TPC Transaction Processing Performance Council

TPC Policies
Version 6.20

November 2024

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TPC Membership

A list of the current TPC Member companies can be found at
https://www.tpc.org/TPC_Documents_Current_Versions/pdf/Membership_v1.15.0.pdf

Document Revision History

Date	Version	Description
September 12, 2013	6.0	Benchmark Class, TPC Enterprise and TPC Express changes
February 6, 2014	6.1	Clause 6 Supporting Files changes, Clause 8 Fair Use update and conversion to new format
March 27, 2014	6.2	Clause 8.1 Use of TPC material, Clause 10 & 11 changes to differentiate an Express Benchmark vs. an Enterprise Benchmark
February 19, 2015	6.3	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.
April 23, 2015	6.4	Added clause 2.2.7 and updated 9.3.2.1
June 25, 2015	6.5	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.
August 28, 2015	6.6	Updated 1.1, 4.8.2.2 & change General Council to Council in 2.2.1.1, 8.4.3.3.3 & 9.5.1.1.4
November 12, 2015	6.7	Added CLA and EULA clauses
February 26, 2016	6.8	Updates to 3.3.1, 11.7 & 12.6
April 21, 2016	6.9	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 & 12.3.3 Added clause 5.3.5.
February 24, 2017	6.10	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
February 15, 2018	6.11	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
June 2018	6.12	Updated 2.5.6, 3.3, 9.3.5.1, 0.5.4 Added 3.2.2.5.6, 3.3.5, 9.3.5.3 Moved TPC Membership list to an Associated Document
December 2018	6.13	Updated 3.2.3.4, 3.2.3.6, 3.5.2.3
June 2019	6.14	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, 5.1, 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
February 2020	6.15	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 Updated 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
March 2020	6.16	Added 0.2.30 Merged and reordered 4.1, 4.2, 4.3 Updated 4.1.2, 4.1.3, 4.1.4

April 2021	6.17	Added 0.4, 3.2.3.2, 3.5.4.7, 3.5.4.8, 3.5.4.9, 4.1.8 Updated 0.5.2, 2.5.4, 3.5.3, 5.4, 5.4.2.1, 5.4.2.2, 6.12.1, 8.2.1.6, 8.2.1.7, 9.3.4.1, 11.2.5, 11.2.6, 11.3.2, 11.3.3, 11.3.4.3, 12.2.1, 12.2.5, 12.2.6, 12.3.1, 12.3.2, 12.3.3, 12.3.4.3, 13.3.3, Modified multiple clauses to reconcile correct branding of TPC-Express Modified multiple clauses to use gender neutral pronouns
February 2022	6.18	Added 0.2.3, 0.2.69, 10.5.4 Updated 0.6.2, 0.2.35, 0.2.66, 0.2.67, 0.6.2, 3.1.2, 3.4, 3.5.1.2, 3.5.1.6, 3.5.2.3, 3.5.4.4, 3.5.4.5, 3.5.4.11, 4.1.2, 4.1.7, 4.1.8.1, 4.4, 4.5.2, 5.2, 6.2.3, 6.4.3.1, 8.1.5, 9.3, 9.3.2.1, 9.3.2.2, 9.3.3.2, 9.3.4.1, 9.3.4.2, 9.3.4.4, 9.3.4.5, 9.5.1.13, 11.1.4, 12.1.4, 12.3.4.1, 12.3.4.2, 31.2, 13.3
September 2023	6.19	Added 0.2.63 Updated 2.1.1, 4.1.8.1, 8.1.4, 8.1.5, 12.3.3
November 2024	6.20	Updated 0.2.30, 4.4, 4.5.2

Typographic Conventions

The following typographic conventions are used in this specification:

Convention	Description
Bold	Bold type is used to highlight terms that are defined in this document
Italics	Italics is used to highlight text that should be used in TPC documents verbatim
UPPERCASE	N/A

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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 (**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 **Acclamation**. A form of election, where only a single nominee has been put forth, that does not require a ballot.

0.2.4 **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.

0.2.5 **Affiliate**. A **TPC** Professional Affiliate. See **Policies** § 2.3.

0.2.6 **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.

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

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

0.2.9 **Associate Members**. **Associate Members** as defined in the **Bylaws** § 2.1.

