

**Telecommunications Industry Association  
Business Performance Community  
(TIA-BPC)**

**TL 9000  
Quality Management System**

**Measurements Handbook**

**Release 5.6**



**Copyright © 2019 Telecommunications Industry Association**

For information about the TIA-BPC,  
visit the TIA-BPC website ([tiaonline.org](http://tiaonline.org)).

For TL 9000 specific information,  
visit the TL 9000 website ([tl9000.org](http://tl9000.org)).

TL 9000 is a registered trademark  
of the  
Telecommunications Industry Association

Throughout this document the term 'Measurements Handbook' refers to *TL 9000 Quality Management System Measurements Handbook, Release 5.6*, namely this volume. The term 'Requirements Handbook' refers to the latest version of the *TL 9000 Quality Management System Requirements Handbook*. The term 'ISO 9001' refers to ISO 9001:2015.

Any errors identified after printing will be posted to the TL 9000 website. See the Measurements Handbook Errata link at [tl9000.org/links.html](http://tl9000.org/links.html)

This material replaces Section 4 pages 4-3 and 4-4 and Section 5 page 5-1 in the R5.0 TL 9000 Quality Management System Measurements Handbook. The only changes from the previous Handbook are in Sub-Sections 4.2.5, 4.2.6, 5.1.2, and 5.1.4. The combination of the existing unchanged material in the R5.0 Handbook, the changed material in the R5.5 Point release along with the material herein constitutes the full R5.6 Handbook.

Approved and Adopted  
by the  
TIA-BPC  
Effective

30 June 2019



any resulting overlap or gap in the data. The same method, calendar or fiscal, does not have to be used for all measurements within a data submission.

The term 'month' throughout this handbook refers to the reporting period for the data, whether calendar or fiscal.

The organization shall use calendar days for the measurements that involve number of days.

#### **4.2.4 Reporting of Compared Data and Research Data**

The organization shall report data for all applicable measurements defined in this handbook to the TL 9000 Administrator according to the counting rules. This reporting requirement applies whether the measurement includes the designation 'compared data' or 'research data.' See the Measurements Summary Listing, Appendix A, Table A-6.

NOTE: The designation 'compared data' in the Appendix A, Table A-6, means that industry performance data reports may be available from the TL 9000 Administrator. However, the designation 'research data' indicates that no comparable industry performance data reports are available, and the TL 9000 Administrator will report analyses of industry performance data reports only to the appropriate TIA-BPC working group(s).

#### **4.2.5 Product and Service Exclusions**

The organization shall exclude data for products that are no longer fully supported for its general customer base. This exclusion shall apply only after formal notification has been made to the customers. This includes any product or service on Additions and Maintenance (A&M), Manufacturing Discontinued (MD) status, New Service Supply Discontinued Status, End of Support (EOS), or End of Life (EOL).

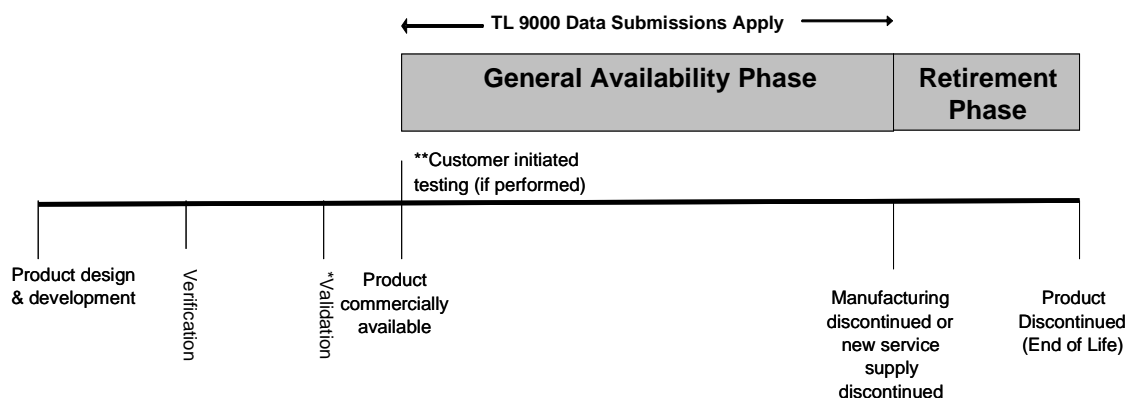
For software related products or services, the exclusion applies to generic releases as well as specific software releases. It also applies to any software product where new software feature releases are not deployed.

