Processor.** A component that contains one or more **Cores**. See **Policies** § 6.2.3.

0.2.48 **Processor Thread.** The hardware necessary to maintain the state of a **Software Thread**. See **Policies** § 6.2.4.

0.2.49 **Public Information** includes press releases, advertisements, commercials, and all materials, literature, and collateral that are obtainable without a nondisclosure agreement. **Public Information** includes spoken as well as written communication; e.g., a spokesperson speaking in an open forum such as a press conference.

0.2.50 **Rebadged Result.** A **Result** published using the same performance tests as an existing **Result** on a **SUT** which is electronically equivalent to the **SUT** used in that existing **Result**. See **Policies** § 6.17.

0.2.51 **Result.** A performance test submitted to the **TPC** attested to meet the requirements of a **TPC Benchmark Standard** at the time of submission. A **Result** is documented by an **Executive Summary** and, if required, a **FDR**.

0.2.52 **Review Period.** The period of time when compliance issues can be raised against a **Result**. See **Policies** § 6.12.2.

0.2.53 **SC.** Abbreviation for the Steering Committee. See **Policies** § 3.2.
0.2.54 **Secondary Representative.** A person designated by a Member, Committee Member or Associate Member as a secondary representative of the Member, Committee Member or Associate Member.

0.2.55 **Simple Majority.** Greater than 50% of Members present.

0.2.56 **Software Thread.** An instruction sequence that performs operations within an address space and is scheduled by software. See Policies § 6.2.5.

0.2.57 **Specification.** A written document that describes a workload, including implementation, execution, auditing and reporting requirements. A Specification may require the use of TPC-Provided Software or a TPC-Provided Kit.

0.2.58 **Spokesperson.** The TPC Spokesperson is the primary contact with the press concerning TPC public relations. See Policies § 3.2.2.6.4.

0.2.59 **Standing Committee.** A permanent committee of fixed size and consisting of specific elected individuals. See Policies § 3.1.

0.2.60 **Submitted for Review.** Status of a Result while subject to review and challenge. See Policies § 6.11.

0.2.61 **SUT.** A System Under Test as defined in the applicable Benchmark Standard.

0.2.62 **TAB.** Abbreviation for the Technical Advisory Board. See Policies § 3.3.

0.2.63 **Test Sponsor.** A company that submits a Result. Although multiple companies may sponsor a Result together, for the purposes of the TPC’s processes the Test Sponsor must be a single company. A Test Sponsor need not be a member. See Policies § 6.1.

0.2.64 **TPC Benchmark.** See Benchmark Standard (Policies § 0.2.11)

0.2.65 **TPC Benchmark Standard.** See Benchmark Standard (Policies § 0.2.11)

0.2.66 **TPC Confidential.** Information that may not be disclosed outside of the TPC, Members, Committee Members, Associate Members, and Affiliates. See Policies § 7.1.

0.2.67 **TPC-Provided Kit.** TPC-Provided Software which implements all required functionality of a Specification. See Policies § 12.1.4.

0.2.68 **TPC-Provided Software.** Software provided by the TPC that implements specific functionality for a Specification or provides functionality that is independent of a Specification. Software may include source code, executable programs, drivers, libraries or data files. See Policies § 13.4.

0.2.69 **TPC Results List.** The list of submitted TPC Results, including Results that are Submitted for Review, Accepted, Historical Result, or have been recently withdrawn. See Policies § 6.3.

0.2.70 **TPC.** Abbreviation for Transaction Processing Performance Council. TPC is synonymous with “the Corporation” as used in the Bylaws.

0.2.71 **Umbrella Specifications.** Separate Specifications that are referenced by and/or applied to a Benchmark Standard per the Benchmark Class. See Policies § 5.1. Examples include TPC-Pricing and TPC-Energy.

0.2.72 **Web Site.** The TPC Internet web site located at www.tpc.org containing TPC information available to the public.
0.3 Treatment of time in these Policies

Many of these Policies reference a span of time based on a number of days. Unless explicitly stated otherwise, the following clauses define how time periods are determined when referenced in these Policies.

0.3.1 Business day and working day. Business days or working days are Monday-Friday, except for national and declared holidays, commencing at 8:00 a.m. and completing at 5:00 p.m. Pacific Civil Time. Policy requirements for business days require complete days. That is, for any day to count as a business day for a specific item, the item must be initiated prior to 8:00 a.m.

0.3.2 Calendar Day. A calendar day is a complete 24-hour period, commencing at 12:00 a.m. Pacific Civil Time. Policy requirements for calendar days require complete days. That is, for any day to count as a calendar day for a specific item, the item must have been initiated on the prior day.

0.3.3 Day. If Policy wording uses the word “day” without qualifying it as a business day or a working day, a calendar day is assumed. For example, if the Council passed a motion at 11:00 a.m. on March 15 that will take effect in 60 days, then it goes into effect on May 15. (The 1st day starts on March 16 and the 60th day completes at the end of day on May 14.)

0.4 Policy Modification

The following outlines the steps for modifying the Policies.

0.4.1 Step 1: A policy modification may be proposed by any Member or Standing Committee. The proposal shall be submitted to the SC for review. The proposal must include the complete wording for the policy change.

0.4.2 Step 2: The SC shall review the proposed change and prepare a recommendation for the Council.

0.4.3 Step 3: The proposal is added to the agenda for the next General Meeting. At least four-working days prior to the next General Meeting, the proposal and recommendation is distributed to all Members for review.

0.4.4 Step 4: At the next General Meeting, the SC presents the proposal and its recommendation for a vote by the Council. If approved by the Council, the policy modification is effective immediately unless specified otherwise.

0.5 Associated Documents

0.5.1 Definition. Certain documents (“associated documents”) are considered to be part of the Policies but are maintained separately for convenience. These associated documents and their properties are found in Table 0-1.

0.5.2 Modification. Unless otherwise stipulated, modifications to the associated documents must follow the same process for modification as the Policies, as outlined in Policies § 0.4.

- The “TPC Membership List” document will be maintained by the TPC Administrator and approved by the Steering Committee.
- The “TPC Procedures” document will be maintained and approved by the Steering Committee.

0.5.3 Versioning. Associated documents may maintain a separate version number than the Policies. Current document versions are available on the Web Site and Private Web Site.
0.5.4 Distribution. When Distributed via the Web Site or as part of TPC-Provided Software, the associated documents must use one (or more) of the prescribed file names and file formats listed in Table 0-1.

<table>
<thead>
<tr>
<th>Document</th>
<th>File Name</th>
<th>File Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributor License Agreement (CLA)</td>
<td>CLA.pdf</td>
<td>PDF</td>
</tr>
<tr>
<td>End User License Agreement (EULA)</td>
<td>EULA.txt</td>
<td>Plain Text</td>
</tr>
<tr>
<td>TPC Fair Use Quick Reference</td>
<td>TPC_Fair_Use_Quick_Reference.pdf</td>
<td>PDF</td>
</tr>
<tr>
<td>TPC Membership List</td>
<td>TPC_Membership.pdf</td>
<td>PDF</td>
</tr>
<tr>
<td>TPC Procedures</td>
<td>TPC_Procedures.pdf</td>
<td>PDF</td>
</tr>
<tr>
<td>TPC Social Media Policy</td>
<td>SocialMedia.pdf</td>
<td>PDF</td>
</tr>
</tbody>
</table>

Table 0-1: List of associated documents, file names and file formats.
Section 1: **TPC Mission**

1.1 **Mission Statement**

   The **TPC** is a non-profit corporation focused on developing data-centric benchmark standards and disseminating objective, verifiable performance data to the industry.
Section 2: Membership

2.1 Qualifications of Membership

The Bylaws (Article II) contain the formal definitions and requirements for membership in the TPC.

2.1.1 Payment of Dues

For new Members, the requirements for payment of dues is established in Bylaws § 2.3 and 2.5.

For existing Members, an annual dues notification will be mailed to the Primary Representative at least 60 days before the end of the calendar year. The notification will specify the amount and times of payment, as determined by the Council. Individual bills will be mailed for each payment.

The payment is due on January 1st, but not less than 60 days after notification is sent.

If payment becomes more than 30 days past due at any time, the following membership rights and privileges will be suspended: (1) vote in subcommittees and General Meetings, (2) serve as chairman of a committee or General Meetings, and (3) run for committee positions. All Members are allowed to attend meetings, access the Private Web Site, and receive Distribution of materials.

If payment becomes more than 60 days past due at any time, all membership rights and privileges will be terminated. Membership rights and privileges will be reinstated when the TPC receives payment for all past due charges.

Member dues are not refundable, regardless of changes in status of the member (e.g. resignation, expulsion, merger, acquisition). Once a commitment has been made to pay dues, they are required to be paid in full, regardless of changes in status of the member.

2.1.2 Pro-Rating Dues

If a company joins the TPC in the first half of the calendar year, it must pay the full annual membership dues. If a company joins the TPC in the second half of the year, it will be assessed a prorated percentage of the dues depending on how many months remain in the year. For example, if a company joins in September, they will be assessed a prorated or proportional percentage of the annual dues for the months Sept-Dec. The prorated dues process applies only to companies who were not members in the prior calendar year.

2.2 Rights of Members

A Full Member of the TPC is entitled to the following:

2.2.1 Right to appoint a Director to the Board of Directors (subject to the restrictions in Bylaws § 2.2), also referred to as the Primary Representative

2.2.1.1 If the Steering Committee or Council determines that the validity of an individual to serve as a Primary Representative is in question, membership privileges are suspended. The Administrator will notify the legal department of the Member in question. Membership privileges will remain suspended until an officer of the Member designates the appointment of the Primary Representative in writing to the Administrator.

2.2.2 Right to designate any number of Secondary Representatives. A Member designates a Secondary Representative by notifying the Administrator in writing with the individual’s contact information. Secondary Representatives shall have all the rights granted to the Primary Representative with the following exceptions:

2.2.2.1 A Secondary Representative may not act as a legal Director of the TPC.
2.2.2.2 A Secondary Representative may not cast the Director’s vote in a Mail Ballot.

2.2.2.3 In cases where the Bylaws or Policies require formal communication (e.g., dues notice, mail ballot, etc.) between the TPC and a Member, such communication shall be sent to the Primary Representative.

2.2.2.4 Certain TPC Confidential documents may be restricted to the Primary Representative.

2.2.3 Right of access to all internal TPC documents, including access to the Private Web Site. A Primary Representative or Secondary Representative may request that additional persons in the member company be added to TPC distribution lists or given access to TPC documents. When it is in the best interest of the TPC, some TPC Confidential documents may be restricted to Primary Representatives and only be available upon written request to the SC.

2.2.4 Right to vote on final approval of any and all proposed TPC Benchmark Standards.

2.2.5 Right to participate as a voting member of technical subcommittee activities as set forth in the Policies. Participation in technical subcommittees is voluntary and at the discretion of the Member.

2.2.6 Right of the Primary Representative or Secondary Representatives to serve on Standing Committees if duly elected.

2.2.7 Right to change the designated Director to the Board of Directors during the initial roll call of a General Meeting. The newly designated Director will only remain in effect through the end of that General Meeting.

2.3 Rights of Committee Members

A Committee Member of the TPC is entitled to the following

2.3.1 Right to designate a Primary Representative.

2.3.2 Right to designate any number of Secondary Representatives. A Committee Member designates a Secondary Representative by notifying the Administrator in writing with the individual’s contact information. Secondary Representatives shall have all the rights granted to the Primary Representative with the following exceptions:

2.3.2.1 In cases where the Bylaws or Policies require formal communication (e.g., dues notice, etc.) between the TPC and a Committee Member, such communication shall be sent to the Primary Representative.

2.3.2.2 Certain TPC Confidential documents may be restricted to the Primary Representative.

2.3.3 Right of access to all internal TPC documents, including access to the Private Web Site. A Primary Representative or Secondary Representative may request that additional persons in the member company be added to TPC distribution lists or given access to TPC documents. When it is in the best interest of the TPC, some TPC Confidential documents may be restricted to Primary Representatives and only be available upon written request to the SC.

2.3.4 Right to participate as a voting member of technical subcommittee activities as set forth in the Policies. Participation in technical subcommittees is voluntary and at the discretion of the Committee Member.
2.4 Rights of Associate Members

An Associate Member of the TPC is entitled to the following:

2.4.1 Right to designate a Primary Representative.

2.4.2 Right to designate any number of Secondary Representatives. An Associate Member designates a Secondary Representative by notifying the Administrator in writing with the individual’s contact information. Secondary Representatives shall have all the rights granted to the Primary Representative with the following exceptions:

2.4.2.1 In cases where the Bylaws or Policies require formal communication (e.g., dues notice, etc.) between the TPC and an Associate Member, such communication shall be sent to the Primary Representative.

2.4.2.2 Certain TPC Confidential documents may be restricted to the Primary Representative.

2.4.3 Right of access to all internal TPC documents, including access to the Private Web Site. A Primary Representative or Secondary Representative may request that additional persons in the member company be added to TPC distribution lists or given access to TPC documents. When it is in the best interest of the TPC, some TPC Confidential documents may be restricted to Primary Representatives and only be available upon written request to the SC.

2.4.4 Right to participate as a non-voting member of technical subcommittee activities as set forth in the Policies. Participation in technical subcommittees is voluntary and at the discretion of the Associate Member.

2.5 TPC Professional Affiliates

2.5.1 Definition. TPC Professional Affiliates (Affiliates) are those individuals designated by the TPC as engaged in business activity that complements or helps fulfill the TPC’s mission.

2.5.2 Qualifications. Affiliates cannot be Members, Committee Members, or Associate Members, or appointed representatives of Members, Committee Members or Associate Members, and must be engaged in business activity that complements or helps fulfill the TPC’s mission. Appointment of Affiliates is at the complete discretion of the TPC.

2.5.3 Types of Affiliates

2.5.3.1 Auditors and consultants are automatically granted Affiliate status when they are certified or hired, respectively.

2.5.3.2 The SC may grant Affiliate status to certain qualified individuals. The SC shall notify the Council at the next General Meeting of this action.

2.5.4 Privileges and Status, Rights, and Restrictions

Affiliates can participate in all teleconferences and meetings. Affiliates have no standing in the TPC as Members and, therefore, cannot make motions or vote on motions.

Affiliates, by default, have open access to the TPC Confidential information that they require to conduct their activities relevant to the TPC’s mission.

Affiliates are restricted from access to TPC Confidential information and discussions, such as budgets, contracts, and other matters as deemed appropriate by the SC or Council.

2.5.5 Responsibilities. Affiliates accept the responsibility to maintain all TPC Confidential information as confidential.
2.5.6 **Termination of Status.** At any time, the SC may recommend to Council that an Affiliate’s status be revoked, reduced, or suspended. The Council will take action at the next General Meeting. In addition, when a TPC consultant’s contract expires, their Affiliate status is automatically terminated. The SC shall notify the Council at the next General Meeting of this action.

2.5.7 **Payments.** TPC Professional Affiliate, as the name suggests, is a privileged status granted to certain qualified individuals. In and by itself, an Affiliate is not a TPC employee or paid consultant, and the TPC will not pay, or reimburse expenses, for anyone acting in the role of affiliate. Affiliates will not pay the TPC for the appointment to Affiliate status.

2.6 **Procedure for Expulsion of a Member**

If the grounds appear to exist for expulsion of a Member, Committee Member or Associate Member under the Bylaws § 2.13(a), the procedure set forth below shall be followed.

2.6.1 Only a Council vote can initiate the expulsion process. The motion and vote to initiate the expulsion procedure are conducted under the TPC's normal voting procedures.

2.6.2 Once the Council votes to initiate the procedure, the SC will be asked to study the issue and make a recommendation at the next General Meeting. The affected Member shall be given an opportunity to be heard before the SC, either orally or in writing. The affected member may also send a letter or presentation to All Members via the Administrator.

2.6.3 Before the next General Meeting, All Members will be given 15 days prior notice of the proposed expulsion and the reasons for proposed expulsion by the Administrator. Notice shall be given by any method reasonably calculated to provide actual notice. Any notice given by mail shall be sent by first-class or registered mail to the Primary Representative.

2.6.4 At the next General Meeting after the expulsion process is initiated, the SC will present its recommendation and the Council shall discuss whether or not the member should be expelled, suspended, or sanctioned in some other way. The affected member shall be given the opportunity to be heard, either orally or in writing. The Council will then vote on whether to send out a Mail Ballot to determine whether the affected member shall be expelled.

2.6.5 If the Council votes to send out a Mail Ballot, the Members will have 30 days to respond. A decision to expel shall have immediate effect. To pass, a Mail Ballot for expulsion requires at least two-thirds of the Members to vote in favor.

2.6.6 In the event of expulsion, dues are not refunded.

2.7 **Mergers, Acquisitions, Divestitures**

2.7.1 **Non-transferability.** Memberships may not be sold, donated or otherwise transferred to another corporation. The named entity associated with a membership may change, based on an acquisition, merger or divestiture, as described in Policies § 2.7.2 and Policies § 2.7.3.

2.7.2 **Mergers and Acquisitions**

2.7.2.1 **Only one Member is involved:** When only one of the companies involved is a Member, all rights associated with the membership and associated positions on both technical subcommittees and Standing Committees are retained. The parent company has the right to designate which company is to be named the Member.

2.7.2.2 **Two or more Members are involved:** When more than one Member is involved in a merger or acquisition, at most one Member from the set remains on the TPC Board of Directors, as stipulated in the Bylaws. The remaining or new Member is responsible for all outstanding
financial obligations of the other Members of the set. It is the responsibility of the remaining or new Member to designate a Primary Representative. Any conflicts are resolved per Policies § 2.2.1.1.

2.7.2.3 Committee participation is resolved as follows:

2.7.2.3.1 The existence of either Member on a technical subcommittee results in the existence of the joined company on that subcommittee, retaining at most one vote.

2.7.2.3.2 Individuals from either Member who were elected to Standing Committee or chair positions will retain their positions, except as defined in Policies § 2.7.2.3.3.

2.7.2.3.3 If the merger or purchase would result in two individuals from the same Member being in a single Standing Committee, only one may remain on the committee. Neither individual will have voting privileges until a designation of a single committee member is made by the Primary Representative.

2.7.3 Divestitures. When a member company divests a portion of its business, the rights and privileges associated with membership and individual participation on committees may be retained by at most one company.
Section 3: TPC Organization

3.1 Standing Committees

3.1.1 Membership
Membership on all Standing Committees consists of Primary Representative and/or Secondary Representatives of Members who are formally nominated and elected in a closed ballot in the Annual Meeting. A Member can only have one representative on any particular Standing Committee.

Membership on all Standing Committees is based on individuals and not companies. A Member company can only have one seat on a Standing Committee, with only one individual (elected by the Council) representing that company. An individual can belong to multiple Standing Committees concurrently. The Standing Committees are SC, TAB, and PRC.

3.1.2 Voting for Membership on Standing Committees
Representatives on all Standing Committees are determined by a closed ballot in which the nominee(s) receiving the most votes is (are) chosen. In no case shall a representative be elected with less than a Simple Majority. In the event a run-off is necessary, the candidate with the fewest votes will be eliminated and the vote will be repeated. A Standing Committee has a chairman, elected by Simple Majority at the Annual Meeting. In the event a run-off is necessary, the candidate with the fewest votes will be eliminated and the vote will be repeated.

3.1.3 Membership Based on Member Company Affiliation
Membership on all Standing Committees is based on the election of particular individuals affiliated with the Members. If an individual's affiliation with a Member terminates, the individual's position on the committee becomes vacant. The resulting vacancy is filled through a new election at the next General Meeting.

3.1.4 Attendance for Standing Committees
Standing Committee meetings shall be either conducted in-person or by video conference or similar communications equipment, as specified in the meeting notice. For in-person meetings, physical attendance by Standing Committee members at the designated location is required for purposes of establishing quorum and voting. For meeting by video conference, all Standing Committee members participating must be able to hear and see one another for purposes of establishing quorum and voting.