0.2.10 **Auditor**. An individual certified by the **TPC** to verify that **Result**s meet the requirements of the appropriate **TPC Benchmark Standard**. See **Policies** § 9.2.

0.2.11 **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.

0.2.12 **Benchmark Standard**. A **TPC** benchmark **Specification** approved by the **Members**.

0.2.13 **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**.

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

0.2.15 **Bylaws**. The Bylaws of the **TPC**.

0.2.16 **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.

0.2.17 **Committee Member**s. **Committee Member**s as defined in the **Bylaws** § 2.1.

0.2.18 **Compliance Challenge Document**. Document containing the information required by the **TAB** Compliance Template. See **Policies** § 3.3.3.1.

0.2.19 **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.**

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

0.2.21 **Council**. The **Director**s at a **General Meeting**.

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

0.2.23 **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.

0.2.24 **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**.

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

0.2.26 **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**.

0.2.27 **Fair Use Policy**. The **TPC** policies governing the use of **Result**s in publicity. See **Policies** § 8.2.

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

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

0.2.30 **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).

0.2.31 **General Technical Meeting**. An in-person meeting of the **Standing Committees** and technical subcommittees.

0.2.32 **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).

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

0.2.34 **Members**. Member organizations as defined in the **Bylaws** § 2.1

0.2.35 **Non-TPC Benchmark**. See **non-TPC Benchmark Standard** (**Policies** § 0.2.36)

0.2.36 **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.

0.2.37 **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.

0.2.38 **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**.

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

0.2.40 **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).

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

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

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

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

0.2.45 **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.

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

0.2.47 **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.

0.2.48 **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 **Polices** is unwarranted.

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

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

0.2.51 **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.

0.2.52 **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.

0.2.53 **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, an **FDR**.

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

0.2.55 **SC**. Abbreviation for the Steering Committee. See **Policies** § 3.2.

0.2.56 **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**.

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

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

0.2.59 **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**.

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

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

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

0.2.63 **Super Majority**. Two-thirds, or greater, of the **Members** present, excluding abstentions.

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

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

0.2.66 **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.

0.2.67 **TPC Benchmark**. See **Benchmark Standard** (**Policies** § 0.2.12)

0.2.68 **TPC Benchmark Standard**. See **Benchmark Standard** (**Policies** § 0.2.12)

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

0.2.70 **TPC-Enterprise Benchmark Standard**. A **Benchmark Standard** that is of the "TPC-Enterprise" **Benchmark Class** (**Policies** § 5.2.3), subject to the TPC-Enterprise **Benchmark Class** rules (**Policies** § Section 11:).

0.2.71 **TPC-Express Benchmark Standard**. A **Benchmark Standard** that is of the "TPC-Express" **Benchmark Class** (**Policies** § 5.2.3), subject to the TPC-Express **Benchmark Class** rules (**Policies** § Section 12:).

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

0.2.73 **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.

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

0.2.75 **TPC**. Abbreviation for Transaction Processing Performance Council. **TPC** is synonymous with "the Corporation" as used in the **Bylaws**.

0.2.76 **Umbrella Specifications.** Separate **Specification**s 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.

0.2.77 **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 Suspension

0.4.1 A **Member** may request to temporarily suspend specific clauses of the **Policies** due to extenuating circumstances or expediency. The **Member** requesting a temporary suspension must clearly state the reasons for the request.

0.4.2 Suspension of **Policies** may not be requested for any of the following:

- To waive the quorum requirements.
- To restrict the rights of any **Member**.

0.4.3 When a **Member** makes a motion to suspend specific clauses of the **Policies**, the **Council** may not interrupt the **Member** who has the floor. Any motion to suspend must be seconded, is not debatable, and may not be amended or reconsidered.

0.4.4 A **Super Majority** vote of the **Council** is required to pass a motion to suspend specific clauses of the **Policies**.

0.4.5 Any motions to suspend specific clauses of the **Policies** will be in effect until the adjournment of the **Council** meeting in which they were passed.

0.5 Policy Modification

The following outlines the steps for modifying the **Policies**.

0.5.1 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.

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

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

0.5.4 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.

0.6 Associated Documents

0.6.1 **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.

0.6.2 **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**.
- The "Fair Use Quick Reference Guide" document will be maintained and approved by the **Steering Committee**

0.6.3 **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**.

