

Income measurement and profitability analysis

Business



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Chapter 5 Income Measurement and Profitability Analysis exercises Exercise

5-1 Requirement 1 Alpine West should recognize revenue over the ski season on an anticipated usage basis, in this case equally throughout the season. The fact that the \$450 price is nonrefundable is not relevant to the revenue recognition decision. Revenue should be recognized as it is earned, in this case as the services are provided during the ski season. Requirement 2 November 6, 2013 Cash 450 Unearned revenue 450 To record the cash collection December 31, 2013

Unearned revenue ($\$450 \times 1/5$) 90 Revenue 90 To recognize revenue earned in December (no revenue earned in November, as season starts on December 1). Requirement 3 \$90 is included in revenue in the 2013 income statement.

The \$360 remaining balance in unearned revenue is included in the current liability section of the 2013 balance sheet. Exercise 5-3 Requirement 1 2013 cost recovery %: $\$234,000 = 65\%$ (gross profit % = 35%) \$360,000 2014 cost recovery %: $\$245,000 = 70\%$ (gross profit % = 30%) \$350,000 2013 gross profit:

Cash collection from 2013 sales of $\$150,000 \times 35\% = \$52,500$ 2014 gross profit: Cash collection from 2013 sales of $\$100,000 \times 35\% = \$35,000$ + Cash collection from 2014 sales of $\$120,000 \times 30\% = 36,000$ Total 2014 gross profit \$71,000 Requirement 2 2013 deferred gross profit balance: 2013 initial gross profit ($\$360,000 - 234,000$) \$126,000 Less: Gross profit recognized in 2013 (52,500) Balance in deferred gross profit account \$73,500 2014 deferred gross profit balance: 2013 initial gross profit ($\$360,000 - 234,000$) \$126,000 Less: Gross profit recognized in 2013 (52,500)

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Gross profit recognized in 2014(35, 000) 2014 initial gross profit (\$350, 000 - 245, 000)105, 000 Less: Gross profit recognized in 2014 (36, 000) Balance in deferred gross profit account\$107, 500 Exercise 5-4 2013 Installment receivables360, 000 Inventory234, 000 Deferred gross profit126, 000 To record installment sales 2013 Cash150, 000 Installment receivables150, 000 To record cash collections from installment sales 2013 Deferred gross profit52, 500 Realized gross profit52, 500 To recognize gross profit from installment sales 2014 Installment receivables350, 000

Inventory245, 000 Deferred gross profit105, 000 To record installment sales 2014 Cash220, 000 Installment receivables220, 000 To record cash collections from installment sales 2014 Deferred gross profit71, 000 Realized gross profit71, 000 To recognize gross profit from installment sales Exercise

5-5 Requirement 1 YearIncome recognized 2013\$180, 000 (\$300, 000 - 120, 000) 2014- 0 - 2015- 0 - 2016 - 0 - Total\$180, 000 Requirement 2 Cost

recovery %: \$120, 000 ———— = 40% (gross profit % = 60%) \$300, 000 | | |

| | Year | Cash Collected | Cost Recovery(40%) | Gross Profit(60%) | | 2013 | \$

75, 000 | \$ 30, 000 | \$ 45, 000 | | 2014 | 75, 000 | 30, 000 | 45, 000 | | 2015 |

75, 000 | 30, 000 | 45, 000 | | 2016 | 75, 000 | 30, 000 | 45, 000 | | Totals |

\$300, 000 | \$120, 000 | \$180, 000 | | | | Requirement 3 | | | | | Year | Cash

Collected | Cost Recovery | Gross Profit | | 2013 | \$ 75, 000 | \$ 75, 000 | - 0 - |

| 2014 | 75, 000 | 45, 000 \$ 30, 000 | | 2015 | 75, 000 | - 0 - | 75, 000 | |

2016 | 75, 000 | - 0 - | 75, 000 | | Totals | \$300, 000 | \$120, 000 | \$180, 000 | |