This exclusion does not apply to Field Replaceable Units that have been made obsolete by a later version unless those units are completely recalled from the field.

#### **4.2.6 Product Measurement**

Unless otherwise stated, measurements shall apply to products only during the General Availability Phase of their life cycle. The terms General Availability Phase and Retirement Phase are defined in the glossary. To assist in a common understanding of a product's life cycle, see Figure 4.2.6-1.

The organization shall retain the capability to report all applicable TL 9000 measurements during the product's or service's Retirement Phase.



\*External testing initiated by the organization that is deemed necessary to qualify the product would be included during Validation and executed prior to General Availability, and therefore would not be included in measurement reporting.

\*\*Testing initiated by the customer that occurs after the start of General Availability phase would be included in measurement reporting. Examples of customer-initiated testing include customer acceptance testing, field trials, and First Office Applications (FOAs).

**Figure 4.2.6-1 Product Life Cycle and TL 9000 Data Submission**

#### 4.2.7 Calculation of Normalization Units

Where the normalization unit is traffic capacity based, such as DS1, OC-1, DSL or Terminations, the calculation shall be based on the true usable traffic capacity. Equipment within the system used to provide protection for the main traffic path shall not be included, as it does not add usable capacity to the system. See Transmission Standard Designations and Conversions, Appendix A, Table A-4 for conversion factors from various traffic capacities to the normalization units.

Where the normalization factor contains the word 'shipped,' the quantity shipped in the 12 months ending with the month being reported shall be used.

#### 4.2.8 Data Submission and Exemptions

Data shall be submitted according to the format provided by the TL 9000 Administrator. When resubmitting corrected data, the organization must use the product category table in effect at the time the data was originally submitted. The following measurements and all their sub-measurements may not be exempted: NPR, FRT, OFR, OTD, SFQ, SPR, and SQ. The following rules apply to those special cases where, even though there is deployed product, there may be no data to report.

- a) If there is simply no data to report, such as no faults identified, no defects reported, no outages, etc., then a value of zero is entered. This can apply to both the numerators and the denominators.
- b) In certain special instances, an organization may claim exemption from providing data for a required measurement. In this case, the word 'EXEMPT' is entered in place of the required data. The organization shall document a valid reason for this exemption for review and approval by its certification body and update its TL 9000 registration profile to show the exemption for that measurement. One example of a valid reason for exemption includes the scope for the organization's certified registration excluding the business division that generated the data for a particular measurement.

## Section 5      **Common Measurements**

*Common measurements apply to all products: hardware, software, and services.*

### **5.1 Number of Problem Reports (NPR)**

#### **5.1.1 General Description and Title**

The Number of Problem Reports measures the total problem reports.

#### **5.1.2 Purpose**

This measurement is used to evaluate the number of customer-originated problem reports related to the product and its associated processes during its General Availability (GA) Phase. Problem reports may have a negative impact on the organization (such as rework), on the customer (such as scheduling repeat site visits) and may jeopardize or affect the customer's business operations. Problem reports contribute to loss of end-user loyalty and customer satisfaction. This measurement is intended to stimulate continuous improvements resulting in a reduction of the number of problem reports, associated costs and potential revenue losses.

The measurement does not include all customer calls or reported incidents. Only problem reports meeting the definition in the Glossary are evaluated for inclusion in the measurement, subject to the defined counting and exclusion rules.

Purely prototype products, such as releases, which are not commercially available (pre-GA), are excluded from TL 9000 reporting. However, the customer and organization may agree to use and share problem report data to track early product quality during the pre-GA test phase.

#### **5.1.3 Applicable Product Categories**

This measurement applies to product categories as shown in the Measurement Applicability Table (Normalization Units), Appendix A, Table A-2.

#### **5.1.4 Detailed Description**

##### **a) Terminology**

The Glossary includes definitions for

- Afactor (Annualization Factor)
- General Availability Phase
- Incident
- Normalization Factor
- Official Fix
- Problem Report
- Problem Report – Critical
- Problem Report – Major
- Problem Report – Minor
- Restoration
- Resolution
- Severity