0.6.4 **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.

Document	File Name	File Format
Contributor License Agreement (CLA)	CLA.pdf	PDF
End User License Agreement (EULA)	EULA.txt	Plain Text
TPC Fair Use Quick Reference	TPC_Fair_Use_Quick_Reference.pdf	PDF
TPC Membership List	TPC_Membership.pdf	PDF
TPC Procedures	TPC_Procedures.pdf	PDF
TPC Social Media Policy	SocialMedia.pdf	PDF

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 **Member**s, the requirements for payment of dues is established in **Bylaws** § 2.3 and 2.5**.**

For existing **Member**s, 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:

- Vote in **General Meetings**, standing committees, and subcommittees
- Serve as chairperson of a **General Meeting**, standing committee, or subcommittee
- Run for chair of a standing committee or subcommittee
- Run for membership in a standing committee
- Commit access to all TPC code repositories

All Members, including those past due, 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 the 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 the 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 Standard**s.

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 **General Meetings**, **General Technical Meetings**, **Standing Committee** meetings, and technical subcommittee 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 chairperson 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 chairperson, 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. If there is a single nominee for the chairperson position, the chairperson may be elected by **acclamation**.

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 ten 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** chairperson 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** chairperson 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 chairperson 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 chairperson 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 **Affiliate**s 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 invitation from the **Administrator**. The agenda is **posted** to the **Private Web Site**.

3.2.3.2 The **SC** may declare a meeting, or portion of a meeting, to be a closed session when discussing matters related to finance, personnel, or other sensitive topics. During a closed session, all parties who are not a member of the **SC** will be asked to leave. They will be invited to return at the conclusion of the closed session.

The recorded minutes or any documents distributed during this session are not made public nor attached to the regular **SC** minutes. The minutes are only available to those present in the meeting. If a decision is made during the closed session, that decision should be recorded in the regular **SC** minutes as a formal record.

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

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

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

3.2.3.6 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.

3.2.3.7 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 Board**s 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 Board**s.

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 the **TAB** chairperson) 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** chairperson and the **Primary Representative** of the **Test Sponsor** involved. The **TAB** chairperson 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 **Result**s 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** chairperson of the new schedule. The **TAB** chairperson 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** chairperson 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** chairperson 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 the **TAB** chairperson) 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 **Result**s, 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 **Result**s.

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 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 at least four representatives from the **Members** in addition to the **TPC Administrator**. 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 Standard**s; 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**. The **TPC Administrator** is considered a voting member of the **PRC.**

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, of at least 50 questions and answers, for each **Benchmark Standard** (see **Policies** § 9.3.2) the subcommittee maintains.

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 six **Members** or **Committee Members** must be represented on a **Benchmark Subcommittee**.

3.5.1.6 **Chairperson**: At the time of creation the chairperson is elected by **Simple Majority** of the **Council.** At the **Annual Meeting,** the chairperson 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.

If there is a single nominee for the chairperson position, the chairperson may be elected by **acclamation**.

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 **Chairperson**: At the time of creation, the chairperson is elected by **Simple Majority** of the **Council.** At the **Annual Meeting,** the chairperson 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.

If there is a single nominee for the chairperson position, the chairperson may be elected by **acclamation**.

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.

If a member company has voluntarily terminated their membership (**Policies** § 3.5.4.10) on a technical subcommittee, they may not request membership on that technical subcommittee until five months after the termination date.

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 chairperson 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 chairperson 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**. Meetings shall be conducted either in-person or by telephone/video conference. For in-person meetings, physical attendance at the designated location is required for the purpose of establishing quorum and voting. For meetings by telephone/video conference, all members must be able to hear and/or see one another for purposes of establishing quorum and voting.

3.5.4.5 The technical subcommittee chairperson 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 chairperson may require a member be present for the majority of the ½ hour to be credited for the time.

Comment: Attendance records should be maintained for both members and non-members.