3.1.5 Attendance Requirement
A Standing Committee member must be present for at least 50% of Standing Committee meeting time during the five-month period prior to a General Meeting, unless the Standing Committee has not met for more than 10 hours within the last five months or the individual was first elected to the position during the five-month period. Failure to do so will cause the individual's position on the Standing Committee to become vacant as of the beginning of the General Meeting. The resulting vacancy is filled through a new election at the General Meeting. If the same individual who lost the position is elected to the Standing Committee, the individual’s attendance time is set at 50%.

Meeting time includes both face-to-face meetings and video conferences. Policies § 3.1.4 defines attendance for the purpose of this clause. The Standing Committee chairman is responsible for maintaining attendance records and determining compliance with this clause, subject to review of the Standing Committee in the event of any disagreement. Attendance will be recorded in ½ hour increments. To encourage participation, the Standing Committee chairman may require a Member be present for the majority of the ½ hour to be credited for the time.
3.2 **Steering Committee**

As defined by the *Bylaws*, the Steering Committee (SC) consists of five representatives from the Members. The SC is a Standing Committee.

3.2.1 **Steering Committee Operating Rules**

3.2.1.1 **Quorum.** At least three SC members must be present for the SC to conduct business.

3.2.1.2 **Voting.** All motions in the SC are passed by a Simple Majority.

3.2.1.3 **Non-recusal.** A member of the SC can vote on any motion in the SC, even if the member’s company is involved in the issue/request.

3.2.1.4 **Meetings.** See *Policies § 4.3*.

3.2.2 **Duties of the Steering Committee**

3.2.2.1 **Direction.** The SC assures that an overall direction is in place for the TPC. The SC will propose for Council approval implementation plans for achieving the direction. Tracking TPC activities against implementation plans will be an ongoing responsibility of the SC. Annual direction statement and implementation plans are to be in place by the end of each calendar year for the upcoming year.

3.2.2.2 **Operations.** The SC ensures that the Bylaws, Policies, and Procedures are sufficient to support the TPC's direction and operations and promote consistency and accuracy by Members and support organizations.

3.2.2.3 **Subcommittees.** The SC may propose subcommittees and workgroups, as needed with their task assignments and select members for the subcommittees, but the definition, duration, and selection must be approved by the Council. In order to drive subcommittee activity, the SC may require task definition from the subcommittee chairman within 30 days of initiation of a subcommittee. Each subcommittee will present a brief report at each General Meeting and a formal written subcommittee report can be requested by the SC on an annual basis at the final General Meeting each year.

3.2.2.4 **Officers of the TPC.** As defined in the Bylaws, the duties of officers of the TPC, President and Chief Executive Officer, Secretary, and Chief Financial Officer, resides in the SC. The chairman of the SC is the legal representative of the TPC. Therefore, SC duties include responsibilities for assuring the minutes of all General Meetings are published and that accurate financial records are maintained.

3.2.2.5 **Banking.** The SC is responsible for establishing banking agreements and practices for money management for the TPC.

3.2.2.6 **Support Organizations.** The SC selects and recommends support organization(s) for the TPC to accomplish administrative, legal and accounting functions. Each of the support activities will be managed directly by the SC. The SC is to assure that the following minimal functions are accomplished by itself or these support organizations:

3.2.2.6.1 **Administrative.** Provide day-to-day administrative support for the TPC, including: meeting preparation, arrangement, and logistics; recording and posting of minutes of General Meetings; mail ballots; video conference preparation and logistics and minutes; maintenance of records of all TPC activities and transactions; maintenance of master copy of any TPC Specification and Benchmark Standard; distribution of materials internally to the members; contact point for all TPC correspondence; chairing General Meetings; collecting membership dues and retaining in TPC account; paying external organizations and receiving payment from external organizations; and maintaining accurate financial records of expenses and income.
3.2.2.6.2 **Legal.** Represent the legal interests of the TPC, including: securing of corporate status; tax exemption; reviewing all legal agreements between members and the TPC; and reviewing all legal agreements between the TPC and other outside organizations.

3.2.2.6.3 **Accounting.** Compile accounting reviews and reports, including preparing and submitting tax returns; publishing financial report; and compiling financial statements of corporate income and expenses.

3.2.2.6.4 **Spokesperson.** The TPC Spokesperson (Spokesperson) is the primary contact with the press concerning TPC public relations. This person is also responsible for public relations and coordinating with the SC and the PRC.

3.2.2.6.5 **Administrator.** The TPC Administrator (Administrator) is the primary contact for business within the TPC. The role of Administrator shall be carried out by either an individual or an organization.

3.2.2.6.6 **Performance Reviews.** Periodically (at least once annually) review the performance of Affiliates and provide recommendations to the Council.

3.2.3 **Steering Committee Operating Procedures**

The SC's operating procedures are:

3.2.3.1 All SC meetings are open to Members. Non-members may attend by invite from the Administrator. An agenda is posted to the Private Web Site.

3.2.3.2 The SC maintains a running list of issues for SC consideration. This list is attached with minutes of the SC meetings.

3.2.3.3 Each SC meeting has minutes posted to the Private Web Site. The minutes capture actions taken, and decisions reached in the SC meetings.

3.2.3.4 SC decisions and/or actions that require Council approval are posted to the Private Web Site at least 10-working days prior to presentation at a General Meeting.

3.2.3.5 Input on any open issues and/or suggestions for items to be considered by the SC is open to All Members at all times. Use of facsimile, mail, or e-mail is sufficient to allow input to be received by any or all members of the SC. Each General Meeting will have a session devoted to discussing SC status and issues.

3.2.3.6 The above formalization is not intended to limit the SC. Some issues will require resolution within the two weeks between an announced agenda and the next General Meeting. These items will be documented after decisions are reached, since time does not allow input in the mode of formal agenda and open issues as described. The intent is to keep these actions to a minimum, but the SC must have flexibility to react when needed.

3.3 **Technical Advisory Board**

The Technical Advisory Board (TAB) consists of seven representatives from the Members. The TAB is a Standing Committee. The TAB hears arguments on both sides of interpretation and compliance issues and makes recommendations in the form of motions to the Council. The Council then makes binding decisions.

The TAB responds to requests from Pre-Publication Boards to address conflicts within the Pre-Publication Board reviewing a Result.

The TAB shall provide to the Council a statement of the issues brought to the TAB as well as recommendation(s) for resolution with rationale for the recommendations.
Comment: The TAB will not provide the Council a statement of the issues brought to the TAB by Pre-Publication Boards.

3.3.1 TAB Charter. The TAB is responsible for providing analysis, definition and recommended resolution to requests for interpretations and compliance questions to Benchmark Standards.

Comment: The TAB is not responsible for providing recommendations or resolutions to issues related to the Bylaws, Policies, Procedures and other aspects of the TPC.

3.3.2 TAB Operating Rules

3.3.2.1 Quorum. At least four TAB members must be present for the TAB to conduct business.

3.3.2.2 Voting. All motions in the TAB are passed by a Simple Majority.

3.3.2.3 Non-recusal. A member of the TAB can vote on any motion in the TAB, even if the member's company is involved in the issue/request.

3.3.2.4 Meetings. See Policies § 4.3.

3.3.3 TAB Operating Procedures for Compliance Challenges

The TAB will conduct business using the following procedures when handling compliance challenges.

3.3.3.1 Receive (by TAB chairman) the Compliance Challenge Document containing information dictated by the Compliance Template provided on the Private Web Site.

3.3.3.2 The member company raising the compliance issue (challenger) distributes the Compliance Challenge Document to both the TAB chairman and the Primary Representative of the Test Sponsor involved. The TAB chairman will note and log the submission of the issue but will not immediately schedule the issue for TAB review.

3.3.3.3 The Test Sponsor whose benchmark Results are in question has seven days to respond in writing to the member who submitted the issue.

3.3.3.4 If the challenger and the Test Sponsor agree that more than seven days are needed to respond to the issue, the challenger must notify the TAB chairman of the new schedule. The TAB chairman will extend the seven-day period appropriately.

3.3.3.5 If the issue is resolved via the above communication without changes to the FDR, the challenger notifies the TAB chairman that the issue has been resolved and provides the specific details. The issue is not added to the TAB work list.

3.3.3.6 If the Test Sponsor's response to the issue does not resolve the issue to the satisfaction of the challenger or changes were made to the FDR, the issue will be scheduled for the review process of the TAB. The initial response to the issue will be forwarded to the TAB for inclusion in the review process. The Compliance Challenge Document will also be posted to the Private Web. When the issue is scheduled for discussion, the Primary Representatives will be notified of the agenda and web site location of the Compliance Challenge Document. Any interested Members may request of the TAB chairman that they be included in communications sent to the TAB on this issue.

3.3.3.7 If the Test Sponsor does not respond to the issue within the agreed period of time (see Policies § 3.3.3.3 and Policies § 3.3.3.4), the issue will be scheduled for the review process of the TAB.

3.3.3.8 If the issue is not resolved, the TAB will review the issue for merit and vote on accepting or rejecting the request at the next conference call/meeting.
3.3.3.9 A conference call/meeting time will be scheduled for discussion of the issue. At this discussion, the challenger and the Test Sponsor will be requested to present their arguments.

3.3.3.10 Further discussion by the TAB (if needed) will occur until a recommendation for resolution vote passes by the TAB. The TAB will post the recommendation to the Private Web Site and notify All Members and Auditors. This recommendation(s) will be presented to the TPC for vote at a General Meeting.

3.3.3.11 If the challenger fails to attend the scheduled TAB conference call/meeting, the question of compliance will be dropped. If the Test Sponsor fails to attend, the TAB will develop the recommendation resolution based on the information available to the TAB.

3.3.3.12 The procedure and rules for the TAB processing a challenged Result is described in the Policies § 6.12 and Policies § 6.13.

3.3.4 TAB Operating Model for Interpretation Requests

The TAB will conduct business under the following model when handling interpretation requests.

3.3.4.1 Receive (by TAB chairman) request containing information dictated by the Interpretation Template provided on the Private Web Site.

3.3.4.2 Distribute request to TAB members, post to the Private Web Site, and notify All Members.

3.3.4.3 Add the issue to the TAB work list and schedule discussion.

3.3.4.4 The TAB will provide a ruling, which will be binding until the Council votes on the TAB recommendation. The TAB will post the ruling to the Private Web Site and notify All Members.

3.3.4.5 The TAB will present the ruling at the next General Meeting as a recommendation to the Council for ratification. If the Council does not approve the recommendation, the TAB ruling expires.

3.3.5 TAB Operating Model for Pre-Publication Board Clarifications or Conflict Resolution Requests

3.3.5.1 The TAB will conduct business under the following model when handling Pre-Publication Board requests for clarifications and/or conflict resolution.

3.3.5.2 Distribute the request to TAB members.

3.3.5.3 Add the issue to the TAB work list and schedule discussion for the next semiweekly TAB call.

3.3.5.4 The TAB will provide a ruling to the Pre-Publication Board which will be binding.

3.3.5.5 The TAB will be held to the same confidentiality standards as the Pre-Publication Board (see Policies § 10.4).

3.3.5.6 A TAB member who is also serving on the Pre-Publication Board making the request must recuse themselves from the TAB’s decision. They may participate in the discussions.

3.3.6 TAB Compliance Recommendations

3.3.6.1 If the TAB finds that a Result failed to satisfy one or more Benchmark Standard requirements, the TAB will recommend to the Council that either: (1) the Result has an insignificant deviation from the Benchmark Standard or (2) the Result is non-compliant.
3.3.6.2 Non-compliance is recommended to the Council if and only if the TAB finds that at least one of the following conditions is applicable:

- Failure to satisfy one or more requirements of the Benchmark Standard that results in incorrect operation of the functions in the business environment the benchmark represents (e.g. Transparency, ACID) regardless of the impact on the primary metrics.
- Failure to meet any of the following items: Audit, Availability, Orderability, Clause 0.2, and requirements applied to any Numerical Quantities listed in the Executive Summary.
- The aggregate effect of one or more violations results in more than a 2% difference in price/performance or performance metrics.
- There is an excessive number of clauses violated even though the aggregate difference in price/performance or performance primary metrics is less than or equal to 2%.
- A violation against the same clause language has been voted twice before for the same Test Sponsor within the two-year period prior to the result's submission date.

3.3.6.3 If a non-compliance or insignificant deviation recommendation does not result from the TAB review, the Council will be informed of the TAB findings during the next General Meeting. Any Member who disagrees with the TAB's findings may move that the Result is in noncompliance or insignificant deviation. This motion from the floor must be made at the time of the TAB report to the Council. Only information presented during the TAB discussion may be used during the General Meeting.

3.3.6.4 The TAB shall make its recommendation on compliance objections filed against a Result as expeditiously as possible; the Council must be able to vote on the TAB recommendation no later than the second General Meeting after the challenge was submitted. If there is no vote, the Result achieves Accepted status.

Comment: The intent of this clause is that a Test Sponsor's Result receives expeditious Council attention, and that there be a limited time during which a Result remains in review.

3.3.7 TAB Option for Immediate Correction or Withdrawal

To prevent harm to the integrity and acceptance of Results, the TAB can encourage prompt corrective action on the part of a Test Sponsor through the following actions.

3.3.7.1 Immediate Correction

3.3.7.1.1 Whenever the TAB determines that a Result is in "non-compliance", it has the option of stipulating a deadline for the Test Sponsor to correct the problem. The TAB selects the deadline to be reasonably attainable based on the information it has heard and its own assessment, but as early as possible in order to protect the integrity of Results.

3.3.7.1.2 If the Test Sponsor meets the deadline and the TAB is satisfied with the correction, the TAB reports this at the next General Meeting.

3.3.7.1.3 Should the Test Sponsor not meet the deadline, or if it does but the TAB is dissatisfied with the correction, the TAB will vote to recommend that the Test Sponsor be found to have committed a Level 3 ("Major") policy violation, as described in the Policies § 8.4.1.6.

3.3.7.1.4 In accordance with standard policy procedures, the Council will vote on the TAB's recommendation on "non-compliance", and also conduct a separate vote on the TAB recommendation on the policy violation.

3.3.7.2 Immediate Withdrawal of Result
After the TAB has found a Result to be non-compliant, the TAB may take a separate action to initiate immediate withdrawal of the Result. If the TAB votes that the Result should be immediately withdrawn, this recommendation will be forwarded to the SC. The SC must vote to approve the immediate withdrawal. If the TAB and SC both vote in favor of immediate withdrawal, the result will be immediately withdrawn by the Administrator as a category #3 withdrawal (see Policies § 6.14.2.3).

3.4 Public Relations Committee

The Public Relations Committee (PRC) consists of five representatives from the Members. The PRC is a Standing Committee. The PRC makes recommendations in the form of motions to the Council. The Council then makes binding decisions.

3.4.1 PRC Charter. The PRC is responsible for promoting the TPC, its charter, and its activities in the public arena; encouraging use of TPC Benchmark Standards; working with the press for the advancement of the TPC and its public image; and helping to recruit new members.

3.4.2 PRC Operating Rules

3.4.2.1 Quorum. At least three PRC members must be present for the PRC to conduct business.

3.4.2.2 Voting. All motions in the PRC are passed by a Simple Majority.

3.4.2.3 Non-recusal. A member of the PRC can vote on any motion in the PRC, even if the member’s company is involved in the issue/request.

3.4.2.4 Meetings. See Policies § 4.3.

3.4.3 PRC Operating Model. The PRC will conduct business under the following model.

3.4.3.1 Interact with the Administrator and/or the Spokesperson on behalf of All Members.

3.4.3.2 Provide initiative in dealing with the press and the public.

3.4.3.3 Work out the details on implementing publicity items delegated by the Council, the SC, or on items recommended by the Administrator or the Spokesperson.

3.4.3.4 Voting on PRC recommendations. Any materials produced by the PRC that are intended to be viewed by the public must be presented to the Council for approval.

3.5 Technical Subcommittees

3.5.1 Benchmark Subcommittees

3.5.1.1 General. A Benchmark Subcommittee is the working forum within the TPC for development and maintenance of one or more Benchmark Standards, Umbrella Specifications, or TPC-Provided Software that is independent of a Specification. Throughout the benchmark development and approval process, the subcommittee owns the Specification and drives it to be an approved TPC Benchmark Standard.

Once a Specification is approved as a TPC Benchmark Standard, the Benchmark Subcommittee becomes the working forum within the TPC for developing and recommending changes to an approved Benchmark Standard. If a Test Sponsor has a suggested change to the wording of a Benchmark Standard that would help clarify the Benchmark Standard in the next revision and is not a compliance issue, the Benchmark Subcommittee will handle this suggestion. If the Test Sponsor wants a ruling whether a certain implementation is compliant with the current Benchmark Standard, the TAB will handle this request.
A Benchmark Subcommittee may make recommendations to the Council to change the Benchmark Standard. Benchmark Subcommittee recommendations may include changes in wording of the Benchmark Standard for clarity, interpretations, closing a "loophole" or actual change in intent.

The Benchmark Subcommittee will have the final responsibility for creating a new version of a Specification to be submitted to the Council for approval as a Benchmark Standard. The Benchmark Subcommittee may also document any implementations of the benchmark it considers valid. This documentation will be attached to the Benchmark Standard.

The number of active Benchmark Subcommittees or whether an existing Benchmark Subcommittee handles more than one Specification and/or Benchmark Standard is determined by the Council based on need.

3.5.1.2  Auditor Exam. The Benchmark Subcommittee is responsible for developing and maintaining an auditor exam for the Benchmark Standard (see Policies § 9.3.2).

3.5.1.3  TPC-Provided Software. The Benchmark Subcommittee is responsible for developing and maintaining the TPC-Provided Software that may be required by a Benchmark Standard. This work must be performed in accordance with the procedures outlined in Policies § 13.4.

3.5.1.4  Authorization to conduct work: The Benchmark Subcommittee will continue to conduct work on behalf of the proposed or completed Benchmark Standard until it is disbanded by the act of the Council.

3.5.1.5  Minimum Membership: At the time of creation at least eight Members or Committee Members must be represented on a Benchmark Subcommittee.

3.5.1.6  Chair: At the time of creation the chairman is elected by Simple Majority of the Council. At the Annual Meeting the chairman is elected by Simple Majority of the Council. In the event a run-off is necessary, the candidate with the fewest votes will be eliminated and the vote will be repeated.

3.5.2  Working Groups

3.5.2.1  General. A working group is a technical subcommittee that is created by the Council to complete a specific task. The working group is the forum within the TPC for researching or investigating an issue. The Council may give a specific time in which the working group must report its findings to the Council. Once the working group has completed its task, it is disbanded.

3.5.2.2  Minimum Membership: At the time of creation at least four Members or Committee Members must be represented on a working group.

3.5.2.3  Chair: At the time of creation, the chairman is elected by Simple Majority of the Council. At the Annual Meeting the chairman is elected by a Simple Majority of the Council. In the event a run-off is necessary, the candidate with the fewest votes will be eliminated and the vote is repeated.

3.5.3  Membership

Membership on a technical subcommittee is voluntary with approval by Simple Majority of the Council. Subcommittee membership requires commitment by the member company to provide a working representative throughout the life of the technical subcommittee. Each Member is entitled to one voting representative on each technical subcommittee.

3.5.4  Technical Subcommittee Operating Rules

3.5.4.1  Minimum Membership. If at any time the number of voting members falls below three, the subcommittee chair shall notify the Steering Committee. The Steering Committee may wish
to prepare for possible dissolution of the technical subcommittee or take other preventive measures to improve participation.

3.5.4.2 **Quorum.** The greater of one-third of the voting members or three voting members of a technical subcommittee must be present to conduct business.

If a technical subcommittee repeatedly has difficulty meeting its quorum requirement, the technical subcommittee chair shall notify the **Steering Committee.** The **Steering Committee** may wish to prepare for possible dissolution of the technical subcommittee or take other preventive measures to improve participation.

