**M&B Pharmaceuticals**

**Ocean Springs, Mississippi**

M&B is a local distributor in Ocean Springs, Mississippi, supplying pharmaceuticals and medical supplies to 55 independent drug stores in the Southern region of the US. One of the most popular products M&B distributes is Headache Remedy Formula (HRF) 5123. M&B purchases this generic drug product from a single supplier, the Chem Corporation. Sales of cases of HRF 5123 are relatively constant. The current inventory policy for M&B calls for purchasing HRF 5123 in lot order quantities of 155 cases from the Chem Corporation. M&B has an inventory control system that monitors inventory levels of all products on a weekly basis. Inventory records for HRF 5123 are attached (see excel template). M&B operations require that 155 cases of HRF 5123 be reordered when inventory levels drop to 55 cases within the warehouse. Each case of HRF 5123 cost $10 and M&B has a 14% annual holding cost rate for its inventory. It cost $12 to prepare a purchase order for 1 case of HRF 5123. Assume all shortage cost are negligible and all shortages are fulfilled with backorders. (20 pts)

a. What is the value of the total annual inventory costs for HRF 5123 in 2009?

b. M&B senior level management believes that the company is losing valued customers due to several products experiencing stockouts. Thus, the director of operations has issued policy that calls for all products to have a safety stock that will support no more than one stockout per year.

1. Does the current inventory policy for HRF 5123 meet this directive?
2. ii If not, what should be the inventory policy in terms of optimum order quantity (EOQ) and reorder point?
3. iiiIf the current policy does meet the safety stock objective, what is the advantage (in terms of cost) of the optimal compared with the current policy?

c. M&B is considering purchasing Headache Remedy Formula 5123 from another supplier located in Slidell, Louisiana. This supplier charges $11 per case but delivers products on time in 14 days. Should M&B change suppliers? Support your decision with analysis.

d. What is the total annual inventory cost associated with the supplier selected in part c?