**Paint Manufacturing Report**

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This report examines quality control data for a paint manufacturing company following concerns about variation in the volume of 4-liter paint cans. Given the scale of the $53 billion paint industry, even slight inconsistencies can impact both financial outcomes and customer satisfaction. The company uses an automatic valve to fill each can, and while minor variation is expected, this analysis aims to determine whether any special cause variation is present.

Over a 25-day period, five random samples were collected each day, each measuring approximately 3.92 liters. All samples fell within the established control limits, with no values exceeding the upper control limit (UCL) or falling below the lower control limit (LCL). The sample values were evenly distributed around the centerline, with no clustering on one side, no long runs, and no consistent upward or downward trends.

These findings indicate that the process is stable and in statistical control. There is no evidence of special cause variation, and the slight fluctuations observed are consistent with normal operational expectations. As a result, no further investigation or corrective action is needed. The company’s filling process is functioning as intended.