3.5.4.3 **Voting.** All technical motions in technical subcommittees must pass by a two-thirds majority of the "yes" and "no" votes cast, with abstentions not counting. At least a quorum of the subcommittee must vote "yes" or "no" or the motion fails. All procedural motions in the subcommittee are passed by **Simple Majority.**

**Comment:** Using two-thirds majority of yes and no votes with abstentions not counting in technical subcommittee ensures that technical subcommittees proceed with a strong consensus among subcommittee members concerned with the issue. If a strong consensus cannot be generated, the subcommittee should keep working until that consensus is gained. Motions to discuss technical content are procedural and are passed by **Simple Majority.**

3.5.4.4 **Meetings.** See Policies § 4.3.

3.5.4.5 **Suspension of Voting Rights.** A technical subcommittee member must be present for at least 50% of the technical subcommittee meeting time during the five-month period prior to a technical subcommittee meeting, unless the technical subcommittee has not met for more than 10 hours within the last five months or the member obtained membership during the five-month period. Failure to do so will cause the member to lose the right to vote on technical subcommittee matters. The member’s voting rights are reinstated when the technical subcommittee member’s attendance is at least 50% of the technical subcommittee meeting time over the prior five months.

Meeting time includes both In-person Only meetings and telephone/video conferences. Policies § 4.3 defines attendance for the purpose of this clause. The technical subcommittee chairman is responsible for maintaining attendance records and determining compliance with this clause, subject to review by the technical subcommittee in the event of any disagreement. Attendance will be recorded in ½ hour increments. To encourage participation, the technical subcommittee chairman may require a member be present for the majority of the ½ hour to be credited for the time.

3.5.4.6 **Substantial Work Outside of Technical Subcommittee Meetings.** Substantial work outside of the technical subcommittee meetings is credited to the member attendance requirements as specified in Policies § 3.5.4.5. The work must be beyond the typical work of the technical subcommittee. Examples of typical work are specification review, general software validation, specification wording creation or general committee communications. The work must be a substantial contribution relevant to the technical subcommittee effort, e.g. software development, specification ownership, detailed workload analysis or workload prototyping. After the work has been presented to the technical subcommittee, the member and subcommittee chairman agree on the number of hours required for the work. The technical subcommittee chairman credits the outside work hour for hour to the member’s attendance time as specified in Policies § 3.5.4.5. Any disagreement on the number of credited hours is resolved by a technical subcommittee vote.

3.5.4.7 **Voluntary Termination of Membership.** At any time, a member can voluntarily terminate membership in a technical subcommittee. The **Primary Representative** must notify the technical subcommittee chairman and the **TPC Administrator** in writing that the member is terminating membership in the technical subcommittee. If the technical subcommittee chairman is voluntarily terminating membership, a temporary chairman is chosen by **Simple Majority** vote of the subcommittee.
3.5.4.8 **Involuntary Termination of Membership.** If at the time of a **General Meeting**, a member’s attendance time has fallen below 20% of the technical subcommittee meeting time, the subcommittee chairman must notify the **Council**. Upon notification to the **Council**, the member will lose membership in the technical subcommittee. A member may request to remain on the technical subcommittee with approval by a **Simple Majority** vote of the **Council**. The member attendance time is set at 20%.

3.5.5 **Minimum Membership Requirements**

When the membership of a technical subcommittee falls to three or fewer members, the subcommittee chairman must notify the **Council** at the next **General Meeting**. Upon notification by the subcommittee chairman to the **Council** that the subcommittee membership is three or fewer members, the **Council** must authorize the subcommittee to continue work; failure to do so will result in the termination of the subcommittee.
Section 4: Meetings and Mail Ballots

4.1 Meetings

4.1.1 Attire
Attire at all TPC meetings is informal.

4.1.2 Meeting Costs
Travel, lodging, and all other costs associated with attendance at TPC meetings are the responsibility of the attendees. The TPC may, at the discretion of the SC, pay for some meetings expenses on an exceptional basis.

4.1.3 Conduct of Meetings
Meetings shall be conducted in accordance with documented Bylaws and Policies. In situations not covered by documented Bylaws and Policies, Robert's Rules of Order shall apply.

4.1.4 Duties of Chairman
This section refers to the duties and conduct of chairmen elected within the TPC.

4.1.5 Participation of Chairman in Discussion. The chairman must tell the group when he is placing himself on the list of people to be recognized. If there are restrictions imposed on the number of times or length of time a person may speak on an issue, the chairman must adhere to the same restrictions. The chairman and the General Meeting chairman in particular, facilitates group discussion and should be very selective in participating in discussion.

4.1.6 Motions from Chairman. A chairman, other than the chairman of the General Meeting, may recognize himself to make a motion, but should encourage the motions to come from the subcommittee. The chairman of the General Meeting may not make a motion.

4.1.7 Summary of Group Decisions. The chairman may summarize the decisions of the group to facilitate discussion in his role as chairman.

4.1.8 Voluntary Temporary Replacement of Chairman. The chairman may voluntarily step down during discussion of an issue. The temporary replacement (chairman pro tem) shall be nominated and elected by the group. The chairman pro tem is elected by Simple Majority. In the event a run-off is necessary, the candidate with the fewest votes will be eliminated and the vote will be repeated. At the conclusion of the discussion of the issue, the chairman pro tem will transfer the chairmanship back to the normal group chairman.

Involuntary Temporary Replacement of Chairman. The chairman may be temporarily replaced by the group when there is a real or perceived conflict of interest by the chairman in the issue being considered. This shall be a Simple Majority decision. The temporary replacement (chairman pro tem) shall be nominated and elected by the group. The chairman pro tem is elected by Simple Majority. In the event a run-off is necessary, the candidate with the fewest votes will be eliminated and the vote will be repeated. At the conclusion of the discussion of the issue, the chairman pro tem will transfer the chairmanship back to the normal group chairman.
4.2 General Meetings

4.2.1 Frequency of General Meetings
The time and location of meetings shall be determined and approved by a Simple Majority of the Council. In general, the Council will attempt to meet on a bimonthly schedule, after the Annual Meeting, with minimum of four meetings each year and attempt to set the time and location at least six months in advance.

Annual Meetings will be in-person meetings occurring in the first quarter of each calendar year. See Bylaws § 3.5(d)(i).

Board Meetings will be held via video conference, see Bylaws § 3.5(d)(ii), following the in-person Standing Committee and Technical Subcommittee meetings. Members will be notified by the Administrator of the meeting date, time, and method of attendance as per Bylaws § 3.5(c).

4.2.2 Modifications to Meeting Schedule
The SC may adjust the dates of a General Meeting, without a vote by the Council, if the previously approved dates are no longer viable at the approved location. The SC may not change the location of a General Meeting without such change being approved by a Simple Majority of the Council.

4.2.3 Location
The TPC will attempt to rotate Annual Meetings between locations in the west, center and east portions of the United States as well as international locations.

4.2.4 Meeting Minutes
The Administrator is responsible for recording and posting the minutes of the General Meetings. Any written presentation, visual aid, or document presented by a Member at a General Meeting must be provided to the Administrator prior to presentation for inclusion in the meeting minutes. Any Member may request the exclusion of material from the minutes; a decision by the Council to exclude material from the minutes shall be determined by a Simple Majority vote. Adobe Acrobat PDF and HTML are common formats for exchange of such documents; however, arrangements can be made with the administrator for alternate formats such as Microsoft PowerPoint, if convenient for both parties. Materials updated during presentation must also be provided by the end of the meeting.

4.3 Standing Committee and Technical Subcommittee Meetings

4.3.1 Meeting Forms
Standing Committee and Technical Subcommittee meetings shall be conducted in one of the following forms:

- In-person Only: Physical attendance by standing committee/technical subcommittee members at the designated location is required for purposes of establishing quorum and voting. Meeting time will be counted towards the meeting time requirements described in Policies § 3.1.4 and Policies § 3.5.4.5.

- In-person With Remote Presence: Physical attendance by standing committee/technical subcommittee members at the designated location is required for purposes of establishing quorum and voting. Meeting time will be counted towards the meeting time requirements described in Policies § 3.1.4 and Policies § 3.5.4.4 provided they can hear the discussions (through the use of telephone and/or video conference or similar communication equipment) and see the presentations (through the use of TPC approved web conferencing tools).
• Telephone/Video Conference: All standing committee/technical subcommittee members must be able to hear and/or see one another (through the use of telephone and/or video conference or similar communication equipment) for purposes of establishing quorum and voting. Meeting time will be counted towards the meeting time requirements described in Policies § 3.1.4 and Policies § 3.5.4.5. The chair of the standing committee/technical subcommittee is responsible for notifying the members of the meeting schedule and how the meeting will be conducted.

4.3.2 Frequency
In-person Only and In-person With Remote Presence meetings will occur on a bi-monthly schedule.

Telephone/Video Conference meeting frequency is dependent on the workload requirements of each standing committee and technical subcommittee

• The Steering Committee regular video conference meetings will be scheduled every week, or as necessary to meet the current workload requirements.
• The TAB regular video conference meetings will be scheduled semiweekly, or as necessary to meet the current workload requirements
• The PRC regular video conference meetings will be scheduled every two weeks, or as necessary to meet the current workload requirements
• Technical Subcommittee regular telephone/video conferences will be scheduled every week, or as necessary to meet the current workload requirements.

4.4 Voting Rules at General Meetings

The following voting rules shall apply at a General Meeting:

<table>
<thead>
<tr>
<th>Motion Pertains To</th>
<th>Voting Rule</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>election of individuals to</td>
<td>Candidates receiving most votes, but at least a</td>
<td>Policies § 3.1.2</td>
</tr>
<tr>
<td>Standing Committees</td>
<td>Simple Majority</td>
<td></td>
</tr>
<tr>
<td>approval of members on</td>
<td>Simple Majority</td>
<td>Policies § 3.5.3</td>
</tr>
<tr>
<td>Technical Subcommittees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>election of chairman for</td>
<td>Simple Majority</td>
<td>Policies § 3.1.2 and Policies §</td>
</tr>
<tr>
<td>Standing Committees and</td>
<td></td>
<td>3.5.1.6</td>
</tr>
<tr>
<td>Technical Subcommittees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>time and location of General Meetings</td>
<td>Simple Majority</td>
<td>Policies § 4.1</td>
</tr>
<tr>
<td>revocation of Auditor</td>
<td>Simple Majority</td>
<td>Policies § 9.3.5</td>
</tr>
<tr>
<td>certification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>non-compliance of a Result</td>
<td>Simple Majority</td>
<td>Bylaws § 3.5 (f)</td>
</tr>
<tr>
<td>policy violation</td>
<td>Simple Majority</td>
<td>Bylaws § 3.5 (f)</td>
</tr>
<tr>
<td>exclusion of presentation</td>
<td>Simple Majority</td>
<td>Policies § 4.2.4</td>
</tr>
<tr>
<td>material from meeting minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>authorization for a Mail Ballot</td>
<td>Simple Majority</td>
<td>Policies § 4.5.1.1</td>
</tr>
<tr>
<td>All other motions</td>
<td>Two-thirds as defined as a</td>
<td>Bylaws § 3.5 (f)</td>
</tr>
<tr>
<td></td>
<td>Super Majority</td>
<td></td>
</tr>
</tbody>
</table>

For convenience, the following definitions are included from Bylaws § 3.5 (f):
A Super Majority is defined as two-thirds of the Directors present and voting, excluding abstentions. A Simple Majority is defined as greater than 50% of Directors present and voting. Except as otherwise provided in the Articles, in these Bylaws, or by law, every act or decision done or made by a Super Majority at a meeting duly held at which a quorum is present is the act of the Board.

4.5 Mail Ballots

Certain decisions require a Mail Ballot, specifically: adoption of a TPC-Enterprise Benchmark Standard (Policies § 11.3.1) or a major revision to a TPC-Enterprise standard (Policies § 11.3.1), amendment of the Bylaws (Bylaws § 6.4), and expulsion of a member (Policies § 2.6.4). Other decisions may be put to a Mail Ballot, at the discretion of the Council.

4.5.1 Process for Conducting a Mail Ballot

4.5.1.1 Authorization. A Mail Ballot is authorized by a Simple Majority of the Council. The Council motion to authorize a mail ballot must include the complete and final text of the ballot in accordance with Policies § 4.5.1.4.

4.5.1.2 Eligibility.

4.5.1.2.1 Eligibility for a Mail Ballot for a Bylaws amendment is specified in Bylaws § 6.4. The number of votes needed to approve a Mail Ballot is relative to the number of eligible Directors at the time the ballot is authorized and does not change after that.

4.5.1.2.2 Eligibility for a Mail Ballot other than a Bylaws amendment is dependent on a Directors attendance at the General Meetings. A Director must be present for at least 50% of all General Meetings during the 12-month period prior to the General Meeting in which the Council authorizes a Mail Ballot to be eligible to vote in the Mail Ballot. For Directors who have not been a TPC Member for at least 12 months, they must be present for a minimum of two General Meetings and at least 50% of all General Meetings since they obtained membership. The number of votes needed to approve a Mail Ballot is relative to the number of eligible Directors at the time the ballot is authorized and does not change after that.

4.5.1.3 Distribution. The Administrator shall distribute the Mail Ballot in written form to the Primary Representatives of all Directors within seven days of authorization. In addition, the Mail Ballot shall be posted on the Private Web Site.
4.5.1.4 **Format.** A Mail Ballot shall follow the form and structure shown below.

<table>
<thead>
<tr>
<th>TPC Mail Ballot</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title of ballot measure:</strong></td>
</tr>
<tr>
<td><strong>Purpose of Mail Ballot:</strong></td>
</tr>
<tr>
<td>□ Adoption of a New Standard</td>
</tr>
<tr>
<td>□ Adoption of a Major Revision to an existing Standard</td>
</tr>
<tr>
<td>□ Amendment of the Bylaws</td>
</tr>
<tr>
<td>□ Expulsion of a Member</td>
</tr>
<tr>
<td>□ Other: &lt;describe purpose if not one of the above choices&gt;</td>
</tr>
<tr>
<td><strong>Question:</strong></td>
</tr>
<tr>
<td><strong>Date authorized:</strong></td>
</tr>
<tr>
<td><strong>Voting closes at:</strong></td>
</tr>
<tr>
<td>(Comment: for Adoption or Revision of a Standard, voting will close early when at least two-thirds of eligible members have voted in favor or more than one-third have voted against)</td>
</tr>
<tr>
<td><strong>Number of Members eligible to vote:</strong></td>
</tr>
<tr>
<td><strong>Number of votes required for ballot to be valid:</strong></td>
</tr>
<tr>
<td>- or -</td>
</tr>
<tr>
<td>“N/A”</td>
</tr>
<tr>
<td>(See Policies § 4.5.2)</td>
</tr>
<tr>
<td><strong>Number of YES votes needed for approval:</strong></td>
</tr>
<tr>
<td>- or -</td>
</tr>
<tr>
<td>“two-thirds of votes cast”</td>
</tr>
<tr>
<td>(See Policies § 4.5.2)</td>
</tr>
<tr>
<td><strong>Members eligible to vote:</strong></td>
</tr>
</tbody>
</table>

**Voting Form**

To cast your ballot, complete the following and send to the TPC administrator.

TPC Member _________________ votes _________ ( YES / NO / ABSTAIN ) on the Mail Ballot titled “<title>”.

Signature of Primary Representative: ____________________
(if sent by email, signature is replaced by sending from primary rep’s email account on record with the TPC)

Date and time: _____________________
4.5.1.5 Voting. Votes must be cast in written form, including, but not limited to, hard copy, fax, or email. Votes must be received by the Administrator before the closing date and time specified in the ballot. Votes must be cast by the Primary Representative. In the case of hard copy or fax, the ballot must be signed. In the case of email, the ballot must be sent from the Primary Representative’s email account on record with the TPC. A Primary Representative may change his company’s vote at any time before the ballot closes by submitting another ballot. The Director’s vote will be based on the last valid ballot submitted. The Administrator will acknowledge receipt of each vote cast by the end of the next business day by sending email to the Primary Representative indicating how the ballot was cast or that there was a problem with the ballot that invalidated it.

4.5.1.6 Confidentiality. Prior to the vote closing, certain information is secret; specifically, who has voted, how they have voted, and the current tally shall be kept secret by the Administrator. Other information is not secret; specifically, the total number of qualified ballots received is not secret and shall be made available upon request and posted on the Private Web Site.

4.5.1.7 Certification. The results for a Mail Ballot are certified by the SC. After the vote closes, the Administrator shall announce the results, including how each Director voted, to All Members. Any Director who believes that his vote was incorrectly recorded may file a protest with the SC. A protest must be filed within seven days of announcement of the results. The SC will resolve protests by examining the record of ballots. The SC will certify the Mail Ballot results as soon as practical after the protest period ends. Once certified by the SC, the Mail Ballot result is final. The SC will inform All Members of the final result once it is certified.

4.5.2 The following table summarizes the timeline and voting thresholds for Mail Ballots:

<table>
<thead>
<tr>
<th>Mail Ballot Pertains To</th>
<th>Time to respond to mail ballot</th>
<th>Responses needed for ballot to be valid</th>
<th>Votes needed to pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expulsion</td>
<td>30 days (Policies § 2.6.5)</td>
<td>N/A</td>
<td>Two-thirds of the Directors (Policies § 2.6.5)</td>
</tr>
<tr>
<td>Approval of TPC-Enterprise standard or major revision</td>
<td>As soon as votes are decisive, but not more than 60 days. (Policies § 11.3.1)</td>
<td>Two-thirds of the eligible Directors (Policies § 11.3.1)</td>
<td>Two-thirds of those submitting a ballot (Policies § 11.3.1)</td>
</tr>
<tr>
<td>Amendment of Bylaws</td>
<td>As specified by the Council</td>
<td>N/A</td>
<td>Two-thirds of the Directors (Bylaws § 6.4)</td>
</tr>
<tr>
<td>Any other matter</td>
<td>As specified by the Council</td>
<td>As specified by the Council, but not less than quorum for a meeting. (Bylaws § 3.5 (e))</td>
<td>As specified by the Council, but not less than the thresholds set in Policies § 4.4.</td>
</tr>
</tbody>
</table>

4.6 Calendar of Recurring Events

Following is the calendar of the TPC recurring events. These periodic events are collected here for ease of reference; in case of a conflict precedence is given to the referenced clauses:
<table>
<thead>
<tr>
<th>Event</th>
<th>Due Date or Frequency</th>
<th>Calendar Date</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Election of individuals to Standing Committees</td>
<td>Annual Meeting of the calendar year</td>
<td>Typically February</td>
<td>Policies § 3.1.1</td>
</tr>
<tr>
<td>Annual budget</td>
<td>Before the dues are set and Members notified</td>
<td>October meeting</td>
<td>Policies § 2.1.1</td>
</tr>
<tr>
<td>Annual report</td>
<td>No more than 120 days after the close of the fiscal year</td>
<td>May 30*</td>
<td>Bylaws § 5.2</td>
</tr>
<tr>
<td>Statement of transaction or indemnification</td>
<td>With annual report</td>
<td>May 30*</td>
<td>Bylaws § 5.3</td>
</tr>
<tr>
<td>Dues notification</td>
<td>60 days before the end of the calendar year</td>
<td>November 1</td>
<td>Policies § 2.1.1</td>
</tr>
<tr>
<td>Written subcommittee Report</td>
<td>Final General Meeting of the calendar year</td>
<td>Typically December</td>
<td>Policies § 3.2.2.2</td>
</tr>
<tr>
<td>Annual direction statement and implementation plans</td>
<td>By the end of the calendar year</td>
<td>December 31</td>
<td>Policies § 3.2.2.1</td>
</tr>
<tr>
<td>Notification of the Members’ right to receive a financial report</td>
<td>Annually</td>
<td>December 31</td>
<td>Bylaws § 5.2</td>
</tr>
<tr>
<td>Time and location of each General Meeting</td>
<td>At least six months in advance</td>
<td></td>
<td>Policies § 4.1</td>
</tr>
</tbody>
</table>

* assumes close occurs at the end of the fiscal year on December 31
Section 5: Benchmark Standards and TPC-Provided Software

5.1 Benchmark Class

A Benchmark Class is a set of Benchmark Standards that have the same characteristics. The characteristics of the Benchmark Classes approved by the TPC are set forth in the TPC Policies. The addition, removal or modification of a Benchmark Class occurs with the approval of the changes to the TPC Policies in accordance with Policies § 4.2.3.

