**Assignment 2**

**Case: Process Control at Polaroid**

**Questions for Case Analysis**

Q 1: Prepare a list of quality problems at R2 and categorize them under four broad groups – People, Methods, Machines, and Materials related.

Q 2: As stated in the case, Rolf’s goal for the Project Greenlight is (1) to get in-control processes and (2) to get capable process. What are Rolf’s proposed strategies to achieve each of these goals?

**Analysis for the Pod Weight**

Q 3: Using the sample data in the exhibit 6 only and appropriate SPC charts, analyze the pod weight and comment if the process in control. What conclusions should Rolfs draw? (Compute the control limits, construct the charts, and summarize your observations). (Assumption: Do not use the baseline data in this case).

*Note: There are eight control charts – 4 X-bar charts and 4 Range charts in this case. Present all of these charts on a page.*

Q 4: Using the baseline data in exhibit 3, sample data in exhibit 6, and appropriate SPC charts, analyze the pod weight and comment if the process in control. What conclusions should Rolfs draw? (Compute the control limits, construct the charts, and summarize your observations).

*Note: There are eight control charts – 4 X-bar charts and 4 Range charts in this case. Present all of these charts on a page.*

Q 5: Analyze the process capability of the pod weight if the LSL =2.75 gms and USL = 2.85 gms.

**Analysis for the Finger Height**

Q 6: Using the sample data in the exhibit 6 only and appropriate SPC charts, analyze the finger height of the injection molded plastic end cap and comment if the process in control. What conclusions should Rolfs draw? (Compute the control limits, construct the charts, and summarize your observations). (Assumption: Do not use the baseline data in this case).

*Note: There are eight control charts – 4 X-bar charts and 4 Range charts in this case. Present all of these charts on a page.*

Q 7: Using the baseline data in exhibit 3, sample data in exhibit 6, and appropriate SPC charts, analyze the finger height of the injection molded plastic end cap and comment if the process in control. What conclusions should Rolfs draw? (Compute the control limits, construct the charts, and summarize your observations).

*Note: There are eight control charts – 4 X-bar charts and 4 Range charts in this case. Present all of these charts on a page.*

Q 8: Analyze the process capability of the finger height if the LSL =1.50 mm and USL = 2.50 mm.

Q 9: Polaroid is suggest the use of more stringent quality control measures for the “finger height”. Thus, a nonrandom pattern on a control chart suggesting the process is out of control if (any of these conditions are met):

1. One point is outside the 3-sigma control limits.
2. Two points are beyond the 2-sigma control limits.
3. Eight consecutive points are on one side of the centerline.

What is the impact of these stringent measures on your conclusions in the analysis of finger height in Q6 and Q7?