| | | Exercise 5-11 Requirement 1 20132014 Contract price\$2, 000, 000\$2,

000, 000 Actual costs to date 300, 0001, 875, 000 Estimated costs to

complete 1, 200, 000 - 0 - Total estimated costs 1, 500, 0001, 875, 000

Gross profit (estimated in 2013) \$ 500, 000 \$ 125, 000 Gross profit recognition: 2013: \$ 300, 000 = 20% x \$500, 000 = \$100, 000 \$1, 500, 000 2014: \$125, 000 - 100, 000 = \$25, 000 Requirement 2 2013\$ - 0 - 2014\$125, 000 Requirement 3 | | | | | Balance Sheet | | | | | At December 31, 2013 | | | | Current assets: | | | | Accounts receivable | | \$ 130, 000 | | | Costs and profit (\$400, 000*) in excess | | | | of billings (\$380, 000) | | 20, 000 | | | | * Costs (\$300, 000) + profit (\$100, 000) Exercise 5-11 (concluded) Requirement 4 | | | | | Balance Sheet | | | | | At December 31, 2013 | | | | | Current assets: | | | | | Accounts receivable | | \$ 130, 000 | | | | | | | Current liabilities: | | | | | Billings (\$380, 000) in excess of costs (\$300, 000) | | \$ 80, 000 | | | | | problems Problem 5-2 Requirement 1 2013 cost recovery % : \$180, 000 = 60% (gross profit % = 40%) \$300, 000 2014 cost recovery %: \$280, 000 = 70% (gross profit % = 30%) \$400, 000 2013 gross profit: Cash collection from 2013 sales = \$120, 000 x 40%= \$48, 000 2014 gross profit: Cash collection from 2013 sales = \$100, 000 x 40%= \$ 40, 000 +Cash collection from 2014 sales = \$150, 000 x 30%= 45, 000 Total 2014 gross profit \$85, 000 Requirement 2 013 Installment receivables300, 000 Inventory180, 000 Deferred gross profit120, 000 To record installment sales Cash120, 000 Installment receivables120, 000 To record cash collections from installment sales Deferred gross profit48, 000 Realized gross profit48, 000 To recognize gross profit from installment sales Problem 5-2 (continued) 2014 Installment receivables400, 000 Inventory280, 000 Deferred gross profit120, 000 To record installment sales Cash250, 000 Installment receivables250, 000 To record cash collections from installment sales Deferred gross profit85, 000 Realized gross profit85, 000 To recognize gross profit from installment sales Requirement 3 | | | | | Date | Cash Collected |

Cost Recovery | Gross Profit | | | | | 2013 | | | | 2013 sales | \$120, 000 | \$120, 000 | - 0 - | | | | | 2014 | | | | 2013 sales | \$100, 000 | \$ 60, 000 | \$40, 000 | | 2014 sales | 150, 000 | 150, 000 | - 0 - | | 2014 totals | \$250, 000 | \$210, 000 | \$40, 000 | | | | | Problem 5-2 (concluded) 2013 Installment receivables 300, 000 Inventory 180, 000 Deferred gross profit 120, 000 To record installment sales Cash 120, 000 Installment receivables 120, 000 To record cash collection from installment sales 2014 Installment receivables 400, 000 Inventory 280, 000 Deferred gross profit 120, 000 To record installment sales Cash 250, 000 Installment receivables 250, 000

To record cash collection from installment sales Deferred gross profit 40, 000 Realized gross profit 40, 000 To recognize gross profit from installment sales Problem 5-5 Requirement 1 2013 2014 2015 Contract price \$10, 000, 000 \$10, 000, 000 \$10, 000, 000 Actual costs to date 2, 400, 000 6, 000, 000 8, 200, 000 Estimated costs to complete 5, 600, 000 2, 000, 000 - 0 - Total estimated costs 8, 000, 000 8, 000, 000 8, 200, 000 Estimated gross profit (loss) (actual in 2015) \$ 2, 000, 000 \$ 2, 000, 000 \$ 1, 800, 000 Gross profit (loss) recognition: 2013: \$2, 400, 000 = 30. 0% x \$2, 000, 000 = \$600, 000 \$8, 000, 000 2014: \$6, 000, 000 = 75. 0% x \$2, 000, 000 = \$1, 500, 000 - 600, 000 = \$900, 000 \$8, 000, 000 015: \$1, 800, 000 - 1, 500, 000 = \$300, 000