5.1.1 Benchmark Class Characteristics

5.1.1.1 Performance Metrics: The minimum required performance metrics reported by the Benchmark Standards. Additional optional performance metrics may be specified for the Benchmark Class by creating a Benchmark Standard for the optional metrics.

5.1.1.2 Validation Requirements: The minimum required validation of the benchmark result as defined by the Benchmark Standards in the Benchmark Class. The validation may be a formal third party audit or as simple as the review of a log file.

5.1.1.3 Disclosure Documentation Requirements: The minimum required documentation for the disclosure of the benchmark result for the Benchmark Standards in the Benchmark Class.

5.1.1.4 Benchmark Deliverables: The minimum required deliverables to be created by the Benchmark Subcommittees.

5.1.1.5 Benchmark Development Process: The minimum required process for the creation of a Benchmark Standard.

5.1.1.6 Voting Rules: The minimum required voting rules for the Benchmark Development process.

5.1.1.7 Benchmark Submission Rules: The minimum required process for submission of a Benchmark Standard Result to the TPC.

5.1.1.8 Benchmark Acceptance Rules: The minimum required process for acceptance of a Benchmark Standard Result by the TPC members.

5.1.1.9 Benchmark Fair Use Rules: The minimum required rules for using a Benchmark Standard Result in public information.

5.2 Benchmark Standard

At a minimum, a Benchmark Standard is a specification that describes the benchmark requirements sufficiently for a Test Sponsor to run the benchmark and submit a result to the TPC. A Benchmark Class may require that the Benchmark Standard use TPC-Provided Software.

5.2.1 Name: The name of any benchmark standard shall begin with the letters “TPC” to clearly identify the standard as belonging to the Transaction Processing Performance Council. A suffix is then added to uniquely identify the TPC Benchmark Class and Benchmark Standard.

5.2.2 Version: The first version of a Benchmark Standard is Version 1.0.0. New versions of a Benchmark Standard will use the versioning methodology defined in Policies § 5.3.

5.2.3 Class: All Benchmark Standards must identify the Benchmark Class governing the Benchmark Standard.
5.3 TPC-Provided Software

TPC-Provided Software may implement full or partial functionality of a Specification or may implement functionality independent of a Specification.

5.3.1 Name: The name of any TPC-Provided Software that is required by a Specification shall contain the suffix of the standard (See Policies § 5.2.1). There is no naming convention for TPC-Provided Software that is independent of a Specification.

5.3.2 Version: The first version of TPC-Provided Software is Version 1.0.0. New versions of TPC-Provided Software will use the versioning methodology defined in Policies § 13.4.

5.4 Revisions to a TPC Benchmark Standard or TPC-Provided Software

Results on different versions of a TPC Benchmark Standard are considered comparable unless the Council stipulates to the contrary. If the Council stipulates that Results on a new version are not comparable to Results on an older version, the Council will also stipulate any restrictions for publicly comparing older version Results with newer version Results.

5.4.1 If a Specification requires the use of TPC-Provided Software, the TPC-Provided Software must use the same major, minor and third-tier version numbering as the Specification and the major and minor version numbers must match for a published result.

5.4.2 There are three types of revisions:

5.4.2.1 Third Tier Revision. Third tier changes are only those changes that clarify some confusing or ambiguous area of the Specification but do not change the workload or Specification's intent or meaning. A new version with third tier revisions is denoted by incrementing the value in the second decimal place after the major revision number. For example, a third tier revision to Version 1.2.3 is Version 1.2.4. Third tier revisions include the following:

- Insignificant editorial changes (i.e., changes that don't change the meaning of the specification, or the implementation of TPC-Provided Source Code)
- TAB interpretations
- Critical logic or portability fixes to TPC-Provided Source Code. Examples include new query variants (such as those used in TPC-H and TPC-DS), configuration files (to support new platforms, operating systems, compilers, or data managers), or corrections to program logic that are required to produce a valid benchmark Result.

Voting rules for the acceptance of a Third Tier Revision of a Benchmark Standard are specified in the Benchmark Class requirements.

5.4.2.2 Minor Revision. Minor revision changes are those which alter the workload, intent, and/or meaning of the Specification and/or TPC-Provided Source Code, but in such a way that new Results are still comparable to the prior version. A change is defined as "minor" or "major" depending on whether the Results are comparable with the older version of the Specification. A new version with minor revision changes is denoted by incrementing the value in the first decimal place after the major revision number and setting lower order positions to zero. For example, a minor revision to Version 1.2.3 is Version 1.3.0. Minor revisions include the following:

- Changes to the Specification that have an impact on how Test Sponsors implement the benchmark
- Changes to the TPC-Provided Source Code that affects the behavior or functionality of the benchmark
- Additional requirements
Voting rules for the acceptance of a Minor Revision of a Benchmark Standard are specified in the Benchmark Class requirements.

5.4.2.3 Major Revision. Major revision changes are those which are so significant to the workload or intent of the Specification as to make Results from this new version non-comparable with the older version. A new version with major revision changes is denoted by incrementing the value in the leftmost position of the version number and setting lower order positions to zero. For example, a major revision to Version 1.2.3 is Version 2.0.0.

Voting rules for the acceptance of a Major Revision of a Benchmark Standard are specified in the Benchmark Class requirements.

5.4.3 Distribution. Changes to a TPC specification are to be posted to the Web Site and All Members, Auditors, and benchmark subscribers notified.

5.4.4 Summary of Changes. Each revision to a Specification must include a summary of the changes from the prior revision. This summary must include the clause numbers of all clauses added, removed or modified, with exceptions made for redefined terms and formatting changes.

5.4.5 Obsolescence of Benchmark Standards

5.4.5.1 Obsolescence of Older Versions of a Benchmark Standard

For some period of time an older version of a Benchmark Standard and a new version of the Benchmark Standard will co-exist. The time period and voting rules to obsolete the older version of the Benchmark Standard are specified in the Benchmark Class Requirements. Once a version of a Benchmark Standard is deemed to be obsolete, no further Results may be published using that version of the Benchmark Standard.

5.4.5.2 Obsolescence of a Benchmark Standard

The requirements and voting rules to obsolete the Benchmark Standard are specified in the Benchmark Class Requirements. Once a Benchmark Standard is deemed to be obsolete, no further Results may be published using that Benchmark Standard.
Section 6: Results Publishing

6.1 Test Sponsor

The Test Sponsor is the company officially submitting the Result and will be charged the Filing Fee. The Test Sponsor is responsible for maintaining the Result with any necessary updates or corrections. The Test Sponsor is also the name used to identify the Result. Only the Test Sponsor can withdraw a Result, unless withdrawn by the Administrator based on a decision of the Council.

6.2 Reporting Processor Information

All benchmark Specifications must require disclosure of the number of Cores, Processors, and Processor Threads in the Executive Summary and/or the FDR. The reporting must use the following rules.

6.2.1 Core. Execution Unit that is capable of running one or more Processor Threads. If a hardware unit can run more than one concurrent Processor Thread without requiring the Processor Threads to share execution resources, it is more than one Core. It may rely on other "assist" units, such as cache, hardware accelerators, and the like - some or all of which may be shared by multiple Cores. The reported number of Cores must be the number of Cores that are enabled for the benchmark.

6.2.2 Execution Unit. The electronic circuits necessary to implement the semantics of all possible instructions in a computer architecture.

6.2.3 Processor. A component that contains one or more Cores. The number of processors claimed by the test sponsor must be consistent with the way the product is represented in the test sponsor's marketing collateral, including that which is not related to TPC benchmark Results. The reported number of processors must be the number of processors that are enabled for the benchmark.

6.2.4 Processor Thread. The hardware necessary to maintain the state of a Software Thread. The reported number of processor threads must be the number of concurrent processor threads that are enabled for the benchmark.

6.2.5 Software Thread. An instruction sequence that performs operations within an address space and is scheduled by software.

6.3 Pre-Publication Certification

Before a Result can be added to the TPC Results List (Policies § 6.4.1), the Result must be certified to be compliant with the spirit and letter of the Benchmark Standard by either a TPC certified Auditor (Policies § 9.3) or by a Pre-Publication Board (Policies § 10.2). The Benchmark Class determines the pre-publication certification requirements.

6.3.1 If a Benchmark Standard references an Umbrella Specification, the pre-publication certification requirements of the Umbrella Specification supersede the Benchmark Standard pre-publication certification requirements for the benchmark Results governed by the Umbrella Specification.

6.4 TPC Results List

The TPC will maintain a list of current and recently withdrawn Results (TPC Results List) for each active Benchmark Standard.
6.4.1 The Administrator will add a new Result to the TPC Results List as soon as the Test Sponsor submits the required documentation as defined in Policies § 6.5 and Policies § 6.6. A Result remains on the TPC Results List until it is withdrawn. While on the TPC Results List, a Result cannot be withheld from TPC Press Releases, Results Summaries, etc.

Results may exist with one of the following status categories:

- Submitted for Review
- Accepted
- Historical Result
- Withdrawn

6.4.2 The TPC Results List will show, for each Result listed, columns indicating the TPC Benchmark Class and Benchmark Standard version(s) with which it is compliant.

6.4.3 Withdrawal of a Result. A Result, whether in Submitted for Review or Accepted status, can be removed from the TPC Results List in the following cases:

- Withdrawn by the Test Sponsor. (See Policies § 6.14)
- By a vote of the Council. (See Policies § 6.13)
- By a vote of the Steering Committee (See Policies § 3.3.7.2 and Policies § 6.8.4)

6.4.3.1 Withdrawn Results will include a notation on the TPC Results List to indicate the withdrawal category. Corresponding to the categories defined in Policies § 6.14.2, the following notations will be included on the TPC Results List:

- Category #1: "Withdrawn without prejudice."
- Category #2: "Withdrawn by test sponsor after compliance to technical specifications of the benchmark was challenged. This does not imply any admission of error by the test sponsor or judgment by the TPC."
- Category #3: "Withdrawn by the TPC after the TPC ruled result was non-compliant with technical specifications of benchmark."
- Category #4: "Withdrawn by the Administrator in accordance with TPC Policies."

6.4.3.2 A withdrawn Result in Category #1 will be retained on the TPC Results List for 120 days from date of withdrawal and will be marked with a withdrawn status. Members may publicize a Category #1 withdrawn Result as being withdrawn in accordance with the Fair Use Policy as long as it is on the TPC Results List.

6.4.3.3 A withdrawn Result in any of Categories 2, 3, or 4 will be retained on the TPC Results List for 120 days from date of withdrawal but may not be used for any new publicity.

6.4.3.4 A withdrawn Result is not a currently valid Result after it is removed from the TPC Results List and may no longer be publicized. A members-only list of withdrawn Results will be retained for TPC-confidential use.

6.4.4 Historical Results. It is understood that the availability and/or pricing of components used to create a Result are time sensitive. A Result that is in Accepted status is eligible to be designated as an Historical Result if it has been posted on the TPC Results List for at least 185 days past the submission date and at least 60 days past the availability date. Once so designated, it is no longer required to meet the pricing and/or availability criteria of the Benchmark Standard.

6.4.4.1 For Results that meet the criteria above, Test Sponsors may elect to change the status of a Result to Historical Result.
6.4.4.2 For a Result that has been Accepted for at least three years, the Administrator will notify the Test Sponsor that the Result will be marked as an Historical Result by the Administrator. The Test Sponsor may request within 90 days of notification that a Result remain on the Accepted Results list for an additional year by informing the Administrator that the tested configuration satisfies all availability and pricing (if applicable) requirements of the Benchmark Standard. If the Test Sponsor does not make such a request within 90 days, the Administrator will change the Result to Historical Result status.

6.4.4.3 Once a Result has been designated as a Historical Result, it may only be removed by specific action of the Council.

6.4.5 Obsolescence of Benchmark Standards

6.4.5.1 Obsolete Version of the Benchmark Standard.

The status of Results based on an obsolete version of the Specification that is not comparable to the current version will be changed to an Historical Result by the Administrator 6 months after the obsolescence date. This is an administrative action which does not require any action by the Council.

6.4.5.2 Obsolete Benchmark Standard.

The status of Results based on an obsolete Benchmark Standard will be changed to Historical Result by the Administrator 6 months after the obsolescence date. This is an administrative action which does not require any action by the Council.

6.5 Result Documentation Disclosure Requirements

Disclosure of a Result requires accompanying documentation that describes the details of the benchmark Result.

6.5.1 Executive Summary. All Benchmark Classes must include the requirement for an Executive Summary. The Executive Summary summarizes the Results key information (metrics, configuration, and performance data). The contents of the Executive Summary are specified by the Benchmark Class requirements and/or in the Benchmark Standard. The format must be 10x7.25 inches. The dates on the submission must be correct and any revision dates need to be included. The dates must be in the proper format dd-mon-yyyy. The system configuration information must be correctly listed, including whether the configuration is of a particular type, e.g. c/s or cluster. The Executive Summary is required to be attached to the Alert Message (see Policies §6.6) and is required to be submitted to the TPC by close of business on the day of the initial Alert Message.

6.5.2 FDR. The contents and requirements for disclosure of details beyond those found in the Executive Summary are defined by the Benchmark Class and/or Benchmark Standard. The full disclosure report and the Supporting Files (Policies §6.5.3) describes the benchmark in sufficient detail such that the Result could be recreated by another Member. The FDR must be delivered in PDF format. The FDR is required to be submitted to the TPC by close of business on the day of the initial Alert Message.

6.5.3 Supporting Files. The contents and requirements for disclosure of any Supporting files are defined by the Benchmark Class and/or Benchmark Standard. The FDR (Policies §6.5.2) and the Supporting Files describe the benchmark in sufficient detail such that the Result could be recreated by another Member. The Supporting files must be delivered in a machine-readable format. The Supporting files are required to be submitted to the TPC by close of business on the day of the initial Alert Message.

6.5.4 Result Log Files. The contents and requirements for disclosure of any Result log files are defined by the Benchmark Class and/or Benchmark Standard. The Result log files provide benchmark output information used to validate compliance with the Benchmark Standard.
6.5.4.1 For Result Log Files whose total size is less than or equal to two gigabytes, the files must be submitted to the TPC by close of business on the day of the initial Alert Message.

6.5.4.2 For Result Log Files whose total size is greater than two gigabytes, the files need not be submitted to the TPC by close of business on the day of the initial Alert Message. The Test Sponsor is required to place the Result Log files on a storage device (e.g. USB device, DVD media) and forward the device to the TPC Administrator within five-business days of the Result being added to the TPC Result List. If the Result Log Files are not received within five-business days, the TPC Administrator will notify the Steering Committee.

6.5.5 Copyright Permission. By submitting the Result Documentation to the TPC, the Test Sponsor grants the TPC permission to copy, post to the TPC Web Site, and distribute the submitted Result Documentation.

6.6 Alert Message

To alert All Members of a new Result in a timely manner, a Test Sponsor must send an Alert Message prior to a Result being released into the public arena (e.g., by newswire, press release, or press conference). This summary of the new Result provides All Members with the information they need to respond to questions that may be posed to them by people inside or outside their company.

An Alert Message must contain a summary of the Result being released, formatted in accordance with the template provided by the Administrator. In addition, the Test Sponsor must attach an Adobe Acrobat PDF file of the Result's Executive Summary to the Alert Message. The maximum allowable size of the PDF file is 500 KB. The Alert Message will be forwarded to the membership via an automatic electronic mailing mechanism provided by the TPC.

Test Sponsors must also send an Alert Message if there is any change in a Result's status or pricing. This includes but is not limited to the following type of changes:

- Withdrawing a Result
- Re-pricing a Result
- Changing a Result's availability date
- Making any other significant change to the Result or FDR

The Alert Message must clearly summarize what has changed and the extent of the change, particularly in regards to pricing changes. The Test Sponsor is encouraged but not required to provide any rationale or further explanation for the change. If the change affects the details provided in the FDR, the Test Sponsor must also submit a new Executive Summary and FDR to the Administrator prior to the Result being released into the public arena.

6.6.1 A compliant Alert Message must be sent via e-mail to the TPC's alert alias (tpcalert@tpc.org) for each submission, modification, and withdrawal of a Result. Without a compliant Alert Message, the Administrator will not register the FDR as an official Result or withdraw an existing Result. The contents of the Alert Message are defined by the Benchmark Class.

6.6.2 When submitting a replacement FDR, the Test Sponsor must explicitly state whether the FDR (or any portion of the FDR) is, in the Test Sponsor's opinion, subject to review or is accepted and does not require review.

6.6.3 When withdrawing a Result, the Test Sponsor must explicitly state whether the withdrawal qualifies as category 1 or 2, as defined in Policies § 6.14.2. Note that categories 3 and 4 do not apply to Results withdrawn by the Test Sponsor.
6.7 Results

The following categories define the actions that apply to a Benchmark Standard Result. Additional actions may be required by the Benchmark Class.

6.7.1 New Result. A new Result is a Result with a system/model number that is not on the current TPC Results List. This means that if a Test Sponsor submits a Result with a new model/system number based on an old benchmark test cited in an existing FDR -- and has not withdrawn the existing Result -- then it is considered a new Result.

6.7.2 Replacement FDR. If a Benchmark Class or Benchmark Standard requires an FDR, a replacement FDR is used to update information in the FDR for an existing Result. If the Result is in Accepted status, then the FDR does not have to pass through the Submitted for Review cycle, but the updated information is subject to the normal review process.

6.7.3 Result Withdrawal. The removal of a Result from the TPC Results List.

6.7.4 Status Change. If eligible (see Policies § 6.4.4), the Result can be changed from Accepted status to Historical Result status.

6.8 Non-delivery of Result Documentation

If a Test Sponsor issues an Alert Message (Policies § 6.6) but fails to deliver to the TPC the Result Documentation as required by Policies § 6.5, the following actions will ensue:

6.8.1 The Administrator will send the Test Sponsor a letter regarding their violation of the Policies.

6.8.2 At the next General Meeting, the Council will vote to cite the company as having violated the Policies.

6.8.3 If non-delivery of Result Documentation occurs again within a six-month period from the day of the violation, the SC is authorized to meet with the Test Sponsor to discuss the matter, and if appropriate, issue a press release.

6.8.4 If for any reason a Result is added to the TPC Result List (Policies § 6.4.1) without the Result Documentation as specified in Policies § 6.5, the Steering Committee will review the issue at its next regular meeting. The Steering Committee shall vote on a motion whether to remove the Result from the TPC Result List.

6.9 Use of Disclosed Implementation

To facilitate an even playing field between Test Sponsors and lower the overall cost of benchmarking, the application code, database schema and definition, and tuning and optimization schemes documented in the FDR can be copied and implemented by any Test Sponsor for the sole purpose of TPC benchmarking and/or by TPC technical subcommittees to adapt TPC-Provided Software (e.g. sample code) (See Policies § 6.9.3). This precludes the reuse of TPC implementations in publicly disclosed non-TPC Benchmarks.