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 chairperson agree on the number of hours required for the work. The technical subcommittee chairperson 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 **Voting Eligibility**. Voting eligibility is determined by the technical subcommittee chairperson at the beginning of each meeting (see **Policies** § 4.1.7). A technical subcommittee member is eligible to vote if, during the five-month period prior to a technical subcommittee meeting, any of the following conditions are satisfied:

- The member has been present for at least 50% of the technical subcommittee meeting time
- The technical subcommittee has not met for ten hours
- The member obtained membership, unless they were subject to an involuntary termination of membership (**Policies** § 3.5.4.11), in the last year

3.5.4.8 **Suspension of Voting Rights**. A technical subcommittee member not in compliance with Policies § 3.5.4.7 will have their voting rights suspended for the duration of the technical subcommittee meeting.

3.5.4.9 **Reinstatement of Voting Rights**. When a technical subcommittee member's attendance is in compliance with Policies § 3.5.4.7 voting rights are reinstated.

3.5.4.10 **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 chairperson and the **TPC Administrator** in writing that the member is terminating membership in the technical subcommittee. If the technical subcommittee chairperson is voluntarily terminating membership, a temporary chairperson is chosen by **Simple Majority** vote of the subcommittee.

3.5.4.11 **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 chairperson must notify the **Council**. Upon notification to the **Council**, the member will lose membership in the technical subcommittee. The member may continue to participate in discussions, but their attendance does not count towards quorum nor voting. Their attendance percentage remains at the level which it was when they were involuntarily terminated.

3.5.5 Minimum Membership Requirements

When the membership of a technical subcommittee falls to three or fewer members, the subcommittee chairperson must notify the **Council** at the next **General Meeting**. Upon notification by the subcommittee chairperson 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 Forms**

In-person Only: Physical attendance by 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 members at the designated location is required for purposes of establishing quorum and voting. Members attending by remote presence will not count toward establishing quorum nor will be allowed to vote. Meeting time will be counted towards the meeting time requirements described in **Policies** § 3.1.4 and **Policies** § 3.5.4.5 provided all members 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 members must be able to hear and/or see one another (through the use of **TPC** provided 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.

4.1.3 **Location**

The **TPC** will attempt to rotate **Annual Meeting**s and **General Technical Meeting**s between locations in the west, central, and east portions of the continental United States as well as international locations.

4.1.4 **Modifications to Meeting Schedule**

The **SC** may adjust the dates of a **General Meeting or General Technical 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** or **General Technical Meeting** without such change being approved by a **Simple Majority** of the **Council**.

The **SC** may change the meeting form, see **Policies** § 4.1.2, without a vote by the **Council**. Meeting form changes must not be made within 30-days of the scheduled meeting date, except in extenuating circumstances.

4.1.5 **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.

4.1.6 **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.

4.1.7 **Duties of the Chairperson**

This section refers to the duties and conduct of any chairperson elected within the **TPC**.

4.1.7.1 **Participation of Chairperson in Discussion**. The chairperson must announce when they are placing themselves 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 chairperson must adhere to the same restrictions. The chairperson, and the **General Meeting** chairperson in particular, facilitates group discussion and should be very selective in participating in discussion.

4.1.7.2 **Motions from a Chairperson**. A chairperson, other than the chairperson of the **General Meeting**, may recognize themselves to make a motion, but should encourage the motions to come from the subcommittee. The chairperson of the **General Meeting** may not make a motion.

4.1.7.3 **Summary of Group Decisions**. The chairperson may summarize the decisions of the group to facilitate discussion in his role as chairperson.

4.1.7.4 **Voluntary Temporary Replacement of a Chairperson**. The chairperson may voluntarily step-down during discussion of an issue. The temporary replacement (chairperson pro tem) shall be nominated and elected by the group. The chairperson 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 chairperson pro tem will transfer the chairpersonship back to the normal group chairperson.

4.1.7.5 **Involuntary Temporary Replacement of a Chairperson**. The chairperson may be temporarily replaced by the group when there is a real or perceived conflict of interest by the chairperson in the issue being considered. This shall be a **Simple Majority** decision. The temporary replacement (chairperson pro tem) shall be nominated and elected by the group. The chairperson 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 chairperson pro tem will transfer the chairpersonship back to the normal group chairperson.

