

Case 9

Recycling?

Engineered Products Inc. (EPI) is a conglomerate with both manufacturing and service-based businesses. One of EPI's larger manufacturing plants has been asked to increase its recycling efforts or face a major increase in its disposal fees. EPI prides itself on being a good corporate citizen and has committed to taking any and all feasible actions to reduce the volume and weight of material it sends to the local landfill. The local landfill plans to increase disposal fees by \$5 per ton. It is offering to rebate \$5 for each ton less than the current 12-month average that the plant sends to the landfill. The plant does not foresee any changes in the current levels of waste generation due to volume or product changes.

Currently, the plant averages sending two containers per day to the landfill. The containers average 10 tons of waste when loaded. The landfill charges \$40 per ton to receive the waste. The waste hauler charges \$80 per load (one container) to transport the waste. The three waste containers are rented for \$5 per container per day.

Currently, cardboard, if collected and bundled for shipment, can be sold for \$95 per ton. The plant estimates that it sends 2 tons of cardboard a day to the landfill. To collect the cardboard will require one janitorial associate for 3 hours per day at a cost of \$18.50 per hour. The baling equipment will cost \$22,000 installed, \$45 per week to operate, \$4500 per year to maintain, and last 12 years. The equipment will have a salvage value of \$5000.

Currently, 25,000 wooden pallets per year are scrapped each year because they are damaged or because they are not of the standard size used by the plant. The plant has budgeted \$12,000 for a pallet shredder to chip the pallets as they go into the waste containers

to reduce their volume and allow the average weight per container to increase to 11 tons. The shredder has no salvage value at the end of its 6-year useful life. The operating and maintenance cost (not including the operator, a janitorial associate) is \$3000 per year. The pallets average 13 pounds each.

A pallet recycler has offered to purchase pallets, which are of certain sizes and in good condition. The pallets that are in these sizes and in acceptable condition amount to half the scrapped pallets. The pallet recycler is offering to pay \$1.00 per pallet. To sort the acceptable sizes from the scrap pallets will require three hours of labor per day. This job can also be done by a janitorial associate.

Purchasing has identified a company that will pick up the damaged and unusable pallets and process them into wood chips, which this company then sells. The cost of this service is \$1.25 per pallet.

The plant works 5 days a week, 50 weeks a year. The minimum attractive rate of return is 15%.

What do you recommend the plant do?