6.9.1 Scope of Use. Strictly prohibited is any copying or use of any hardware/software component that lies outside the above stated definition. This includes, but is not limited to, any hardware/software component, which, by its nature, is an integral part of a Test Sponsor’s product and which is protected by copyright and intellectual property laws.
6.9.2 Legal Responsibility. If a Test Sponsor is uncertain whether copying is allowed or not, the Test Sponsor should contact the SC to secure the SC’s advice before proceeding. The final legal responsibility, however, for what may be copied rests with the Test Sponsor, and the Test Sponsor should take all appropriate actions to ensure that all copying is done within lawful bounds.

6.9.3 Use in TPC-Provided Software. A TPC committee may request the Test Sponsor grant a license to specific elements of a disclosure for inclusion in TPC-Provided Software (e.g. TPC sample code). In this case, the TPC committee chair will submit to the SC a CLA form that enumerates the requested elements. The SC will review the request and if approved, will formally submit the CLA request to the Test Sponsor.

6.10 Result Filing Fee

The Test Sponsor will be assessed a Filing Fee for each Result submitted to the TPC.

6.10.1 Multiple Models Submission. Though one FDR can be used to submit Results on two or more system models, the fee assessed will be on each system model (the fee times the number of system models submitted). A Filing Fee invoice will be issued quarterly by the TPC accountant to the Primary Representative of the Test Sponsor. At the request of the Primary Representative the Filing Fee invoice may be issued monthly or per Result. Payment to the TPC is due within 90 days from receipt of the invoice. In the event of non-payment of a Filing Fee, the Result will be withdrawn from the TPC Results List as a category #4 withdrawal (see Policies § 6.14.2.4) and no further Results will be accepted until payment in full has been made.

6.10.2 Filing Fee Amount. The amount of the Filing Fee for each Benchmark Class shall be established as part of the formulation of the TPC budget. When the budget is approved by the Council, the new Filing Fee is established. This does not preclude changing the Filing Fee at other times, as the Council deems necessary. The Filing Fee shall be documented on the Web Site. Different filing fees may be assessed for member and non-member Test Sponsors.

6.11 Status of Results

6.11.1 When a Result is submitted to the Administrator, it is given the status of Submitted for Review.

6.11.2 Once a Result has completed review by the TPC, it is given a status of Accepted.

6.11.3 Accepted Status Cannot Be Revoked. Once given, the Accepted status cannot be revoked or abrogated by later Council decisions or rulings for any reason, except for the following:

Comment: This clause (Policies § 6.11.3) recognizes the pragmatic principle that Results have a limited competitive lifespan and market relevancy, and that the TPC should spend its limited resources reviewing current Results.

6.11.3.1 When fraud or serious violations of the Benchmark Standard are involved.

6.11.3.2 When challenged on the basis of non-compliance with the pricing sections of the Benchmark Standards.

6.11.3.3 When challenged on the basis of non-compliance with the availability sections of the Benchmark Standards.
6.12  **Review Process**

The purpose of the review process is to enable All Members to examine the FDR and understand the implementation of a Result. During the Review Period a Result may also be scrutinized as to its compliance with the Benchmark Standard.

6.12.1 The review process begins when a Result is posted to the Web Site. When a waiver of requirement has been issued for a Result in accordance with Policies § 9.6.2.5, a problem report must be opened to describe the issue (Policies § Error! Reference source not found.).

6.12.2 A Result is subject to challenge for a period of time defined as the Review Period. The Benchmark Class defines the time of the Review Period.

A Result is subject to review even if it is withdrawn during the Review Period. (This prevents a Test Sponsor from submitting an invalid Result and then preventing the normal review process by immediately withdrawing the Result.)

6.12.3 A Result remains in Submitted for Review status during the Review Period. If no challenge is submitted to the TAB within the Review Period, the Result is automatically given the status of Accepted.

6.12.4 The Result is posted on the Web Site for review by All Members, who may, at their option and during the Review Period, submit to the TAB specific objections related to compliance with specific clauses of the TPC Benchmark Standard.

6.12.5 The TAB will evaluate any challenges as per the process described in the Policies § 3.3.3. The TAB meeting to discuss the challenge may occur after the Review Period has expired.

6.12.6 In the event a Test Sponsor submits documentation to the TAB in response to a challenge accepted by the TAB, that documentation is subject to the standard Review Period. Specifically, the submitted documentation is subject to challenge as if it were a new Result.

6.12.7 After the Review Period, any new challenge filed with the TAB must pertain to an objection already filed with the TAB or must pertain solely to issues specified in Policies § 6.11.3; members may not raise entirely new technical compliance issues missed during the original Review Period.

6.12.8 If an Accepted Result is challenged for non-compliance (see Policies § 6.11.3), the Test Sponsor has the option of withdrawing the Result (see Policies § 6.4.3.1) if it is not eligible to be an Historical Result (see Policies § 6.4.4) or changing the status of the Result to Historical Result, if it is eligible.

6.12.9 Once one or more challenges are filed and accepted by the TAB, the Result remains in Submitted for Review status until all matters are heard by the Council. The Result passes into Accepted status when the following conditions are met:

6.12.9.1 All challenges accepted by TAB have been closed.

6.12.9.2 The Council has not voted that the Result is non-compliant.

6.12.9.3 No challenges are pending.

6.12.9.4 The Review Period has expired for the original Result and for all documentation submitted in response to challenges, respectively.

6.12.10 Test Sponsors are allowed to promote their Submitted for Review Results in the press. Test Sponsors are required to cite the TPC trademark in their public relations materials.

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6.13 Results of Council Vote on TAB Recommendations

6.13.1 If the Council votes that a Result is in “non-compliance” with the Benchmark Standard solely for pricing and/or availability and the Result is eligible for Historical Result status (see Policies § 6.4.4), the status of the Result will be changed to Historical Result unless the Council votes to withdraw the Result.

6.13.2 Except for the case of Policies § 6.13.1, if the Council votes that a Result is in “non-compliance” with the Benchmark Standard, the Administrator shall immediately withdraw that Result from the TPC Results List as a category #3 withdrawal (see Policies § 6.14.2.3). The Test Sponsor must stop using this Result in any of its marketing, sales, or press materials in a timely manner.

6.13.3 If the Council votes that a Result is in “insignificant deviation” with the Benchmark Standard, the Result remains on the TPC Results List. The Test Sponsor must, within 30 days, update the Result. The update must include an Explanatory Statement in the notes section of the Executive Summary. If a violation can be resolved without rerunning the benchmark, the update must also include the correction(s) for that violation. The Test Sponsor may request the Administrator to withdraw the Result as a category #4 withdrawal.

6.13.3.1 The Explanatory Statement must describe the affected clause(s) in the Benchmark Standard, explain how the Result does not conform to it, and assess -- as well as quantify -- the impact of the nonconformance.

6.13.3.2 The Test Sponsor must submit the updated Result within 30 days of the official date of the Council ruling of “insignificant deviation” or the Result will be withdrawn by the Administrator as a category #4 withdrawal (see Policies § 6.14.2.4).

6.13.3.3 An updated Result (based on insignificant deviation) is subject to an additional review period (see Policies § 6.12) for those clauses affected by the insignificant deviation.

6.14 Withdrawing a Result

6.14.1 Test Sponsors may withdraw a Result at any time prior to when the Result becomes eligible to be changed to a status of Historical Result (see Policies § 6.4.4), by so notifying the Administrator by sending an Alert Message. (See Policies § 6.6)

Comment: If a Test Sponsor wishes to remove a Result from the list of Accepted Results after the Result has been posted long enough to achieve eligibility to be marked as an Historical Result, withdrawal is no longer an option for the Test Sponsor. The status of the Result may only be changed to Historical Result.

6.14.2 A withdrawn Result will fall into one of following categories:

6.14.2.1 Category #1: Withdrawn by the Test Sponsor without prejudice. This means a Test Sponsor voluntarily withdraws a Result that has had no compliance challenge brought and upheld against it.

6.14.2.2 Category #2: Withdrawn by the Test Sponsor during the review period after being challenged as non-compliant.

6.14.2.3 Category #3: Withdrawn by the Administrator after the Council ruled a Result is non-compliant.

6.14.2.4 Category #4: Withdrawn by the Administrator in accordance with the Policies. For example, if a Result that is ruled to contain insignificant deviations is not corrected within 30 days, the Administrator will withdraw it.
6.14.3 New Result Documentation (Policies § 6.5) is required to resubmit a withdrawn Result.

6.15 Impact upon Existing Results of Changes to a TPC Specification
This policy describes what happens to Results when changes are made to a TPC Benchmark Standard, thereby creating a new version of it.

6.15.1 After a new version of a TPC Benchmark Standard becomes effective, a Test Sponsor with an existing Result for a prior version of the Benchmark Standard, whether in the Submitted for Review or Accepted status, has the following options:

6.15.1.1 The Test Sponsor can submit an entirely new Result, without necessarily having to rerun the test that is stated by the Test Sponsor to be in full compliance with the new version. Normal review procedures apply as specified by the Benchmark Class. All aspects of the Result are subject to review.

6.15.1.2 The Test Sponsor can upgrade the Result to the new version using the appropriate method as determined by the Council.

6.15.1.3 The Test Sponsor can do nothing, in which case, a Result stays on the TPC Results List for 6 months and is then changed to the status of Historical Result.

Comment: The intent of this clause is to encourage Test Sponsors to perform a positive action if they wish to claim compliance with a new specification version. Previously submitted Results do not automatically achieve recognition under the new version.

6.15.2 A Test Sponsor may continue to use a Result that is compliant with a previous version of a Benchmark Standard, but the version must be indicated.

6.15.3 A Result, when submitted, must be compliant with either or both of: (1) the version of the Benchmark Standard in effect at the date of submittal; (2) a new version of the Benchmark Standard, in those cases when it was already officially approved to take effect at a future date. A Test Sponsor must state in the FDR and/or Executive Summary the version or versions of the Benchmark Standard with which a Result complies. Usual review procedures then apply.

Comment: It may not be possible to comply with both the current and new versions. For example, if the number of districts per warehouse in the database is changed from 10 to 100, a test could not be compliant with both versions. A Test Sponsor might want to run tests with 10 districts per warehouse right up until the time the new specification is effective in order to be able to compare Results with previous tests.

6.16 Results Submitted on Another Vendor’s Product
A special case occurs when a Result is published on a vendor’s system or software by a sponsor who does not benefit from achieving the best possible result. This special case must be governed by a special policy. When a Test Sponsor wishes to publish a Result on a competing company’s product, the following policy is invoked.

6.16.1 If the Test Sponsor wishes to publish a Result on Vendor Y’s system/software and the Test Sponsor has Vendor Y’s permission, the Test Sponsor can do so according to the standard policies outlined in this document.

6.16.2 If the Test Sponsor does not have Vendor Y’s permission, then the policies to handle review and challenge of the Result are specified in the Benchmark Class.
6.17  **Rebadged Results**
For an existing **Result**, the **SUT** tested in that **Result** may be sold in other forms including but not limited to different names, models, brands, and/or companies. In this situation, a **Test Sponsor** may publish a new **Result** under a new designation using the performance tests done for the existing **Result**. This is defined as a **Rebadged Result**. The following rules apply to **Rebadged Results**.

6.17.1 **All Policies** for publishing a **Result** apply to **Rebadged Results**, except as otherwise provided in this clause (**Policies** § 6.17).

6.17.2 No performance or functional characteristics of the **SUT** can change from the **SUT** as used in the original **Result**. The **SUT** used in the **Rebadged Result** must be electronically equivalent to the **SUT** used in the original **Result**.

6.17.3 Component substitution must follow the procedures and restrictions for substitution found in the current **Benchmark Standard** for that benchmark.

6.17.4 The **Rebadged Result** is published under the benchmark version of the original **Result**.

6.17.5 The **Result** may be rebadged whether or not the version of the **Benchmark Standard** used in the original **Result** is still the current version of the **Benchmark Standard**.

6.17.6 The review process defined in **Policies** § 6.12 applies to a **Rebadged Result**.

6.17.7 At the time a **Rebadged Result** is published, the status of the original **Result** must be **Submitted for Review** or **Accepted**.

**Comment:** Pending compliance challenges against the original **Result** does not prevent publication of a **Rebadged Result**.

6.18  **Results Published in Multiple Currencies**
For a new or existing **Result**, the **SUT** tested in the **Result** may be available in multiple currencies. A **Test Sponsor** may publish a new **Result**, using the same performance tests, by performing currency conversion as defined in the **TPC Pricing Specification**. The following rules apply to the **Results** published in multiple currencies.

6.18.1 **All Policies** for publishing a **Result** apply to the **Results** being published in multiple currencies.

6.18.2 No performance or functional characteristics of the **SUT** can change from the **SUT** as used in the original **Result**.

6.18.3 The **Result** being published in multiple currencies is published under the version of the **Benchmark Standard** of the original **Result**.

6.18.4 The **Result** being published in multiple currencies must be submitted no more than 185 days from the submission date of the original **Result**.

6.18.5 The review process as defined in **Policies** § 6.12 applies to a **Result** published in multiple currencies.

6.18.6 At the time a **Result** is published in multiple currencies, the status of the original **Result** must be **Submitted for Review** or **Accepted**.

**Comment:** Pending compliance challenges against the original **Result** does not prevent publication of a **Result** using multiple currencies.
Section 7: Public Relations

7.1 Confidentiality Rule

TPC Confidential information must not be disclosed to any individual, company, or organization other than Members, Committee Members, Associate Members, and Affiliates.

7.1.1 TPC Confidential Information

The following are TPC Confidential information

- the content of TPC meetings, including presentations and minutes
- all internal TPC communications: verbal, written, or electronic, including but not limited to Council, Standing Committee, and Technical Subcommittee communications
- all Member, Committee Member, and Associate Member communications and/or content that derives from TPC Confidential information
- any Benchmark Specification and/or TPC-Provided Software under development, including benchmark design, workload analyses, and related materials
- messages sent or received on TPC private mailing lists
- content of the Private Web Site and any related web services(s) including but not limited to private code, bug, file, and document repositories
- passwords to the Private Web Site, Social Media Accounts, and web service(s)

7.1.2 Additional Notes on Confidentiality Rules

7.1.2.1 With the exception noted in Policies § 7.1.3, All Members are encouraged to share all TPC Confidential information with individuals or divisions within their own company, but must not release any of the above to organizations outside the TPC without approval from the SC or Council.

7.1.2.2 In the course of supporting TPC activities, Members may need to modify TPC Confidential information that originated from multiple Members, such as materials related to the development of Benchmark Specifications and/or TPC-Provided Software. Each Member agrees that by delivering such modifications to the TPC, the terms of the Contributor License Agreement apply to such modifications whether or not executed by the Member.

7.1.3 Exceptions to Confidentiality Rules

7.1.3.1 Rulings or interpretations of TPC Benchmark Standards shall be disseminated to all affected parties, including members, users, and Auditors. However, these interpretations shall not be released to the public unless specifically approved by the SC or Council.

7.1.3.2 The SC must authorize any disclosure of TPC Confidential information beyond that allowed by the Policies. The requestor should first consult with the Administrator, who will pass on the request and make a recommendation to the SC.

7.1.3.3 All non-member guests wishing to attend Standing Committee meetings, technical subcommittee meetings, Annual Meetings, and/or General Meetings must be screened by the Administrator, who will pass on the request and make a recommendation to the SC on whether to invite them. The SC will approve any non-member guests and stipulate any restrictions on their involvement in meeting discussions.

7.1.3.4 Non-member guests to Standing Committee meetings, technical subcommittee meetings, Annual Meetings, and/or General Meetings will be required to sign a non-disclosure
agreement stating that they will not publicly disclose anything they see or hear at TPC meetings.

7.1.3.5 To further the public relations goals of the TPC (i.e., increase TPC visibility, recruit new members), the PRC will extract highlights of the technical subcommittee reports from General Meetings. The PRC will send these extracts to the chairmen of the technical subcommittees for their review and approval. Once these highlights are reviewed and approved by the subcommittee chairmen, the PRC will publish these on the Web Site and post on the TPC’s social media accounts. Excluded in these publicized highlights are all TPC fair use, TAB, and administrative issues.

7.1.4 The Council reserves the right to take appropriate action when breaches of confidentiality occur.

7.1.5 To enforce the Privacy Policy, personal information collected from the public is confidential to the TPC. This information is not available to any Member, Committee Member, Associate Member, Affiliate, or any other entity, except as needed to operate the TPC’s electronic infrastructure.

7.2 Communications with the Press and Public at Large

The Spokesperson is authorized to speak to the press or the public at large on behalf of the TPC. No member may speak to the press or the public at large on behalf of the TPC other than the Spokesperson, except for the following circumstances:

7.2.1 Speaking to Customers. Member companies may speak to their customers about their own participation in the TPC.

7.2.2 Speaking at Conferences. Member companies can represent the TPC as conference speakers if authorized by the SC.

7.3 TPC Press Releases

The Council will approve any TPC press release, except for the standard quarterly press release, which the PRC is authorized to issue without Council approval.

7.4 Member Press Releases

All Members are encouraged to publicize their involvement in the TPC, including the publishing of Results. However, All Members must follow the Fair Use Policy. All references to TPC benchmark names must be accompanied by the TPC trademark (e.g., TPC Benchmark A, TPC-A, or derivative).

7.5 TPC Web Site

The design and layout of the Web Site is under the control of the PRC. The PRC will maintain the design and layout of the Web Site in a manner consistent with the TPC mission and Policies. The PRC will notify All Members of any major design and layout changes. All Members will have a two week period to review the changes and file any objections with the chairman of the PRC. At the end of the two week period, if there are no objections filed, the PRC will implement the changes. If any objections cannot be resolved, the PRC will defer the changes until approved by the Council.
7.5.1 Documents posted on the **Web Site** and **Private Web Site** should be in a generic HTML format viewable by at least two types of browsers (Google Chrome and Microsoft Edge). In the event that content is not available as generic HTML (e.g., because the native format is not HTML or converting to HTML would be unnecessarily burdensome), a generic interchange format shall be added. The preferred non-HTML format is Adobe PDF (Portable Document Format). In addition to HTML or PDF, the content may also be provided in other formats (e.g., native) at the discretion of the webmaster.

**Comment:** The intent of this policy is to ensure that content is broadly accessible to all users regardless of origin or destination platform while at the same time facilitating its usefulness.

7.5.2 The **TPC** shall have the following **Privacy Policy** governing personal information collected from the public.

- **Your privacy is important to the TPC.** We follow the industry practices to let you know how our privacy policy answers the following questions:
  - What information does the TPC gather/track and how is it used?
  - With whom does the TPC share the information it gathers/track?
  - What is the TPC’s unsubscribe and data-removal policy?
  - How can I correct and update my personal information?
  - What is the TPC’s policy on deleting or de-activating my name from its database?
  - Whom can I ask if I have any additional questions?

In general, you can visit the TPC on the Web without telling us who you are and without revealing any information about yourself. There are times, however, when we may need information from you. We do not collect personal information about you unless you voluntarily provide it to us. We collect, process and use personal information only for providing relevant services to you. That information will be gathered when you come onto our site to: provide feedback in an online survey; and/or request certain reports.

The personal information that may be gathered includes your name, fax, telephone number, street address and e-mail address. You may also be asked for further information about yourself such as your job category, your industry type, your company name and job title, and the number of people in your company.

We will use our best efforts not to transfer information that personally identifies you to anyone else without your knowledge and approval at the time it is collected from you. Please note, however, that in addition to sending you periodic status reports we may contact you about matters that affect your use of our site such as the status of your subscription to our reports.

Upon your request, we will assist you to review, delete, correct, or update your personal information that you have previously provided. If at any time you believe that we have not adhered to our policy with respect to protecting your privacy, or if you have questions regarding the collecting and/or use of your personal information or regarding our privacy policy, please contact us. We will use all commercially reasonable efforts to promptly address your concern. You may contact us by email at privacy@tpc.org.
Section 8: Use of TPC Materials, Results, and Specifications

8.1 Use of TPC Material

8.1.1 TPC Trademark
TPC Benchmark is a trademark of the TPC.

8.1.2 TPC Copyright Notice
All parties are granted permission to copy and distribute to any party without fee all or part of public TPC copyrighted material provided that: (1) copying and distribution is done for the primary purpose of disseminating TPC material; (2) the TPC copyright notice, the title of the publication, and its date appear, and notice is given that copying is by permission of the Transaction Processing Performance Council.