4.1.8 **Responsibilities of a Chairperson**

4.1.8.1 A technical subcommittee chairperson is responsible for the following, for each **Benchmark Standard** the subcommittee maintains:

- Notify all members of the meeting schedule and agenda at least 24 hours prior to the meeting (**Policies** § 4.3.2)
- Determine, at the start of each meeting, the voting eligibility of all members based on the attendance rules (**Policies** § 3.5.4.5)
- Tracking meeting attendance and meeting time, in 30-minute increments (**Policies** § 3.5.4.5)
- Capture minutes of actions taken during the meeting
- Meetings must use the **TPC-Provided** meeting facilities (i.e., telephone/videoconferencing provider, e.g., Zoom)
- E-mail communications to the entire technical subcommittee must use the **TPC** mailing lists
- Post minutes to the **Private Web Site** at least 48 hours prior to the next meeting
- Manage the development cycle of **Benchmark Standard**s and/or **TPC-Provided Software** (**Policies** § Section 5:)
- Manage source code and documentation via the **TPC**'s source code control system (e.g., GitHub)
- Act upon requests from the **SC** and **Council** in a timely fashion
- Provide **General Meeting** materials to the **TPC Administrator** no later than 24 hours after the conclusion of the **General Meeting**

- Produce collateral for the **PRC**, via benchmark status reports, for each **General Technical Meeting** and an extended benchmark status report in conjunction with every revision of a **Benchmark Standard** and/or **TPC-Provided Software**
- Develop, and maintain, at least 50 questions and answers to be used for an auditor exam
- Form and manage a **Pre-Publication Board** as needed (**Policies** § Section 10:)

4.2 **General Meetings**

4.2.1 **Frequency of General Meetings**

The time and location 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 a 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 **General Technical Meeting**s. **Member**s will be notified by the **Administrator** of the meeting date, time, and method of attendance as per **Bylaws** § 3.5(c).

Regardless of the above provisions, any action which is required by law, the **Bylaws**, or the Articles of Incorporation of the Corporation, to be taken at a meeting of the **Council** may be taken by telephone/video conference equipment by means of which all persons participating in the meeting can see and hear each other, and such participation in a meeting shall constitute attendance and presence in person at the meeting.

4.2.2 **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 the presentation must also be provided by the end of the meeting.

4.3 **General Technical, Standing Committee, and Technical Subcommittee Meetings**

4.3.1 The chairperson of the **Standing Committee**/technical subcommittee is responsible for notifying the members of the meeting schedule and which form, see **Policies** § 4.1.2 the meeting will use.

4.3.2 **Frequency**

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

A **General Technical Meeting** will be held in the first quarter of each calendar year and be co-located with the **Annual Meeting**.

All other **Standing Committee** and technical subcommittee meeting frequencies are 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**:

Motion Pertains To	**Voting Rule**	**Reference**
election of individuals to Standing Committees	Candidates receiving most votes, but at least a **Simple Majority**	**Policies** § 3.1.2
approval of members on Technical Subcommittees	**Simple Majority**	**Policies** § 3.5.3
election of chairperson for **Standing Committees** and Technical Subcommittees	**Simple Majority**	**Policies** § 3.1.2 and **Policies** § 3.5.1.6
time and location of **General Meetings**	**Simple Majority**	**Policies** § 4.1
revocation of **Auditor** certification	**Simple Majority**	**Policies** § 9.3.5
non-compliance of a **Result**	**Simple Majority**	**Bylaws** § 3.5 (g)
policy violation	**Simple Majority**	**Bylaws** § 3.5 (g)
exclusion of presentation material from meeting minutes	**Simple Majority**	**Policies** § 4.2.2
authorization for a **Mail Ballot**	**Simple Majority**	**Policies** § 4.5.1.1
All other motions	Two-thirds as defined as a **Super Majority** in **Bylaws**	**Bylaws** § 3.5 (g)

For convenience, the following definitions are included from **Bylaws** § 3.5 (g):

A **Super Majority** is defined as two-thirds of the **Director**s present and voting, excluding abstentions. A **Simple Majority** is defined as greater than 50% of **Director**s 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 **Director**s 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.

