**[lab name]**

**Policy and Procedure for the Removal and Replacement of Calibration Standards**

**[#]**

**In Compliance with V1M4 1.7.1.1.(e)**

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**APPROVED BY**

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**New SOP**

**Revision History**

|  |  |
| --- | --- |
| Version number and effective date | Revisions made |
| V 1.0 January 1, 2024 | Conforms to TNI 2016 standards. |
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# Policy and Procedure Relating to the Removal and Replacement of Analytical Standards in a Calibration Curve

In general, analytical calibration standards that do not produce viable calibration curves even if it is due to one standard, are to be discarded and replaced by a new curve from newly prepared standards. However, in certain cases, it may be necessary to remove or replace standards to use the generated curve. Those reasons are limited to when the sample cannot be analyzed due to either the new analysis is past the stated hold time for the analyte or there is insufficient sample left to complete the analysis.

# Removal of the lowest or highest standard in a calibration curve

If the need to fix the calibration curve is because the highest or lowest standard is the cause of the error, then the standard may be removed and not replaced. The following conditions will change if this is done.

If the lowest standard is removed, the Limit of Quantitation value for that analysis is set to the next lowest standard concentration. The Limit of Detection is not affected as it is based on a different procedure.

If the highest standard is removed, then no sample may be quantified if its response is higher than the next highest standard in the curve.

# Removal and Replacement of a Standard other than the lowest or highest standard

This can only be done if the analytical software used allows for a reanalysis of a standard to replace the affected standard. The conditions listed above Must be met. It also cannot be done if there are issues with the lowest or highest standard and they are to be dropped.

The following conditions and record keeping are required.

* It is known that an error occurred in the production of the standard. This must be verified by a second analyst and the apparent standard concentration appears to be a multiple of the intended concentration.
* The % RSE for that individual standard is greater than 50%.

The affected standard is to be reprepared at the affected concentration, then analyzed and substituted for the affected concentration in the calibration curve.

# References

* *Management and Technical Requirements for Laboratories Performing Environmental Analyses*, The NELAC Institute (TNI), Rev 2.1, September 1, 2016

# Definitions and Acronyms

Words specific to this document or used outside of their dictionary definition are defined here. Acronyms can be defined in the text above on their first appearance.

## Definitions

## Acronyms

# Appendices