8.1.3 End User License Agreement
All parties wishing to use TPC-Provided Software must adhere to the TPC Copyright policies (Policies § 8.1.1) and the terms and conditions of the End User License Agreement (EULA).

8.1.4 Use of the TPC Benchmark Name and Metrics
If a party wishes to use the TPC Benchmark Standard name in public material to describe work that is derived from TPC material, the prefix “Derived from” must appear before all instances of the TPC Benchmark Standard name, e.g. “Derived from TPC-DS Query 82”. The derived work must be a subset or clearly be different from the TPC Benchmark Standard. If the derived work is judged to be too similar to the TPC Benchmark Standard, it will be subject to the TPC Fair Use rules (Policies § 8.2) For this reason, parties wishing to use the TPC Benchmark Standard name in relation to derived work must secure the TPC’s written permission.

The use of any Primary Metric or Optional Metric of a TPC Benchmark Standard in a work that is derived from TPC material is not allowed.

8.1.5 TPC Benchmark Disclaimer
All work derived from TPC Benchmark Standards must have the following disclaimer:

The <name of derived work> is derived from the <TPC Benchmark Standard name> and as such is not comparable to published <TPC Benchmark Standard name> results, as the <name of the derived work> results do not comply with the <TPC Benchmark Standard name>.

For example, “The XYZ workload is derived from the TPC-E Benchmark and as such is not comparable to published TPC-E Benchmark results, as the XYZ workload results do not comply with the TPC-E Benchmark”.

8.2 Fair Use of TPC Results
The TPC actively encourages Test Sponsors to widely distribute their Results in Public Information. The TPC also actively encourages the publicizing of Results by the press, market researchers, financial analysts, and non-profit organizations.
The TPC requires that All Members and Test Sponsors follow both the general and specific rules detailed in this section of the Policies. To ensure that users and readers of Results are given a fair and complete representation of TPC data, the TPC requests that all non-members, including the press, market researchers, financial analysts and non-profit organizations also follow these rules when publishing or re-publishing Results. The Administrator will actively encourage them to follow the Fair Use Policy, and where appropriate, to issue retractions or corrections. The TPC may also initiate various public relations activities to correct distortions of Results created by non-members.

The TPC will defend and protect all of its copyright and trademark rights to any published TPC information, whether by members or non-members.

This Fair Use Policy states how Results may be fairly used in Public Information.

Comment: These policies for fair use apply to Public Information that is actively in use. For example, if a press release was issued a year ago, is clearly dated, and contained information that was considered compliant with the Fair Use Policies at the time of publication, that information is likely not actively in use, even though it is still accessible with web searches. However, if that same press release is referenced as supporting information in new announcement materials, it would still be considered to be active Public Information.

When Results are used in Public Information, the use is expected to adhere to basic standards of fidelity, candor, and due diligence, the qualities that together add up to, and define, Fair Use of Results.

• Fidelity: Adherence to facts; accuracy
• Candor: Above-boardness; needful completeness
• Due Diligence: Care for integrity of Results
• Legibility: Readability and clarity

Because Results are protected by the TPC Trademark, this policy applies to all parties who use Results, including but not limited to members of the TPC. The intent is simple: if you want to use the TPC name, you are requested to follow this policy. Otherwise, do not mention or imply the TPC.

Violations will be dealt with by the Council in a manner appropriate to the pattern, seriousness, and impact of the violations.

Grandfathering Rule: Revisions to the Fair Use Policies do not apply to existing publicity materials in use prior to the effective date of those revisions.

8.2.1 Fair Use

Specifically,

8.2.1.1 Claim(s) must be truthful.

8.2.1.2 Claim(s) must include sufficient qualifications and context to be unambiguous and verifiable.

8.2.1.3 Claims must be verifiable by a person knowledgeable, but not expert, in the subject using publicly available information.

Comment: An estimated result is, by its nature, not verifiable.

8.2.1.4 Claims must include an “as of” date and the URL to the TPC page for each referenced result (e.g., www.tpc.org/1234). The existence of the required information must be readily apparent to the reader, such as the use of referenced footnotes, hyperlinks, etc. It must be clear from context that the “as of date” is the date when the claim is current.

8.2.1.5 Claims may not make TPC-related competitive comparisons of numerical data disclosed in FDRs unless that data is also included in the Executive Summary.
8.2.1.6 The following types of competitive comparisons are not allowed:

- Result(s) published without TPC Price/Performance metrics in a comparison or claim related to Price or Price/Performance.
- Price or Price/Performance metrics based on a direct conversion of different currencies.
- Result(s) published without TPC-Energy metrics in a comparison or claim related to electrical energy.
- Use of a withdrawn Result after 120 days have passed from the Result's withdrawal date.

8.2.1.7 Any implementations that are expressly declared as non-comparable in the Policies, the Benchmark Class (see Policies § 11.7 and Policies § 12.6) or the Benchmark Standards.

8.2.1.8 Corollaries

8.2.1.8.1 The information required by clauses Policies § 8.2.1.2 and Policies § 8.2.1.4 must be reasonably legible in a manner comparable to the claim to which it refers.

8.2.1.8.2 Claims that combine TPC-related information with information that does not come from a TPC Result must clearly identify which information is not from an official Result.

8.2.1.8.3 Claims using a Historical Result more than 120 days after its change to Historical status must clearly state that the Result is in the Historical Result list.

8.3 Fair Use of TPC Benchmark Standards

It is permissible to create a non-TPC Benchmark Standard. Any non-TPC Benchmark Standard must adhere to the following requirements:

8.3.1 The Use of TPC Material (Policies § 8.1) and Fair Use Policy (Policies § 8.2.1) must not be violated.

8.3.2 All deviations from the TPC Benchmark Standard in question must be explicitly noted.

8.3.3 Results based on a non-TPC Benchmark must be clearly identified as not being comparable to an official TPC Result.

8.4 Review and Response to Policy Violations

If the Council votes that a violation of Policies has occurred, the Council may take appropriate response measures, as detailed in the Policies. In its deliberations, the Council will seek a fair, appropriate, and reasonable response according to the seriousness of the violation. There are two phases to this process: (1) review and (2) response.

8.4.1 Review Phase

8.4.1.1 Submission. The alleged policy violation must be documented by a completed Policy Violation Challenge template (available on the Private Web Site). The challenge may be submitted by the Member or the SC (challenger). It must be emailed to the sc-info@tpc.org distribution list, copying the Test Sponsor, Member, or non-member being challenged (challengee) and the Administrator.

8.4.1.2 Waiting Period. Before the SC will accept a policy violation challenge as valid and put it on the SC agenda, there will be a waiting period after the challenge is filed. The waiting period is three-calendar days, beginning on the first business day following the submission of the challenge. The waiting period is waived when the SC is the challenger. During this period,
the challenger and challengee are encouraged to resolve the challenge between the two parties. If, after the waiting period has expired, the SC has not received any notice from the challenger that the issue has been resolved, the SC will add the issue to the SC agenda.

8.4.1.3 SC Review. The SC will investigate the issue and make a recommendation to the Council only if it believes a minor or major violation has occurred. Non-violations and insignificant violations will not be brought forward by the SC, although any member may introduce such a motion.

If the violation is related to any of the clauses referenced in the “TPC Fair Use Quick Reference” document, in the context of a non-TPC Benchmark, then the SC will recommend to the Council that the violation be considered a minor violation. In addition, the SC shall execute the actions outlined in Policies § 8.4.3.2 by providing a copy of the “TPC Fair Use Quick Reference” and providing guidance to the challengee to correct the violation.

Comment: This exclusion clause recognizes the limited resources the SC and Council can spend investigating, discussing, and enforcing its policies but does not, in any way, sanction or approve violations, no matter how insignificant.

8.4.1.4 Notice of Council Review. The Administrator will notify the challengee at least seven calendar days in advance of a General Meeting that the matter may be discussed by the Council. The seven-calendar day period can overlap the three-day waiting period identified in Policies § 8.4.1.2. The Administrator will also email, mail, or fax any documents that pertain to the alleged violation. Once having been notified, it is the responsibility of the challengee to be in attendance at the next General Meeting. The Council will discuss and rule on the alleged violation whether the challengee is in attendance or not.

Comment: The effect of this clause is that a challenge that is brought forward within seven days of a General Meeting may not be addressed at that meeting, unless the challengee waives their right to the seven-day requirement. However, a challenge that is brought forward more than seven days prior to a General Meeting may be addressed at that meeting, even if the SC Review of the challenge is less than seven days from the General Meeting.

8.4.1.5 Council Review. During the review phase at General Meetings, the Council will assess the specific violation(s) in question and determine (vote) if a violation has occurred and its severity (see Policies § 8.4.1.6). During the review phase of the Council’s proceedings, the Council will not consider past violations in making the determination of the severity of the violation. However, the Council will consider the following criteria in its deliberations.

8.4.1.5.1 If the violation pertains to publicity or to public information, the Council will determine the extent of publicity. Who was affected or who knew of the violation: one person, a small group, one trade magazine, several trade magazines, a national newspaper or business magazine, or national network television?

8.4.1.5.2 If the violation pertains to publicity or to public information, how prominent or significant was the violation in the context of the event or publication? For example, if a violation of the Fair Use Policy appeared in a news article, was the violation in the headline and repeated throughout the text or was it a passing reference buried in the middle of an article?

8.4.1.5.3 If the violation pertains to TPC data, Policies, or Results, was the violation a significant departure from the facts or Policies. For example, a company claiming a 40,000 tpmC estimate and later providing a FDR with a 41,000 tpmC Result would be evaluated differently than a company claiming a 40,000 tpmC estimate and later providing an FDR with only a 35,000 tpmC Result. Both companies violated the Policies by disseminating estimated TPC results, but in the latter case, there was obviously a far more significant departure from the facts and therefore a more serious impact on the credibility of the TPC and its Results.

8.4.1.6 Violation Severity. In its review phase the Council will categorize violations according to the following:
• Insignificant violations: Violation(s) with a non-existent or negligible impact on the credibility of the TPC, its trademarks, or on the competitive environment.

• Minor violations: Violation(s) with a small but non-trivial impact on the credibility of the TPC, its trademarks, or on the competitive environment.

• Major violations: Violation(s) with significant impact on the credibility of the TPC, its trademarks, or on the competitive environment.

8.4.2 Response Phase
In formulating its response measure, the Council may take into account the history of violations or recent pattern of violations, excluding insignificant violations.

Comment: This exclusion clause recognizes the limited resources the Council can spend investigating, discussing, and enforcing its policies but does not, in any way, sanction or approve violations, no matter how insignificant. The Council may also take into account what corrective or remedial actions the challengee has taken.

These response measures are intended to specify how, under most circumstances, the Council will respond to policy violations. However, the Council retains the right to take other response measures if, under extra-ordinary circumstances, it deems it necessary and appropriate. These measures will be consistent with the general principles of fairness, reasonableness, and appropriateness established in this policy. Also, the Council may take no response measure to a policy violation if it deems that course of action to meet these same principles.

8.4.3 Responses to violations
If the Council determines that a violation has occurred, the Council may take any or all of the response measures outlined under each response level:

8.4.3.1 Level one response - insignificant violation
The SC/Council, via the Administrator, will notify the Primary Representative of the member in question that it has committed an insignificant violation. No further SC or Council action will be taken. It is the responsibility of the Primary Representative to take further action if he/she deems it necessary.

8.4.3.2 Level two response - minor violation
8.4.3.2.1 Instruct the secretary of the meeting to record that the member committed a minor violation. In most such cases, it is assumed that the member has already taken corrective or remedial action, or that further instruction to the member in question is unnecessary.

8.4.3.2.2 Instruct the Administrator to send the member a letter outlining the nature of the violation, and, if appropriate, asking for appropriate remedial or corrective action.

8.4.3.3 Level three response - major violations
8.4.3.3.1 Instruct the Administrator to send the member a letter as cited in Policies § 8.4.3.2.2.

8.4.3.3.2 Ask the member’s Primary Representative to take corrective or remedial action and provide the Council with an official report of those actions at the next General Meeting.

8.4.3.3.3 Assess the company a fine commensurate and reasonable with the seriousness of the violation. A fine in the range of $1,000 – $10,000 will be applied in the case of a member who has had a major fair use violation in the previous four years. In all other cases, a fine in the range of $500 – $2,000 will be applied. The date of the violation for this purpose is the date when the Council passed the violation motion.
This assessment must be paid within 90 days of notification to the member. Failure to pay the assessment within 90 days results in the loss of voting privileges in all technical subcommittees and General Meetings, but not Standing Committees or Mail Ballots. Upon payment of the assessment, all privileges are restored. Failure of a Test Sponsor to pay the assessment within 90 days may result in the removal of one or more Results.

8.4.3.3.4 Instruct the Administrator to issue a press release outlining the nature of the policy violation.

8.4.3.3.5 Vote to initiate expulsion proceedings as outlined in the Policies § 2.6.
Section 9: Auditor Policies

9.1 Purpose of an Auditor
The purpose of the Auditor is to certify a Result for publication by verifying the Result is compliant with the spirit and letter of the Benchmark Standard. The pre-publication certification (Audit) requirements are defined by the Benchmark Class.

9.2 Auditor Qualifications
The TPC has the responsibility to ensure that an adequate number of Auditors is available to provide coverage in a timely manner, but the TPC has the authority to restrict the number of Auditors to ensure high quality. It is at the discretion of the TPC to certify those individuals who best meet the following criteria:

9.2.1 Prior familiarity and extensive knowledge of the TPC organization and TPC benchmarks.

9.2.2 Capability to provide adequate auditing coverage (e.g., time, location, benchmark types).

9.2.3 Extensive knowledge and experience in transaction processing and computer systems.

9.2.4 Ability to perform the duties of the job in an independent manner (i.e., free of conflicts-of-interest).

9.3 Auditor Certification Process
The following defines the certification process for audit candidates. Only individuals can be candidates.

9.3.1 Stage I – Application
A prospective candidate applies to the TPC indicating his/her desire to become an apprentice auditor. The application contains information on the candidate's background (education, work experience, other related skills), familiarity with benchmarking, the TPC, performance work, and on which benchmarks the candidate is seeking apprentice standing. The SC reviews the application and decides if the candidate is appropriate for further consideration. If rejected the candidate must wait at least six months before reapplying, except if this decision is overruled by the Council. The goal of this process is to accept candidates that the SC believes can become Auditors in a reasonable period. Furthermore, the SC may take into consideration the number and qualifications of the existing Auditors in deciding whether to accept a particular candidate. If the SC approves the candidate based on the application, the candidate then progresses to Stage II.

9.3.2 Stage II – Exam and Interview
9.3.2.1 A new Auditor candidate or existing TPC Auditor candidate may be required by the SC to take a written exam specific to each benchmark for which they are seeking certification. The purpose of the written exam is to establish that the individual has basic understanding of the benchmark, the operation of the TPC, and the auditing process. It should be possible to pass the exam by studying publicly available documents such as the benchmark spec and the Policies. The exam is administered in person, at a time and place designated by the SC.

Exception: The SC may determine that a written exam is unnecessary if the candidate can show that he/she has previous TPC auditing experience.
Benchmark subcommittees are required to develop and maintain an auditor exam for each benchmark. The benchmark subcommittees provide the questions and answers for the auditor exam.

At least 50 questions must be maintained. At least 15 questions are chosen for a given auditor candidate. The SC at its discretion may require the candidate to answer more than 15 questions. The intention is to avoid having "known" questions and answers. A passing score for the exam is at least 85% of the maximum score.

9.3.2.2 The SC reviews the exam results and, at its discretion, may choose to interview the candidate. The SC then votes to accept the candidate as an apprentice auditor. If a candidate fails to pass the exam, the SC will inform the candidate in writing within seven days. A second, different exam may be scheduled no sooner than four weeks within the first exam. A subsequent failure will result in an automatic disqualification at which point the SC will withdraw its support for the candidate. Normally, it is expected that the SC will approve a candidate who successfully completes stage one and two as an apprentice auditor.

9.3.3 Stage III – Apprenticeship

9.3.3.1 An apprentice auditor must work with an Auditor to gain hands-on experience with the audit process and/or the particular benchmark in question. It is incumbent upon Auditors to provide reasonable opportunities for apprentices to gain such experience.

Exception: The SC may determine that an audit internship is unnecessary if the candidate can show that he/she has previous TPC auditing experience.

9.3.3.2 When the Auditor feels that the apprentice has demonstrated that he/she is capable of working independently as an Auditor, the Auditor provides a written endorsement of the candidate. The endorsement must indicate how long the apprentice worked with the Auditor and the work performed during the apprenticeship.

9.3.4 Stage IV – Certification

9.3.4.1 An Auditor Certification Board (ACB) will review the candidate's credentials and make a recommendation to the SC. The ACB is either the Benchmark Subcommittee or an ad hoc subcommittee designated by the SC to process the application for certification of a specific benchmark. The ACB will schedule an individual interview with each candidate at least two weeks in advance and will inform the candidate of the intent of the interview. The interview process will include technical questions to verify that the candidate has a solid understanding of the specific benchmark and the technologies and products that can potentially be used in the benchmark implementation. In addition, the interview will include specific questions on the audit requirements of the benchmark. Following the interview, the ACB shall notify the candidate and the SC of its recommendation within three days of the interview.

9.3.4.1.1 Exception: The SC may determine that an Auditor Certification Board is unnecessary if the candidate can show that he/she has previous TPC auditing experience. If the ACB is an ad hoc subcommittee, it must consist of five representatives of the Members and will operate with the same rules as the SC (see Policies § 3.2.1) excluding Policies § 3.2.1.4, all votes will be by closed ballot. The ad hoc ACB should include at least one member of the SC, TAB, and Benchmark Subcommittee, unless circumstances prevent such a membership. The SC will designate the chairman for the ad hoc ACB.

9.3.4.2 If the ACB does not recommend the candidate to be an Auditor, it must provide the reason for its finding as part of the notification to the candidate and the SC. After a two-week waiting period following the interview, the SC at its discretion, may form a new ACB for a second interview and review of the candidate’s qualifications.

9.3.4.3 If the ACB decides to recommend the candidate to be an Auditor, it will then present a brief summary of its findings with regard to the candidate at the next General Meeting and it will bring forward a recommendation to this effect to the Council.
9.3.4.4 If the requirement for an ACB was waived by the SC (see Policies § 9.3.4.1), the SC will bring forward to the Council a recommendation that the candidate be an Auditor at the next General Meeting.

9.3.4.5 The Council will vote to accept the candidate as an Auditor, contingent upon the person signing a pledge to fulfill the responsibilities outlined in Policies § 9.4.

9.3.5 Stage V – Maintaining Certification

9.3.5.1 An individual who has been certified by the TPC will retain his or her status as an Auditor unless that status is explicitly revoked, reduced, or suspended by the Council.

9.3.5.2 A party who wishes to have an Auditor's certification revoked or reduced to the level of apprentice must submit a written complaint with adequate supporting evidence to the SC. The SC will examine the complaint and the evidence and make a recommendation to the Council regarding the matter. In the course of these proceedings, the Auditor will have the option to provide input in his or her defense. A decision by the Council to either revoke the certification or reduce to apprentice status shall be determined by a Simple Majority vote.

9.3.5.3 Upon an Auditor's failure to fulfill the responsibilities outlined in Policies § 9.4, the SC will take a motion recommending suspension of the Auditor's certification and bring the recommendation to the Council. During the discussion, the Auditor will have the opportunity to provide input to the SC.

