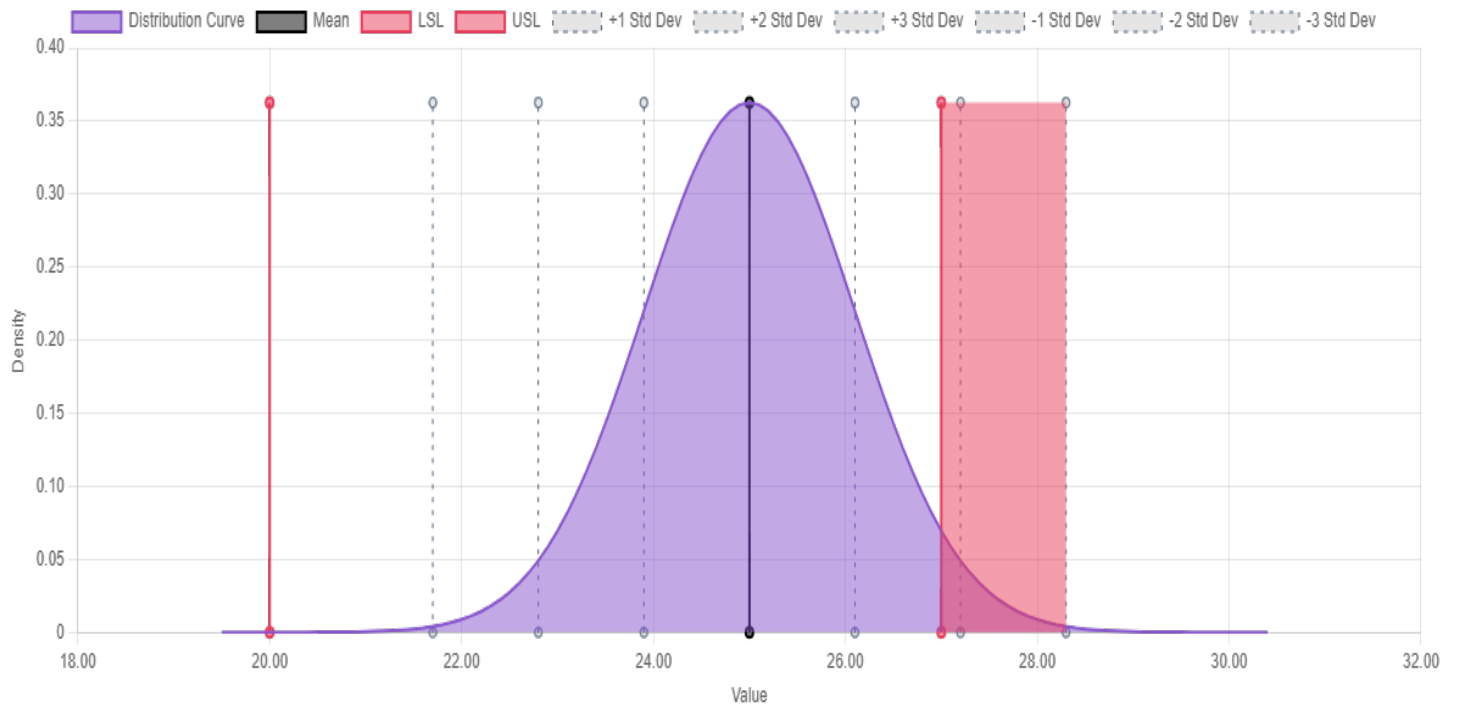


Date: 8/7/2023



Upper Limit: 27
 Lower Limit: 20
 Mean: 25
 Standard Deviation: 1.1
 Cp: 1.06
 Cpk: 0.61
 Cpu: 0.61
 Cpl: 1.52

Target Alignment Analysis: The process capability indices Cp (1.06) and Cpk (0.61) are not greater than 1 or the observed mean of the process (25.00 units) falls outside the specification limits (LSL: 20.00 units, USL: 27.00 units). A Lean Six Sigma approach would involve a systematic analysis to understand the root cause. This would include mapping the process, collecting and analyzing relevant data, identifying potential causes, and conducting hypothesis testing. Solutions would be brainstormed, evaluated, and implemented, followed by continuous monitoring to ensure effectiveness. The process would also include risk management, documentation, standardization, and an emphasis on continuous improvement. Collaboration and clear communication would be essential throughout this process to align the team and achieve the desired results.

Variation Management Insights: The detected variation (1.10 units) is within acceptable limits, it

signifies that the process is operating in a controlled and stable manner. This is positive, emphasizing the importance of maintaining this stability through continuous monitoring and control. However, it is possible to explore opportunities for further improvement, as Lean Six Sigma emphasizes ongoing optimization. Even within acceptable limits (LSL: 20.00 units, USL: 27.00 units), there might be chances to enhance efficiency, reduce waste, or improve quality, aligning with the philosophy of continuous improvement.

Cpu: The CPU (Capability Ratio for the Upper Specification Limit) of 0.61 reveals a risk of non-conformities with the Upper Specification Limit, it indicates that the process may produce outputs that exceed the acceptable upper range (27.00 units). It is important to investigate the root causes of this potential non-conformity by analyzing the process variation and identifying factors contributing to the high side of the output. Immediate attention to process control and optimization would be required to bring the process within specification limits. This may involve adjusting critical input parameters, improving monitoring, implementing corrective actions, and continuously assessing the process to ensure that the risk is mitigated and the process remains in control.

Cpl: The CPL (Capability Ratio for the Lower Specification Limit) of 1.52 shows good alignment with the Lower Specification Limit (LSL: 20.00 units), it indicates that the process is performing well with respect to the lower boundary.

Process Capability Insights: A Cp value of 1.06 above 1 suggests that the process has the inherent capability to operate within the specification limits (LSL: 20.00 units, USL: 27.00 units), assuming that the process mean is centered. It's important to recognize that this doesn't ensure that the process is in control, but it does indicate a potential for achieving capable performance. Continuous monitoring and control efforts would be required to maintain this capability, along with a focus on potential opportunities for further improvement and efficiency.

Compliance Assessment: -3.18% of the distribution curve falls outside the specification limits (LSL: 20.00 units, USL: 27.00 units), it indicates that a portion of the output is non-conforming, leading to potential defects or customer dissatisfaction. Strategies to address this issue should include an analysis of the root causes of the non-conformities, identification of key factors contributing to the variation, implementation of targeted improvements, and ongoing monitoring and control. Efforts should be directed towards achieving a stable and capable process that meets specifications consistently and satisfies customer requirements.