TPC Mail Ballot	
Title of ballot measure:	<title>
Purpose of Mail Ballot: ☐ Adoption of a New Standard ☐ Adoption of a Major Revision to an existing Standard ☐ Amendment of the Bylaws ☐ Expulsion of a Member ☐ Other: <describe purpose if not one of the above choices>	
Question:	<question being put to the membership; must be in the form of a yes or no question>
Date authorized:	*Month Day, Year*
Voting closes at:	Month Day, Year, 11:59PM Pacific Civil Time (**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)
Number of Members eligible to vote:	<number>
Number of votes required for ballot to be valid:	<number> - or - "N/A" (See Policies § 4.5.2)
Number of YES votes needed for approval:	<number> - or - "two-thirds of votes cast" (See Policies § 4.5.2)
Members eligible to vote:	<list of all Members eligible to vote>
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 an 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 the 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**:

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

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:

Event	Due Date or Frequency	Calendar Date	Reference
Election of individuals to **Standing Committees**	**Annual Meeting** of the calendar year	Typically February	**Policies** § 3.1.1
Annual budget	Before the dues are set and **Members** notified	October meeting	**Policies** § 2.1.1
Annual report	No more than 120 days after the close of the fiscal year	May 30*	**Bylaws** § 5.2
Statement of transaction or indemnification	With annual report	May 30*	**Bylaws** § 5.3
Dues **notification**	60 days before the end of the calendar year	November 1	**Policies** § 2.1.1
Written subcommittee Report	Final **General Meeting** of the calendar year	Typically December	**Policies** § 3.2.2.2
Annual direction statement and implementation plans	By the end of the calendar year	December 31	**Policies** § 3.2.2.1
Notification of the **Members**' right to receive a financial report	Annually	December 31	**Bylaws** § 5.2
Time and location of each **General Meeting**	At least six months in advance		**Policies** § 4.1

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 **Policies** § 5.1.1. 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** § 4.4.

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 Standard**s 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 prohibited by **Policies** § 5.4.2.3 or if the **Council** stipulates to the contrary. If the **Council** stipulates that **Result**s on a new version are not comparable to **Result**s on an older version, the **Council** will also stipulate any restrictions for publicly comparing older version **Result**s with newer version **Result**s.

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 version 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 **Result**s are still comparable to the prior version. A change is defined as "minor" or "major" depending on whether the **Result**s 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 version 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
- Changes to the **Specification** or **TPC-Provided Source Code** that affects the audit, disclosure, reporting, and/or pricing 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 **Result**s 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 **Result**s 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 **Result**s 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 **Result**s. 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 **Result**s governed by the **Umbrella Specification**.

6.4 **TPC Results List**

The TPC will maintain a list of current and recently withdrawn **Result**s (**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, **Result**s 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 **Result**s 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 **Result**s will be retained for TPC-confidential use.

6.4.4 **Historical Result**s. 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 **Result**s 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 **Result**s 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 **Result**s 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 **Result**s 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-mm-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 regard 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 **Result**s 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 chairperson 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 **Result**s 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 of 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 **Result**s 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 it 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 **Result**s have a limited competitive lifespan and market relevancy, and that the **TPC** should spend its limited resources reviewing current **Result**s.

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** § **5.4.2.2**).

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 Result**s in the press. **Test Sponsors** are required to cite the **TPC** trademark in their public relations materials.

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** voluntary 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 **Result**s 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 **Result**s 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 **Result**s 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 **Result**s published in multiple currencies.

6.18.1 All **Policies** for publishing a **Result** apply to the **Result**s 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** (except when released as open source) under development. This includes 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 chairperson of the technical subcommittees for their review and approval. Once these highlights are reviewed and approved by the subcommittee chairperson, 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 **Result**s. 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 chairperson 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/tracks?

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 for Derived Works**

All work derived from **TPC Benchmark Standard**s must have the following disclaimer:

This workload is derived from the <**TPC Benchmark Standard** name> Benchmark and is not comparable to published <**TPC Benchmark Standard** name> Benchmark results, as this implementation does not comply with all requirements of the <**TPC Benchmark Standard** name> Benchmark.

For example, "This workload is derived from the TPC-E Benchmark and is not comparable to published TPC-E Benchmark results, as this implementation does not comply with all requirements of the TPC-E Benchmark".