9.4 Auditor Responsibilities

Certification requires that the individual pledge to fulfill the following responsibilities:

9.4.1 To work with and review the work of apprentice auditors.

9.4.2 To stay current with changes in the Policies and Benchmark Standards of the TPC.

9.4.3 To work closely with other Auditors in order to maintain consistency between audits.

9.4.4 To provide adequate auditing coverage (e.g., time, location, benchmark types).

9.4.5 To perform the duties of the job in an independent manner.

9.4.6 Act as an independent contractor offering their services to Members and non-members desiring to have a benchmark audit performed.

9.4.7 Attend at least one (1) General Meeting per 12-month period and regularly participate in TAB teleconferences to retain certification.

9.5 Audit Process

An audit is a review of a result. The audit encompasses more than just the benchmark test and includes a review of items that can affect the compliance of the benchmark.

The audit does not guarantee compliance. In addition, there is a formal review process and a mechanism for determining compliance or non-compliance (see Policies § 6.12). The audit minimizes the probability that a Result will be found non-compliant in the review process. The Auditor is responsible for due diligence in review of the result.

9.5.1 Overview

9.5.1.1 The audit process is composed of the following steps:
9.5.1.1.1 Verify the compliance of all components of the implementation (e.g., software programs, hardware configurations, purchase and maintenance pricing, etc.).

9.5.1.1.2 Obtain a reasonable confidence level that the methodology used to implement the benchmark related tests produces documented results that demonstrate compliance.

9.5.1.1.3 Verify the compliance of each benchmark execution by examining the results produced during that execution.

Comment: The establishment of an audit protocol is highly recommended. The purpose of such a protocol is for the test sponsor and the auditor to document in detail the required set of steps to follow during the execution of the series of tests that produce the benchmark results. The protocol also documents the automation level of the test methodology and the resulting test data to be captured and communicated to the auditor.

9.5.1.1.4 Verify the compliance of the result based on applicable TAB and Council rulings. This may require additions to the audit process to address issues not previously covered.

9.5.1.2 It is the responsibility of the Test Sponsor to attest to the veracity of all information disclosed to the Auditor and in the FDR.

9.5.1.3 The Auditor should focus on verifying the methodology used for reaching compliance, rather than verifying the information disclosed by the Test Sponsor. The Auditor may choose to examine and test disclosed information at his/her discretion.

9.5.2 Auditor Selection. Test Sponsors select an Auditor from the list of Auditors maintained by the Administrator.

9.5.3 Level of Audit
Upon review of the environment and configuration of a planned benchmark, and in accordance with the audit process defined in Policies § 9.5.1.1, the Auditor determines the level of audit required (see Policies § 9.5.4) and decides whether the audit or a portion of the audit requires his/her on-site presence at the test site. The following are the major levels of auditing:

9.5.3.1 Full Audit. A full audit makes no assumption of prior audits and requires full direct access to personnel and benchmark environment. This may require an on-site presence.

9.5.3.2 Updated Audit. An updated audit leverages previous audits to a significant degree. This review is targeted at those components of the benchmark environment that have changed since the last implementation review. It requires a highly automated test environment. To audit the components which have changed, the auditor may require full direct access to personnel and benchmark environment.

Comment: The intent of this clause is to encourage Test Sponsors to automate the test environment and develop an audit protocol (see Policies § 9.5.1.1.3).

9.5.4 Auditing Level Criteria
Determine whether the Test Sponsor has an automated process for producing the collateral for an audit. An automated process is one which requires the least amount of vendor intervention to collect the necessary information needed to comply with the audit requirements. For example, in TPC-C, the beginning of the checkpoint interval is logged and inserted into the driver log for verification against the “guard zones” by the driver system, without prompting by the Test Sponsor. This determination will include the following criteria.

Comment: The intent of this section is to leave the determination of the level of audit required to be determined by the Auditor with input from the Test Sponsor. No set of rules can define all of the possibilities and appropriate actions.
9.5.4.1 Whether the Test Sponsor has an automated methodology that includes a scripted process that produces an audit trail of actions.

9.5.4.2 Whether the SUT has sufficient reporting tools to disclose the system and database configurations.

9.5.4.3 Difference from previously audited benchmark environments.

9.5.4.4 Level of changes in the audit methodology.

9.5.4.5 Consideration of projected performance results. For example, the Auditors will consider performance results substantially above previously results as criteria for determining audit level.

9.5.4.6 Consideration of past experiences and relationship with Test Sponsor.

9.5.5 Auditor’s Decision and Appeal Process

9.5.5.1 The Auditor has the authority to make all compliance-related decisions during the course of an audit.

9.5.5.2 If a Test Sponsor disagrees with an Auditor’s decision, the Test Sponsor has the option of completing the test, obtaining the Auditor’s documentation, and submitting the documentation for appeal.

9.5.5.3 The Test Sponsor can request from the Auditor that selected decisions be elevated to “major” status. The Auditor is required to document all major decisions in writing, including a detailed description of the issue and the process used to make the decision. This document must be communicated to the Test Sponsor, who, in turn, can choose to communicate it to the TAB for information or to appeal the decision.

9.5.5.4 Appeals of Auditors’ decisions are resolved by the TAB bringing a recommendation to the Council for a vote.

9.5.6 Confidentiality of Information

9.5.6.1 All information disclosed to an Auditor during the course of an audit must be kept confidential until released by the sponsor. Confidential information may be communicated under appropriate confidentiality agreements with the sponsor by the Auditor to other Auditors as required to perform the auditing function.

9.5.6.2 When an FDR is filed with the Administrator, the Test Sponsor automatically releases the Auditor from confidentiality concerning all information contained in the FDR and all information related to the verification of compliance. All other information remains bound by any confidentiality agreements between the Auditor and sponsor.

9.5.6.3 To help the Auditors fulfill their responsibilities as outlined in Policies § 9.4, the TPC strongly encourages Test Sponsors to release Auditors from non-disclosure agreements (NDA) regarding all non-compliance issues that might arise during the course of an audit, whether the benchmark is published or not. The decision to release the Auditor from the NDA for this purpose is solely up to the Test Sponsor.

9.5.7 Payment

9.5.7.1 Rate of Pay. The audit rate charged by an Auditor is determined by negotiation between the sponsor and the Auditor.

9.5.7.2 Mechanism of payment. Test Sponsors pay Auditors directly for the audit services provided.
9.6 General Audit Rules

9.6.1 Interpretation of Specification
In case of a benchmark implementation where the letter and the spirit of a **Benchmark Standard** are found to be ambiguous and no preponderance of evidences or opinions can be established to resolve the ambiguity, the **Auditor** should decide in favor of a conservative, rather than liberal, interpretation of the **Benchmark Standard**.

9.6.2 Waiver of Requirement
In cases where a **Benchmark Standard** calls for a requirement which, in the context of the audited implementation, is characterized by the following:

9.6.2.1 It has no effect, whatsoever, on the reported metrics.

9.6.2.2 It does not affect compliance with any other requirement.

9.6.2.3 Sufficient proof of the above is obtained.

9.6.2.4 Its compliance would represent a significant financial or operational burden on the part of the **Test Sponsor**.

9.6.2.5 When the use of unmodified **TPC-Provided Software** is waived, the code changes must:
   (a) Meet all the requirements of **Policies § 9.6.2.1** through **Policies § 9.6.2.4**.
   (b) Resolve a problem with the **TPC-Provided Software** that would be classified as a portability issue (**Policies §Error! Reference source not found.**).

The **Auditor** may waive the requirement and report such waiver in his/her attestation letter included in the **FDR**.

The **FDR** must include a list of waived requirements, along with the proof provided that all reported metrics would have otherwise been the same, and that there is no effect on compliance with other requirements. The **FDR** must also include an explanation of the nature of the burden that was relieved by the waiver.

9.6.3 Communication of Auditing Decisions
To increase the consistency of the audit process, **Auditors** should share on a regular and frequent basis all new decisions made during the course of an audit. This sharing should not be limited to major decisions, as defined in **Policies § 9.5.5.3**, but include all decisions that might apply to subsequent audits of the same or other **Test Sponsors**. These decisions must be kept confidential by all **Auditors** according to **Policies § 9.5.6**.
Section 10: **Pre-Publication Board**

10.1 **Purpose of a Pre-Publication Board**

The purpose of the Pre-Publication Board is to certify a Result for publication by verifying the Result is compliant with the spirit and letter of the Benchmark Standard. The pre-publication certification requirements are defined by the Benchmark Class.

10.2 **Pre-Publication Board**

The Pre-Publication Board consists of three or more knowledgeable individuals that have been chosen by the Benchmark Subcommittee to certify Results for publication.

*Comment*: If a Benchmark Subcommittee is responsible for multiple Benchmark Standards, one Pre-Publication Board can be used for all Benchmark Standards the Benchmark Subcommittee is responsible for.

10.2.1 The Pre-Publication Board members are appointed for a six-month term. A substitute member should be appointed, if possible, who would serve if one of the Pre-Publication Board members was unable to perform their duties either temporarily or for the duration of the current six-month term.

10.2.2 Contact information for the Pre-Publication Board will be posted on the public facing side of the TPC Web Site. The TPC Administrator will ensure the contact information is accurate.

10.2.3 The Pre-Publication Board will elect a chair, who will handle communications, including generating the approval report. If the chair is unable to perform the duties required for a publication review, a temporary chair must be elected to serve for a specified timeframe.

10.2.4 Rotation of a Pre-Publication Board member cannot occur once the member has started the review of a Result.

10.2.5 The Steering Committee can be asked by the Benchmark Subcommittee to become involved in the Pre-Publication Board to help resolve membership issues.

*Comment*: If there are not three Pre-Publication Board members available to review a publication, Steering Committee members may serve as temporary members of a Pre-Publication Board.

10.3 **Pre-Publication Board Member Qualifications**

The Benchmark Subcommittee has the responsibility to ensure that an adequate number of board members are available to provide coverage in a timely manner, but the Benchmark Subcommittee has the authority to restrict the number of board members to ensure high quality. It is at the discretion of the Benchmark Subcommittee to certify those individuals who best meet the following criteria:

10.3.1 Prior familiarity and extensive knowledge of the TPC benchmark.

10.3.2 Capability to provide adequate certification coverage (e.g., time, location, benchmark types).
10.4 **Result Confidentiality**

A Result is confidential to the Pre-Publication Board until the Result has been published. Pre-Publication Board members may not take advantage of knowledge gained during the review of the Result until the Result is public. If the Pre-Publication Board needs clarification or assistance in a confidential matter or an issue brought up during the Result review, the TAB may be asked for assistance.

10.5 **Certification Time**

10.5.1 The maximum amount of time for certification of a Result is ten-business days. Certification time period will start at 9AM PT of the next business day after the result is submitted to the Pre-Publication Board chair.

10.5.2 After the eighth business day of the review if the Pre-Publication Board believes they will fail to perform their duty (Policies § 10.1) in the allotted time, the chair must request involvement of the Steering Committee.

10.5.3 If a certification decision has not been reached within ten-business days, the Pre-Publication Board chair will notify the Test Sponsor, via email, of the status of the Result submission. The Pre-Publication Board chair will also notify the Steering Committee to determine the resolution of the certification decision.

10.6 **Conflict of Interest**

A Test Sponsor cannot sit in review of his own publication. A Test Sponsor must recuse himself from the Pre-Publication Board. A replacement for the recused Test Sponsor is determined by the Benchmark Subcommittee (Policies § 10.2).

10.7 **Conflict Resolution**

Conflict resolution between the Pre-Publication Board and the Test Sponsor is resolved by the TAB (Policies § 3.3).
Section 11: **TPC-Enterprise Class Benchmarks**

11.1 **TPC-Enterprise Benchmark Standards Requirements**

11.1.1 **Primary Metrics.** Each TPC-Enterprise Benchmark Standard must define **Primary Metrics** selected to represent the workload being measured. The **Primary Metrics** must include both performance and price/performance metrics.

11.1.2 **Pre-Publication Certification Requirements.** All TPC-Enterprise Benchmark Standards must include the requirement that **Results** are attested by a TPC certified **Auditor** (Policies § 9.3).

11.1.3 **Disclosure Documentation Requirements.** All TPC-Enterprise Benchmark Standards must include **Executive Summary** and **FDR** requirements.

11.1.4 **Deliverables.** At a minimum, a **Specification** is required for a TPC-Enterprise Benchmark Standard. **TPC-Provided Software** is an optional requirement. A TPC-Enterprise Class Benchmark shall not require a **Test Sponsor** to run a specific TPC-Provided Kit.

11.1.5 The null string is the suffix added to TPC (Policies § 5.2.1) to specify a TPC-Enterprise Class Benchmark, (e.g. TPC-C, TPC-E, TPC-H).

11.2 **TPC-Enterprise Benchmark Development Cycle**

The following outlines the steps for submitting a benchmark proposal and securing approval.

11.2.1 **Step 1: Benchmark Submittal**

**Member** companies will submit a draft standard specification in a format similar to TPC Benchmark Standards. The proposal is submitted to the **Council** and is forwarded to the **SC** for consideration. The **SC** will review the contents, applicability and potential of the proposal and present a recommendation back to the **Council**, identifying advantages/disadvantages and proposed course of action. The **Council** must then vote to formally accept the proposal for future work.

11.2.2 **Step 2: Creation of a Benchmark Subcommittee**

Given the acceptance of the proposal for future work, the **Council** will then establish and empower a **Benchmark Subcommittee** to develop a formal benchmark **Specification**. To speed-up the benchmark development cycle, the subcommittee is empowered to brief non-members on their benchmark in order to obtain timely feedback.

11.2.3 **Step 3: Status and Direction**

At each **General Meeting**, the **Benchmark Subcommittee** will provide a status update on its work, including a working draft of the **Specification**. During the **General Meeting**, the **Council** may provide direction and feedback to the subcommittee to further their work.

11.2.4 **Step 4: Authorizing Public Release of Draft Specification**

If it deems it advisable, the **Council** may authorize the release of a draft **Specification** to the public. The principal goals of releasing a draft specification are to encourage companies to implement the draft **Specification**, to gather more experimental data, and to speed-up the approval of a TPC-Enterprise Benchmark Standard.
Within the purpose of the procedure as outlined above, companies are encouraged to run the
draft Specification, document the results, and discuss the results with All Members and
customers. Companies may also publish technical articles or make presentations to industry
conferences in which they discuss results. However, these articles/presentations are bound
by the conditions in Policies § 8.1 (Use of TPC Materials) and Policies § 8.3 (Fair Use of
TPC Specifications).

Comment: Companies are reminded that this draft Specification is not a Benchmark
Standard, and companies must adhere fully to all the provisions and restrictions
of the Fair Use Policy. Only results published in accordance with a Benchmark
Standard are considered TPC Results and can be publicized as such.

11.2.5 Step 5: Accepting a Standard for Review
When the Benchmark Subcommittee feels that the Specification is of sufficient quality to be
considered for formal review and approval, it will submit the Specification to the Council for
approval to advance into formal review.

11.2.6 Step 6: Formal Review
During this phase, the Specification will be made available to All Members and the public for
formal review. All comments and proposed changes generated from the review will be posted
to the Private Web Site and considered by the Benchmark Subcommittee for resolution.

11.2.7 Step 7: Approval for Mail Ballot
The Benchmark Subcommittee will propose resolution of comments from the formal review
as an updated Specification to All Members for approval by the Council. The Council
approves the updated Specification by voting to send the Specification out for Mail Ballot.

11.2.8 Step 8: Mail Ballot Approval
To become a Benchmark Standard, the Specification must be approved by a Mail Ballot in
accordance with Policies § 4.5 and Policies § 11.3.1.

In the event the Mail Ballot is not approved, the benchmark development work will
automatically cease. If the benchmark development was the only work of the Benchmark
Subcommittee, the subcommittee will be disbanded at the conclusion of the next General
Meeting if the Council does not authorize continued work.

11.3 TPC-Enterprise Voting Rules
The following outlines the TPC-Enterprise Voting Rules.

11.3.1 Approval of a TPC-Enterprise Benchmark Standard or Major Revision
A Mail Ballot in accordance with Policies § 4.5 is required to become a TPC-Enterprise
Benchmark Standard or to approve a Major Revision of a TPC-Enterprise Benchmark
Standard. The Benchmark Standard is approved if the following conditions have been met:

1. Two thirds of the eligible Members must return a mail ballot before a ballot measure
can be considered valid.

2. The Mail Ballot will be closed as soon as the uncast ballots cannot affect the
outcome or 60 days have elapsed, whichever occurs first.

3. Two thirds of those who submit ballots must approve the measure.
A new version with major revision changes must be approved by a Mail Ballot in accordance with Policies § 4.5 and Policies § 11.2.8. A new version with major revision changes is available immediately for publication upon approval by a Mail Ballot, unless a later date is set in the Mail Ballot. If the version includes significant changes to the audit requirements, or the changes can potentially introduce new technologies and products to the benchmark implementation, the Council may choose to require the recertification of the Auditors in accordance with Policies § 9.3 before they can audit the new version of the benchmark. The Council must make the decision to require recertification before or at the time they vote to send the proposed version for Mail Ballot approval.

11.3.2 Approval of TPC-Enterprise Benchmark Standard Minor Revision
A TPC-Enterprise Benchmark Standard Minor Revision is approved by the Council by passing a Super Majority vote. The Benchmark Standard is available immediately for publication.

11.3.3 Approval of TPC-Enterprise Benchmark Standard Third Tier Revision
A TPC-Enterprise Benchmark Standard Third Tier Revision is approved by the Council by passing a Super Majority vote. The Benchmark Standard is available immediately for publication.

11.3.4 Obsolescence of TPC-Enterprise Benchmark Standards

11.3.4.1 Obsolescence of Older Versions of a TPC-Enterprise Benchmark Standard
The version of a TPC-Enterprise Benchmark Standard immediately prior to an approved version will become obsolete 60 days after the date the newer version is first available for publication. The Council may choose to set a later obsolescence date. Results may not be published on an obsolete version of the Benchmark Standard.

11.3.4.2 Obsolescence of a TPC-Enterprise Benchmark Standard
A TPC-Enterprise Benchmark Standard will become obsolete no sooner than 60 days after the date where all of the following criteria have been met. The Council may choose to set different criteria for obsolescence. Results may not be published on an obsolete Benchmark Standard.

- Two years after the initial approval of the Benchmark Standard
- One year after the most recent Major Revision was approved
- All Results, if any, are withdrawn (see Policies § 6.4.3) or are in Historical Result status (see Policies § 6.4.4)

11.3.4.3 Once all requirements have been met, the Steering Committee will notify all Primary Representatives that the TPC-Enterprise Benchmark Standard meets all of the requirements for obsolescence. After a minimum period of 60 days, at the next General Meeting, the Council can evaluate the obsolescence requirements and pass a motion to extend the life of the TPC-Enterprise Benchmark Standard. If the Council fails to act, the TPC-Enterprise Benchmark Standard becomes obsolete at the end of the General Meeting.

11.3.5 Approval of TPC-Enterprise TPC-Provided Software
Vote to approve the type of revision level for the changes to TPC-Enterprise TPC-Provided Software in accordance with the requirements in Policies § 11.3.1, Policies § 11.3.2 and Policies § 11.3.3 for revising the TPC-Enterprise Benchmark Standard specification revision levels.
11.4  **TPC-Enterprise Benchmark Submission Rules**

The following outlines the TPC-Enterprise Benchmark Submission Rules.

11.4.1  **TPC-Enterprise Full Disclosure Report Requirements**

A **Test Sponsor** must submit an electronic copy of the **FDR** and **Executive Summary** to the **Administrator** the same calendar day the **Result** is publicly disclosed. The details of the required steps in the submittal process are defined in **Policies § 6.5.1** and **Policies § 6.5.2**.

The administrator will not post the result until all steps are completed and documentation is complete. If a posting must be delayed, the administrator will inform the **Test Sponsor** of the delay and detail the missing components. It is the **Test Sponsor**'s responsibility to ensure there is no violation of **Policies § 6.8** in the case the administrator has withheld publication.

