

ATTACHMENT D: Project Case Scenario

TURNROUND AT THE PORTLAND PLANT¹

Introduction

*“Before the crisis the quality department was just for looks, we certainly weren’t used much for problem solving, the most we did was inspection. Data from the quality department was brought to the production meeting and they would all look at it, but no one was looking **behind** it”.* (Quality Manager, Portland Plant)

The Portland plant of Rexam Graphics was located in Portland, Oregon, across the continent from their headquarters in Massachusetts. The plant had been bought from the James River Corporation by Rexam in March 1998. Precision coated papers for ink-jet printers accounted for the majority of the plant’s output, especially paper for specialist uses. Ink-jet products had a particularly tighter production specification, especially in terms of coat weight variation. The plant’s process technology consisted of coating machines that allowed precise coatings to be applied. After coating, the conversion department slit and then cut the coated rolls to shape.

The curl problem

In late 1996 Hewlett Packard (the plant’s main customer for ink-jet paper) informed the plant of some problems it had encountered with paper curling under conditions of low humidity. There had been no customer complaints to HP, but their own personnel had noticed the problem. Nevertheless HP took the curl problem seriously. Over the next seven or eight months a team at the plant worked on a series of design experiments to try and isolate the cause of the problem. Finally, in October of 1997 the team made recommendations for a revised and considerably improved coating formulation. By January 1998 the process was producing product that HP regarded as acceptable. However, 1997 had not been a good year for the plant. Although sales were reasonably buoyant the plant was making a loss of around \$1 million for the year. In October 97, Tom Bickford, previously account manager for the Hewlett Packard business, was appointed as Managing Director.

Slipping out of control

By spring of 1998 the curl project was completed. Nevertheless, productivity, scrap and re-work levels were poor. In response to this the operations management team increased the speed of the line and made a number of changes to operating practice in order to raise productivity.

¹ Case reproduced with the permission of Dr. Nigel Slack, Warwick College, where the case originated, 2007.

*“Looking back, changes were made without any proper discipline, there was no real concept of control and the process was allowed to drift. The perception was that we were always meeting specification. Yet we didn’t fully understand how close we really were to not being able to make it. The culture here said, “If it’s within specification then it’s OK” and we were very diligent in making sure that the product which was shipped **was** in specification. However, Hewlett Packard gets ‘process data’ which enables them to see more or less exactly what is happening right inside your operation. Of course we were also getting all the reports but none of them were being internalized. We were using them just to satisfy outsiders. By contrast, HP have very much a statistical and technical mentality which says to itself, “You might be capable of making this product but we are thinking two or three product generations forward and asking ourselves, will you have the capability then, and do we want to invest in this relationship for the future?” (Tom Bickford)*

The spring of 1998 also saw two significant events. First, Hewlett Packard asked the plant to carry out preliminary work for a new paper to supply the next generation of HP ink-jet platform, known as the Viper project. If won, the Viper contract would secure healthy orders for the next two or three years. The second event was that the plant was acquired by Rexam.

“What did Rexam see when they bought us? They saw a small plant on the West Coast of America losing lots of money”. (Finance Manager, Portland Plant)

Indeed Rexam were not over impressed by what they found at the Portland plant. It had been making a loss for at least two years and had only just escaped from incurring a major customer’s disapproval over the curl issue. They made it clear that, if the plant did not get the Viper contract, its future looked bleak. The plant’s engineers fully understood the importance of Viper and were working hard to develop the new product. Meanwhile, out in the plant, the chief concern continued to be centered around productivity issues. But also, once again, Hewlett Packard were starting to make occasional complaints to the plant’s operations management about quality levels. However HP’s attitude caused some bewilderment to the operations management team.

“When HP asked questions about our process the operations guys would say, “Look we’re making roll after roll of paper, it’s within specification (as seen in Exhibit 1) and we’ve got 97 per cent up-time. What’s the problem?” (Quality Manager, Portland Plant)

But it was not until summer that the full extent of Hewlett Packard’s disquiet was made clear to the plant’s senior management.

“The key milestone date for me, and I will never forget it, was in June of ‘98. I was at a meeting with HP in Chicago. It was not even about quality. But during the meeting one of their engineers handed me some SPC run data. This was data that we had to supply with every batch of product, and said “Here’s your latest run data. We think you’re out of control and you don’t know that you’re out of control and we think that HP is looking at this data more than you are.” He was absolutely right and there was nothing I could say except that we would do something about it. This was when I fully understood how serious the position was.

We had our most important customer telling us we couldn't run our processes just at the time we were trying to persuade them to give us the Viper contract". (Tom Bickford)

The Crisis

"At one point in May of '98 we had to throw away 64 jumbo rolls of out-of-specification product. That's over \$100,000 of product scrapped in one run. Basically that was because they had been afraid to shut the line down. If they failed to keep the machines running we would flog them and say, "You've got to keep productivity up". If they kept the machines running but had quality problems as a result, we flogged them for making garbage. Now you get into far more trouble for violating process procedures than you do for not meeting productivity targets". (Engineer, Portland Plant)

Returning from the Chicago meeting Tom immediately set about the task of bringing the plant back under control. Knowing that you had taken an operations management class, Tom asked for your help to help identify problem areas and make recommendations to fix the problems.

Exhibit 1

Typical process control charts

May 1998