8.2 **Fair Use of TPC Results**

The **TPC** actively encourages **Test Sponsors** to widely **distribute** their **Result**s in **Public Information**. The **TPC** also actively encourages the publicizing of **Result**s 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 **TPC Benchmark Result**s 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 **TPC Benchmark Result**s. 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 **TPC Benchmark Result**s 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 **TPC Benchmark Result**s and **Non-TPC Benchmark** 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 **TPC Benchmark Result**s 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 **TPC Benchmark Result**s**.**

- Fidelity: Adherence to facts; accuracy
- Candor: Above-boardness; needful completeness
- Due Diligence: Care for integrity of **TPC Benchmark Result**s
- Legibility: Readability and clarity

Because **TPC Benchmark Result**s are protected by the **TPC** Trademark, this policy applies to all parties who use **TPC Benchmark Result**s, 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:

- **Non-TPC Benchmark** 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.
- **TPC-Benchmark Result**(s) published without TPC-Energy metrics in a comparison or claim related to electrical energy.
- Use of a withdrawn **TPC Benchmark Result** after 120 days have passed from the **TPC Benchmark 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** cannot be publicly compared.

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 Benchmark Result** must clearly identify which information is not from a **TPC Benchmark Result**.

8.2.1.8.3 Claims using a **Historical TPC Benchmark Result** more than 120 days after its change to **Historical** status must clearly state that the **Result** is in the **Historical TPC Benchmark 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 Benchmark 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 the challengee with 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 **Result**s, 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 **Result**s.

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 extraordinary 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 they deem 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 **Result**s.

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: **Independent Audit**

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 **Auditor** candidates. Only individuals can be candidates.

9.3.1 **Stage I – Application**

9.3.1.1 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 will be notified, and the candidate then progresses to Stage II. If the **SC** rejects the candidate, the candidate will be notified as to why the application was rejected.

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 a 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 **Specification**, any associated **TPC-Provided Software** source code, and the **Policies**.

The exam for a given **Auditor** candidate consists of at least 15 questions, chosen by the **TPC Administrator** from the set of questions maintained by the **Benchmark Subcommittee** (**Policies** § 4.1.8.1). The **SC** at its discretion may require the candidate to answer more than 15 questions. A passing score for the exam is at least 85% of the maximum score.

The exam is administered in person, at a time and place designated by the **SC**. Under extenuating circumstances, the **TPC Administrator** may administer the exam remotely via the **TPC's** videoconferencing facilities. The candidate may refer to the benchmark **Specification**, any associated **TPC-Provided Software** source code, and the **Policies** during the exam process.

Exception: The **SC** may determine that a written exam is unnecessary if the candidate can show that they have previous **TPC** auditing experience

9.3.2.2 The **SC** reviews the exam results and, at its discretion, may choose to interview the candidate. If the candidate passes the exam, the candidate will be notified that the exam was passed, and whether the next step is Stage III – Apprenticeship or Stage IV – Certification. If a candidate fails to pass the exam or the **SC** does not accept the candidate as an apprentice auditor, the **SC** will notify the candidate in writing within seven days.

If the candidate fails to pass the exam and the **SC** votes to allow a re-test, 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 I and Stage II 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 they have previous **TPC** auditing experience.

9.3.3.2 Once the **Auditor** determines that the apprentice has demonstrated that they are capable of working independently as an **Auditor**, the **Auditor** submits a written endorsement of the candidate to the **SC**. The endorsement must indicate how long the apprentice worked with the **Auditor** and the work performed during the apprenticeship. The **SC** will notify the candidate as to whether the next step is an Auditor Certification Board (**Policies** § 9.3.4.1) or a **Council** vote (**Policies** § 9.3.4.5).

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.

Exception: The **SC** may determine that an **ACB** is unnecessary if the candidate can show that they have previous **TPC** auditing experience.

9.3.4.2 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 chairperson for the ad hoc **ACB**.

9.3.4.3 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.

9.3.4.4 If the **ACB**, or the **SC** (in the case that the requirement for an **ACB** was waived (see **Policies** § 9.3.4.1)), choose to recommend that the candidate be approved as an **Auditor**, it will present a brief summary of its findings with regard to the candidate at the next **General Meeting**, and bring forward a recommendation to this effect to the **Council**. The findings and recommendations of the **ACB** (or **SC**), and subsequent discussion, will be handled via a closed session (see **Policies** § 3.2.3.2).

9.3.4.5 The **Council** will vote on whether to accept the candidate as an **Auditor.** If the **Council** accepts the candidate, actual acceptance is contingent upon the candidate signing a pledge to fulfill the responsibilities outlined in **Policies** § 9.4. If the **Council** votes to not accept the candidate as an **Auditor**, or if the candidate does not sign a pledge to fulfil the responsibilities outlined in **Policies** § 9.4, the candidate will not be accepted.