Problem 5-5 (continued) Requirement 2 | | | | | 2013 | 2014 | 2015 | | | | Construction in progress | 2, 400, 000 | 3, 600, 000 | 2, 200, 000 | | Various accounts 2, 400, 000 | 3, 600, 000 | 2, 200, 000 | | To record construction costs | | | | | | Accounts receivable | 2, 000, 000 | 4, 000, 000 | 4, 000, 000 | | Billings on construction contract | 2, 000, 000 | 4, 000, 000 | 4, 000, 000 | | To record progress billings | | | | | | Cash | 1, 800,

000 | 3, 600, 000 | 4, 600, 000 | | Accounts receivable | 1, 800, 000 | 3, 600, 000 | 4, 600, 000 | | To record cash collections | | | | | | | | Construction in progress | 600, 000 | 900, 000 | 300, 000 | |(gross profit) | | | | | Cost of construction | 2, 400, 000 | 3, 600, 000 | 2, 200, 000 | |(cost incurred) | | | | | Revenue from long-term contracts (1) | 3, 000, 000 | 4, 500, 000 | 2, 500, 000 | | To record gross profit | | | | | | | | (1) Revenue recognized: 2013: 30% x \$10, 000, 000 =\$3, 000, 000 2014: 75% x \$10, 000, 000 =\$7, 500, 000 Less: Revenue recognized in 2013(3, 000, 000) Revenue recognized in 2014\$4, 500, 000 2015: 100% x \$10, 000, 000 =\$10, 000, 000 Less: Revenue recognized in 2013 & 2014 (7, 500, 000) Revenue recognized in 2015\$2, 500, 000 Problem 5-5 (continued) Requirement 3 | | | | | | Balance Sheet | | 2013 | | 2014 | | | | | | Current assets: | | | | | | Accounts receivable | | \$ 200, 000 | | \$600, 000 | | Construction in progress | \$3, 000, 000 | | \$7, 500, 000 | | | Less: Billings |(2, 000, 000) | |(6, 000, 000) | | | Costs and profit in excess | | | | | | of billings | | 1, 000, 000 | | 1, 500, 000 | Requirement 4 01320142015 Costs incurred during the year\$2, 400, 000\$3, 800, 000\$3, 200, 000 Estimated costs to complete as of year-end 5, 600, 000 3, 100, 000 - 201320142015 Contract price\$10, 000, 000\$10, 000, 000\$10, 000, 000 Actual costs to date 2, 400, 000 6, 200, 000 9, 400, 000 Estimated costs to complete 5, 600, 000 3, 100, 000 - 0 - Total estimated costs 8, 000, 000 9, 300, 000 9, 400, 000 Estimated gross profit (actual in 2015)\$ 2, 000, 000\$ 700, 000\$ 600, 000 Problem 5-5 (concluded) Gross profit (loss) recognition: 2013: \$2, 400, 000 = 30. 0% x \$2, 000, 000 = \$600, 000 \$8, 000, 000 2014: \$6, 200, 000 = 66.

$66.67\% \times \$700,000 = \$466,667 - 600,000 = \$(133,333)$ $\$9,300,000$
 015: $\$600,000 - 466,667 = \$133,333$ Requirement 5 2013 2014 2015 Costs
 incurred during the year $\$2,400,000$ $\$3,800,000$ $\$3,900,000$ Estimated
 costs to complete as of year-end 5,600,000 4,100,000 - 2013 2014 2015
 Contract price $\$10,000,000$ $\$10,000,000$ $\$10,000,000$ Actual costs to date
 $2,400,000$ $6,200,000$ $10,100,000$ Estimated costs to complete 5,600,000
 $4,100,000 - 0 - 0$ - Total estimated costs $8,000,000$ $10,300,000$ $10,100,000$
 Estimated gross profit (loss) (actual in 2015) $\$2,000,000$ $\$(300,000)$ $\$(100,000)$
 000) Gross profit (loss) recognition: 2013: $\$2,400,000 = 30.0\% \times \$2,000,000 = \$600,000$ $\$8,000,000$ 2014: $\$(300,000) - 600,000 = \$(900,000)$
 2015: $\$(100,000) - (300,000) = \$200,000$