

15.501/516

Problem Set #5

Accounting for Depreciation, Delta-Pan Am Airlines case write-up

1. Depreciation Calculation

Dove Company acquired a new machine on 1/1/1999. It paid the vendor \$4,000 cash and signed a promissory note for an additional \$9,000, due in 3 years (10% interest annually). In addition, the firm spent \$400 to transport the machine to its factory, \$600 to install it, and \$1,200 to train employees who will operate it. The manufacturing manager expects the machine to last for 6 years, over which time it will provide 24,000 hours of service. The estimated salvage value is \$2,000.

a. Calculate the depreciation charge for each of the first three years using the straight-line method.

b. Calculate the annual depreciation charges under the activity method. Actual machine usage was 5,000 hours, 4,500 hours, and 4,000 hours respectively in 1999, 2000, and 2001.

c. At the start of 2002, Dove makes an improvement to the machine that extends its useful service life to a total of 8 years. The improvement costs \$4,000. The salvage value estimate is unchanged. For the straight-line depreciation method only, determine how much depreciation expense Dove should recognize for this machine in 2002.

d. Assume that after making the improvement in c., Dove continues operating this machine through the end of 2005. At that time, a new generation of technology is available, and Dove's managers decide to replace this machine. They are able to sell it for \$1,000 cash. Record the effects of this sale on the Balance Sheet Equation, assuming the company had continued to use straight-line depreciation.

e. Specify how the PP&E-related bookkeeping entries for 2005 would affect Dove's income statement and statement of cash flows.

2. Case write-up: Delta and Pan Am

Answer the Question 1(a) found on page 5 of the case. It may be helpful to present your answer in question 1 by tabulating the depreciation assumptions used by the two airlines:

| | Depreciation Life (yrs) | Salvage value | Annual Depreciation |
|-------------------|-------------------------|---------------|---------------------|
| Delta: | | | |
| Before 01/01/1993 | | | |
| After 01/01/1993 | | | |
| | | | |
| Pan Am: | | | |
| Before 01/01/1993 | | | |
| After 01/01/1993 | | | |

How would Delta and Pan Am record the sale of the airplane on 12/31/1999?