9.3.5 **Stage V – Maintaining Certification**

9.3.5.1 An individual who has been certified by the **TPC** will retain their 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 their 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 Participate in **General Technical Meeting**s by either:

- Attending at least one (1) in-person meeting per 12-month period

- Attending at least two (2) in-person with remote presence meetings per 12-month period

9.4.8 Regularly participate in **TAB** meetings.

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 evidence 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** § 5.4.2.1).

The **Auditor** may waive the requirement and report such a 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 **Result**s for publication.

Comment: If a **Benchmark Subcommittee** is responsible for multiple **Benchmark Standard**s, 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 chairperson, who will handle communications, including generating the approval report. If the chairperson is unable to perform the duties required for a publication review, a temporary chairperson 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 chairperson.

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 chairperson 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** chairperson will notify the **Test Sponsor**, via email, of the status of the **Result** submission. The **Pre-Publication Board** chairperson will also notify the **Steering Committee** to determine the resolution of the certification decision.

10.5.4 The **Steering Committee**, upon receiving notification from the **Pre-Publication Board** chairperson that a certification decision has not been reached (**Policies** § 10.5.3), must resolve the certification decision within five-business days.

10.6 Conflict of Interest

A **Test Sponsor** cannot sit in review of his own publication. A **Test Sponsor** must recuse themselves 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 **Result**s 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, all **TPC-Enterprise Benchmark Standards** must include:

- a **Specification**
- an auditor exam (**Policies** § 3.5.1.2)

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 Standard**s. 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 Result**s 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. A formal review period of 60 days is customary.

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.

Comment: **Members** and the public are reminded that this **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.

11.2.7 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 upon approval by the **Council** unless a later date is set by the **Council**.

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 upon approval by the **Council** unless a later date is set by the **Council**.

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. **Result**s 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. **Result**s 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 **Result**s, 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** and **Affiliates** that the **TPC-Enterprise Benchmark Standard** meets all 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)

(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 **FDR**s 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 the last availability of any priced components. Any **FDR**s 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**. If 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 **Result**s.

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 **Result**s measured against different scale factors
- Comparisons of TPC-DS **Result**s measured against different scale factors
- Comparisons of TPC-VMS **Result**s measured against different base **TPC Benchmark Standard**s

- Comparisons of TPC-VMS **Result**s measured against different scale factors of TPC-H or TPC-DS base benchmarks.

Section 12: **TPC-Express Class 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**
- a **TPC-Provided Kit** that implements all required functionality of the **Specification** which can be executed on at least one commercially available system
- an auditor exam (**Policies** § 3.5.1.2), if an independent audit is allowed or required

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, in a format similar to **TPC-Express Benchmark Standards**, 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.

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: **Members** and the public 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 Result**s and can be publicized as such.

12.2.5 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. A formal review period of 60 days is customary.

12.2.6 Step 6: 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 **Benchmark Subcommittee** for resolution.

Comment: **Members** and the public are reminded that this **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.

12.2.7 Step 7: 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**. A new **Benchmark Standard** is available immediately for publication upon approval by the **Council** unless a later date is set by the **Council**.

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 **Super Majority** vote. The **Benchmark Standard** is available immediately for publication upon approval by the **Council** unless a later date is set by the **Council**.

12.3.3 Approval of TPC-Express Benchmark Standard Third Tier Revision

A **TPC-Express Benchmark Standard Third Tier Revision** is approved by the **Council** or the **Steering Committee** by passing a **Super Majority** vote. The **Benchmark Standard** is available immediately for publication upon approval by the **Council** or the **Steering Committee** unless a later date is set by the **Council**.

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 14 days after the date the newer version is first available for publication. The **Council** may choose to set a later obsolescence date. **Result**s 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. **Result**s 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** and **Affiliates** that the **TPC-Express Benchmark Standard** meets all 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 **Result**s 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 Benchmark Standard** 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 principal 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 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 Benchmark Standard** or **TPC-Express Benchmark Standard**.

13.3.1 Approval of TPC-Provided Software 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 **Steering Committee** by passing a **Super 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 **Benchmark Subcommittee** 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.