

AB/CB Sub-team Guidance to Measurements Complexity Tool, Version 1.0 dated May 24, 2019

Owner of this document is AB/CB Sub-Team.

The Measurements Complexity Tool is designed to determine the minimum audit days required to conduct a measurement audit during a TL 9000 assessment. The tool considers the complexity of the organization's TL 9000 measurements and associated processes.

The tool is to be used for each measurements-responsible site to be audited.

When using the tool, each of the TL 9000 Measurement System Audit Complexity Factors is assigned a level of Low, Medium or High. The tool may be completed by the organization's measurement representative and/or TL 9000 auditor. The TL 9000 auditor has final approval of assigned levels.

The AB/CB Subteam assigns and controls the weighting of Impacting or Most Impacting for each factor. A weighting of "Most Impacting" indicates a more complex measurement process, which may require more audit time.

The TL Measurement System Audit Complexity Factors are:

1. Number of Product Category Families
2. Measurements Submitted
3. Level of Automation
4. Data collection and validation processes
5. Data Collection and Reporting Entities
6. Changes in measurements personnel, processes or automation

Weighting Considerations for the 6 Complexity Factors

1. Number of Product Category Families Factor (Weighted as Most Impacting)

As the number of product families within an organization increases, more time is required to assess the measurements of all families.

The Product Family is associated with the first digit of the Product Category Code in the Product and Service Category Table, i.e., 1 – Switching, 2 – Signaling & Network Control, 3 – Transmission Systems etc.

Multiple product categories registered within a Product Family are considered a single Product Family when using the tool.

Factor Considerations:

- Initial or Recertification audit where multiple Product Families are registered;
- A new product family is introduced;
- Multiple processes or tools are used by the organization to collect and report measurements for different products within a Product Family or Families;

- Changes made to an existing product family, e.g. product(s) and/or product categories added or removed.

2. Measurements Submitted Factor (Weighted as Impacting)

The type of measurements submitted have a direct effect on the duration of the audit. Some measurements are more complex than others, or perhaps are not quite as common as others, and therefore take more time to audit.

Factor Considerations:

- When the site being assessed is responsible for many different types of measurements within the TL 9000 measurements suite (i.e., they have products requiring a significant combination of outage measurements, hardware measurements, software measurements, and/or service measurements);
- When measurements are submitted late or are repeatedly re-submitted.

3. Level of Automation Factor (Weighted as Impacting)

The level of automation employed by an organization's measurements processes will affect the time required for the audit. More automation generally requires less of the TL 9000 auditor's time.

Factor Considerations:

- When new automation is implemented;
- When changes to the existing automation affect the calculation of measurements;
- When the level of automation is reduced – i.e. less automated due to changes, or manual measurements have been deployed;
- When several organizations or individuals are involved with manual activities associated with the measurements being submitted.

4. Process Commonality Factor (Weighted as Impacting)

Less audit time is required, if there are common processes for collecting, validating and reporting each measurement where sampling is acceptable by the TL 9000 auditor. Also, see [Data Collection / Reporting Entities](#) and [Change in Measurements Personnel, Processes or Automation](#) as these may also have an impact.

Factor Considerations:

- When new measurements processes are introduced;
- When there are changes to an existing measurement process affecting the collection, validation and reporting of measurements;
- When different processes are used for different measurements and/or for different products reporting the same measurement.

5. Data Collection / Reporting Entities Factors (Weighted as Most Impacting)

This complexity factor considers who collects and reports the measurements within the organization. More complex organizations that collect and report multiple measurements from different entities and/or different regions require more audit time for measurements. Also, see [Process Commonality](#)

above and [Change in Measurements Personnel, Processes or Automation](#) below as these may also have an impact.

Factor Considerations:

- When an organization collects and/or reports multiple measurements from different entities within an organization;
- When multiple people collect and /or report the same measurements for different products;
- When changes affect which entity performs the collection and/or reporting of measurements;
- When the addition of a new entity for collecting and/or reporting measurements introduced.

6. Change in Measurements Personnel, Processes and/or Automation Factor (Weighted as Impacting)

When there are changes in the personnel, processes, or automation associated with the TL 9000 measurements. The change/s will require additional time for the auditor to ensure that those changes have not negatively affected the collection, validation and reporting of measurements. Also, the TL 9000 auditor should ensure that any changes to the measurements processes or automation are understood by the personnel involved. This Complexity Factor may be affected by any of the other Complexity Factors above, for example when a new product family is added.

Factor Considerations:

- When there is a large number of personnel involved in collection/reporting of TL 9000 measurements;
- When there is a significant change in personnel, for example, a different entity (group, function, person) becomes responsible for measurement;
- When a new process is introduced, or significant change to existing processes, for example, when moving from manual to automated measurements.

Change History

Version	History Change	Date
1.0	Initial Version Created for AB/CB Subteam Guidance for Measurement Complexity Tool version 1.0 to describe what was considered for the assigned weightings of Impacting and Most Impacting. This document is located in the AB/CB Sub Team Folder entitled "AB/CB Complexity Factor Tool Considerations Guidance".	5/24/2019