11.4.1.1  **Executive summary.** The submitted **Executive Summary** must follow the requirements of the **Benchmark Standard** for the benchmark being submitted and the pricing specification for the pricing spreadsheet.

11.4.1.2  **FDR.** The full disclosure report must be submitted and follow the requirements of the **Benchmark Standard**. It must include any 3rd party quotes required for the pricing. It must include a copy of the auditor's attestation letter for this submission, source code, configuration files and documentation for all the clauses for the **Benchmark Standard**.

11.4.2  **TPC-Enterprise Alert Message**

A **TPC-Enterprise Alert Message** must include the following:

(a) Type of submission or withdrawal (See **Policies § 6.7**)
(b) Date submitted to the **TPC**
(c) Primary **Test Sponsor**'s name
(d) Complete name of benchmarked system
(e) **Benchmark Standard** name and version
(f) **Primary Metrics**
(g) Total System Cost
(h) Names and versions of software used (e.g., database, operating system, etc.)
(i) Statement of whether database is implemented on a **Cluster**.
(j) Total # of enabled **Processors** and # of enabled **Processors** per Node/Server
(k) Name and Hz rating of **Processors** in the Server
(l) Total # of enabled **Cores** and # of enabled **Cores** per Node/Server
(m) Total # of enabled **Processor Threads** and # of enabled **Processor Threads** per Node/Server

11.4.3  **TPC-Enterprise Results**

The following categories define the additional requirements and actions that apply to a TPC-Enterprise Result.

11.4.3.1  **New Result:** A new **Result** must contain a current attestation letter.

11.4.3.2  **Pricing Update.** A pricing update occurs when only the pricing metric is affected and the re-pricing conforms to and meets all the requirements of the applicable specification. Pricing updates must be compliant with the pricing specification in effect on the date of the update.

11.4.3.3  A replacement **FDR** for editorial changes does not require a new auditor's attestation letter. A replacement **FDR** for other changes does require a new attestation letter.
11.4.3.4 **Updates to FDRs.** All FDRs published in accordance with the current **Benchmark Standard**, whether in **Submitted for Review** or **Accepted** status, must be updated or removed within 6 months in the event that any priced components are no longer available. The 6-month period begins on the date of last availability of any priced components. Any FDRs that are updated to replace a component that is no longer available must follow the procedures and restrictions for substitution found in the current **Benchmark Standard** for that benchmark. After the 6-month period has elapsed, failure to comply with this clause may be brought as a **TAB** challenge per **Policies** § 3.3.3.

11.5 **TPC-Enterprise Benchmark Review Period**

11.5.1 The **Review Period** consists of two phases. Phase 1 consists of the 60-calendar days following the **Posting Date**. Phase 2 concludes 60-calendar days after the availability date of the **Result**. In the event that the actual availability date is shown to be after the reported availability date, the actual availability date shall be used.

During Phase 1, all aspects of the **Result** are subject to challenge. During Phase 2, the review is restricted to only those aspects of the result which were not available for review at the beginning of Phase 1. To the extent that Phase 2 overlaps with Phase 1, Phase 1 takes precedence.

11.6 **Results Submitted on Another Vendor’s Product**

For a **Result** submitted on another vendor’s system/software without the vendor’s permission,

11.6.1 The **Test Sponsor’s Result** goes into a 60-day internal review period before it can be publicized as an official **TPC** result or appear on the **TPC Results List**.

11.6.2 During this 60-day internal review period, the **Result** may be challenged in the **TAB** for two reasons:

11.6.2.1 That the **Result** does not conform to the **Benchmark Standard**. All standard policies covering this scenario shall remain in force.

11.6.2.2 That the benchmark has not been run in a good faith effort to achieve an optimal result.

**Comment:** The definition of “optimal” goes beyond meeting the letter of the **Benchmark Standard**. An optimal **Result** must show a diligent, careful effort to maximize the performance and/or price/performance.

11.6.3 If the benchmark is challenged (either as non-optimal or on compliance issues), the challenge shall be handled by the standard **TPC** policies for compliance challenges.

11.6.4 Following the 60-day internal holding period and the successful resolution of all challenges, the **Result** follows the normal process for new **Results**.

11.7 **TPC-Enterprise Benchmark Fair Use Rules**

Additional Benchmark Fair Use Rules can be defined by a **Benchmark Standard** as long as the rules are not in conflict with **Policies** § 8.2. Examples of **Benchmark Standard** specific Benchmark Fair Use Rules are as follows:

- Comparisons of **TPC-H Results** measured against different scale factors
- Comparisons of **TPC-DS Results** measured against different scale factors
- Comparisons of **TPC-VMS Results** measured against different base **TPC Benchmark Standards**
• Comparisons of TPC-VMS Results measured against different scale factors of TPC-H or TPC-DS base benchmarks.
12.1 TPC-Express Benchmark Standards Requirements

12.1.1 Primary Metrics. Each TPC-Express Benchmark Standard must define Primary Metrics selected to represent the workload being measured. The Primary Metrics must include at least a performance metric.

12.1.2 Pre-Publication Certification Requirements. A TPC-Express Benchmark Standard may specify either pre-publication certification by a Pre-Publication Board (Policies § 10.2) and/or by a TPC certified Auditor (Policies § 9.3).

12.1.2.1 The requirement for a Pre-Publication Board or a TPC certified Auditor is dependent on the type and number of benchmark requirements that are not tested or evaluated by the TPC-Provided Kit. The untested requirements may require detailed knowledge of the TPC-Express Benchmark Standard and/or access to the Test Sponsor’s equipment.

12.1.3 Disclosure Documentation Requirements. At a minimum, all TPC-Express Benchmark Standards must include an Executive Summary.

12.1.4 Deliverables. At a minimum, all TPC-Express Benchmark Standards must include a Specification and a TPC-Provided Kit that implements all required functionality of the Specification which can be executed on at least one commercially available system. The Test Sponsor is required to run the TPC-Provided Kit in order to publish a compliant TPC-Express result. The Benchmark must generate result log files that can be reviewed to validate benchmark compliance.

12.1.5 The “x” suffix added to TPC (Policies § 5.2.1) to specify a TPC-Express Class Benchmark, (e.g. TPCx-E, TPCx-F1, TPCx-F2).

12.2 TPC-Express Benchmark Development Cycle

The following outlines the steps for submitting a benchmark proposal and securing approval.

12.2.1 Step 1: Benchmark Submittal

A draft standard specification is submitted to the SC in a format similar to TPC Express Benchmark Standards. The Steering Committee will review the contents, applicability and potential of the proposal and present a recommendation back to the Council, identifying advantages/disadvantages and proposed course of action.

12.2.2 Step 2: Assignment to a Benchmark Subcommittee

Given the acceptance of the proposal for future work, the Council will then establish and empower a Benchmark Subcommittee to develop a formal benchmark Specification. To speed-up the benchmark development cycle, the subcommittee is empowered to brief non-members on their benchmark in order to obtain timely feedback.

12.2.3 Step 3: Status and Direction

At each General Meeting, the Benchmark Subcommittee will provide a status update on its work, including a working draft of the Specification. During the General Meeting, the Council may provide direction and feedback to the subcommittee to further their work.
12.2.4 Step 4: Authorizing Public Release of Draft TPC-Provided Kit

If it deems it advisable, the Council may authorize the release of a draft TPC-Provided Kit to the public. The principal goals of releasing a draft kit are to encourage companies, to gather more experimental data, and to speed-up the approval of a TPC-Express Benchmark Standard.

Within the purpose of the procedure as outlined above, companies are encouraged to run the draft TPC-Provided Kit, document the results, and discuss the results with All Members and customers. Companies may also publish technical articles or make presentations to industry conferences in which they discuss results. However, these articles/presentations are bound by the conditions in Policies § 8.1 (Use of TPC Materials) and Policies § 8.3 (Fair Use of TPC Specifications).

Comment: Companies are reminded that this draft TPC-Provided Kit is not a Benchmark Standard, and companies must adhere fully to all the provisions and restrictions of the Fair Use Policy. Only results published in accordance with a Benchmark Standard are considered TPC Results and can be publicized as such.

12.2.5 Step 5: Formal Review

When the Benchmark Subcommittee feels that the benchmark is of sufficient quality to be considered for formal review and approval, it will submit the benchmark to the Council for formal review. During this phase, the benchmark will be made available to All Members and the public for formal review. All comments and proposed changes generated from the review will be posted to the Private Web Site and considered by the subcommittee for resolution.

12.2.6 Step 6: Final Approval

The Benchmark Subcommittee will propose resolution of comments from the formal review as an updated Benchmark Standard to the Council. The subcommittee will bring forward a motion to the Council to approve the Benchmark Standard.

In the event the Benchmark Standard is not approved by the Council, the benchmark development work will automatically cease. If the benchmark development was the only work of the Benchmark Subcommittee, the subcommittee will be disbanded at the conclusion of the General Meeting if the Council does not authorize continued work.

12.3 TPC-Express Voting Rules

The following outlines the TPC-Express Voting Rules.

12.3.1 Approval of a TPC-Express Benchmark Standard or Major Revision

A Super Majority of the Council is required to approve a new TPC-Express Benchmark Standard or to approve a Major Revision of a TPC-Express Benchmark Standard.

12.3.2 Approval of TPC-Express Benchmark Standard Minor Revision

A TPC-Express Benchmark Standard Minor Revision is approved by the Council by passing a Simple Majority vote. The Benchmark Standard is available immediately for publication.

12.3.3 Approval of TPC-Express Benchmark Standard Third Tier Revision

A TPC-Express Benchmark Standard Third Tier Revision is approved by the Steering Committee by passing a Super Majority vote. The Benchmark Standard is available immediately for publication.

12.3.4 Obsolescence of TPC-Express Benchmark Standards

12.3.4.1 Obsolescence of Older Versions of a TPC-Express Benchmark Standard
The version of a **TPC-Express Benchmark Standard** immediately prior to an approved version will become obsolete 60 days after the date the newer version is first available for publication. The **Council** may choose to set a later obsolescence date. **Results** may not be published on an obsolete version of the **Benchmark Standard**.

### 12.3.4.2 Obsolescence of a TPC-Express Benchmark Standard

A **TPC-Express Benchmark Standard** will become obsolete no sooner than 60 days after the date where all of the following criteria have been met. The **Council** may choose to set different criteria for obsolescence. **Results** may not be published on an obsolete version of the **Benchmark Standard**.

- One year after the initial approval of the **Benchmark Standard**
- One year after the most recent Major Revision was approved
- All **Results**, if any, are withdrawn (see **Policies** § 6.4.3) or are in **Historical Result** status (see **Policies** § 6.4.4)

### 12.3.4.3 Once all requirements have been met, the **Steering Committee** will notify all **Primary Representatives** that the **TPC-Express Benchmark Standard** meets all of the requirements for obsolescence. After a minimum period of 60 days, at the next **General Meeting**, the **Council** can evaluate the obsolescence requirements and pass a motion to extend the life of the **TPC-Express Benchmark Standard**. If the **Council** fails to act, the **TPC-Express Benchmark Standard** becomes obsolete at the end of the **General Meeting**.

### 12.3.5 Approval of TPC-Express TPC-Provided Software

Vote to approve the type of revision level for the changes to **TPC-Express TPC-Provided Software** in accordance with the requirements in **Policies** § 12.3.1, **Policies** § 12.3.2 and **Policies** § 12.3.3 for revising the **TPC-Express Benchmark Standard** specification revision levels.

### 12.4 TPC-Express Benchmark Submission Rules

The following outlines the TPC-Express Benchmark Submission Rules.

#### 12.4.1 TPC-Express Full Disclosure Report Requirements

A **Test Sponsor** must submit an electronic copy of the **Executive Summary** and **Result** log files to the Administrator the same calendar day the **Result** is publicly disclosed. The details of the required steps in the submittal process are defined in **Policies** § 6.5.1 and **Policies** § 6.5.2.

The administrator will not post the result until all steps are completed and documentation is complete. If a posting must be delayed, the administrator will inform the **Test Sponsor** of the delay and detail the missing components. It is the **Test Sponsor**'s responsibility to ensure there is no violation of **Policies** § 6.8 in the case the administrator has withheld publication.

##### 12.4.1.1 Executive summary. The submitted **Executive Summary** must follow the requirements of the **Benchmark Standard** for the benchmark being submitted.

##### 12.4.1.2 Result Log Files. The log files must be submitted and follow the requirements of the **Benchmark Standard**. The log files will be used to validate the compliance of the **Result** (**Policies** § 12.4.2).

#### 12.4.2 Pre-Publication Certification

A **TPC-Express Result** must be certified for publication by a **Pre-Publication Board** (**Policies** § 10.2) or by **TPC certified Auditor** (**Policies** § 9.3) before an alert message can be posted by the **Test Sponsor** (**Policies** § 12.4.3).
12.4.2.1 If the entire Result is certified by a TPC Auditor, the Test Sponsor can use the TPC-Enterprise mechanisms to publish the Result. For any part of the Result that is not certified by a TPC Auditor, the submitted documentation (Executive Summary and/or FDR) and Result Log Files must be reviewed for compliance by a Pre-Publication Board.

12.4.3 TPC-Express Alert Message

A TPC-Express Alert Message must at least include the following:

(a) Type of submission or withdrawal (See Policies § 6.7)
(b) Date submitted to the TPC
(c) Primary Test Sponsor’s name
(d) Complete name of benchmarked system
(e) Benchmark Standard name and version
(f) Primary Metrics
(g) URL to either the Executive Summary or TPC result web page
(h) Any other information required by the Benchmark Specification

12.4.4 TPC-Express Results

The following categories define the additional requirements and actions that apply to a TPC-Express Result.

12.4.4.1 New Result: A new Result must comply with the submission rules of the Benchmark Specification.

12.4.4.2 Express Results are categorized into products that are generally available and not available. For a Result to be categorized in the general available category, at the time of publication all components must meet the definition of Generally Available as specified in the TPC Pricing Specification. If any component of the SUT does not meet the General Availability requirements, then the Result is categorized in the not available category.

12.4.4.3 Before a Result becomes an Historical Result, the Test Sponsor can update the Result by submitting supporting documentation verifying that all components are Generally Available. A new Review Period (Policies § 12.5) starts at the time of the update.

12.5 TPC-Express Benchmark Review Period

12.5.1 The Review Period consists of the 60-calendar days following the Posting Date. All aspects of the Result are subject to challenge during the Review Period.

12.6 TPC-Express Benchmark Fair Use Rules

Additional Benchmark Fair Use Rules can be defined by a Benchmark Standard as long as the rules are not in conflict with Policies § 8.2. Examples of Benchmark Standard specific Benchmark Fair Use Rules are as follows:

• Comparisons of TPCx-HS Results measured against different scale factors.
• Comparisons of TPCx-BB Results measured against different scale factors.
Section 13: **TPC-Provided Software**

13.1 **TPC-Provided Software Requirements**

13.1.1 **License**: All TPC-Provided Software must have a EULA.

13.1.2 **Deliverables**: At a minimum, all TPC-Provided Software must include a license, end-user documentation, and either executable code or scripts. The inclusion of source and developer documentation is optional.

13.2 **TPC-Provided Software Development Cycle**

The following outlines the steps for submitting a software proposal and securing approval.

**Comment**: This section does not apply to TPC-Provided Software that is being developed in conjunction with a TPC-Enterprise or TPC-Express Benchmark Standard.

13.2.1 **Step 1: Software Submittal**

The software proposal is submitted to the Steering Committee for review. The SC will review the proposal, determine the applicability and potential, and present a recommendation back to the Council identifying advantages/disadvantages and proposed course of action.

13.2.2 **Step 2: Assignment to a Benchmark Subcommittee**

Given the acceptance of the proposal for future work, the Council will then establish and empower a Benchmark Subcommittee to develop the proposal into TPC-Provided Software. To speed up the benchmark development cycle, the subcommittee is empowered to brief non-members on their benchmark in order to obtain timely feedback.

13.2.3 **Step 3: Status and Direction**

At each General Meeting, the Benchmark Subcommittee will provide a status update on its work, including a working copy of TPC-Provided Software. During the General Meeting, the Council may provide direction and feedback to the subcommittee to further their work.

13.2.4 **Step 4: Authorizing Public Release of Draft TPC-Provided Software**

If it deems it advisable, the Council may authorize the release of draft TPC-Provided Software to the public. The principle goals of releasing the draft software are to solicit feedback from Members and non-members.

Within the purpose of the procedure outlined above, companies are encouraged to run the draft TPC-Provided Software, document the results, and discuss the results with All Members and customers. Companies may also publish technical articles or make presentations to industry conferences in which the discuss results. However, these articles/presentations are bound by the conditions in Policies § 8.1 (Use of TPC Materials).

**Comment**: Companies are reminded that this draft TPC-Provided Software has not been formally released and companies must adhere fully to all provisions and restrictions of the Fair Use Policy and the associated EULA.

13.2.5 **Step 5: Formal Review**

When the Benchmark Subcommittee feels that the software is of sufficient quality to be considered for formal review and approval, it will submit the software to the Council for formal review. During this phase, the software will be made available to All Members and the public for formal review. All comments and proposed changes generated from the review will be posted to the Private Web Site and considered by the subcommittee for resolution.
13.2.6 Step 6: Final Approval

The Benchmark Subcommittee will propose resolution of comments from the formal review as an updated draft of the TPC-Provided Software to the Council. The subcommittee will bring forward a motion to the Council to approve the TPC-Provided Software.

In the event the TPC-Provided Software is not approved by the Council, the software development will work will automatically cease. If the software development was the only work of the Benchmark Subcommittee, the subcommittee will be disbanded at the conclusion of the General Meeting if the Council does not authorize continued work.

13.3 TPC-Provided Software Voting Rules

The following outlines the TPC-Provided Software voting rules.

Comment: This section does not apply to TPC-Provided Software that is being developed in conjunction with a TPC-Enterprise or TPC-Express Benchmark Standard.

13.3.1 Approval of TPC-Provided Software or Major Revision
A Super Majority of the Council is required to approve TPC-Provided Software or to approve a Major Revision of TPC-Provided Software.

13.3.2 Approval of TPC-Provided Software Minor Revision
A TPC-Provided Software Minor Revision is approved by the Council by passing a Simple Majority vote. The TPC-Provided Software is available immediately for publication.

13.3.3 Approval of TPC-Provided Software Third Tier Revision
A TPC-Provided Software Third Tier Revision is approved by the Steering Committee by passing a Super Majority vote. The TPC-Provided Software is available immediately for publication.

13.4 TPC-Provided Software Development Process

13.4.1 General
The problem reporting, development, testing, and release activities for TPC-Provided Software are defined in Procedures § 1.

13.4.1.1 The activities outlined in Procedures § 1 are the responsibility of the Benchmark Subcommittees (Policies § 3.5.1). The subcommittee may assign some or all these tasks to an individual subcommittee member, a subset of the subcommittee, or to an outside third party.

13.4.1.2 Contributions: Members or non-members must have a signed CLA on file with the TPC Administrator in order to contribute code to be included in TPC-Provided Software. Members without a signed CLA will have read-only access to TPC-Provided Software and will not be allowed to contribute code.

Comment: There must be one CLA on file for each contributor. A contributor can be a Member, non-member, or an individual.

13.4.1.3 Copyright: All copyright to contributions to TPC-Provided Software is retained by the contributor, except in the case where the contributor is contracted by the TPC, whereby the copyright must be assigned to the TPC.
13.4.1.4 License: All TPC-Provided Software is subject to the terms and conditions of the EULA that must be distributed with the software (Policies § 13.1.1). This EULA may be a proprietary license, such as the TPC EULA or an open source license, such as the MIT License.

13.4.1.5 Warranty. All TPC-Provided Software is provided “as-is”. The TPC will provide support via the problem reporting mechanism outlined in Procedures § 1.2.