**The initial cash outlay at Time 0 is simply the cost of the new equipment, $21,500,000. The sales each year are a combination of the sales of the new PDA, the lost sales each year, and the lost revenue. In this case, the lost sales are 15,000 units of the old PDA each year for two years at a price of $290 each. The company will also be forced to reduce the price of the old PDA on the units they will still sell for the next two years. So, the total change in sales is:**

* **Sales = New sales – Lost sales – Lost revenue**
* **Year 1 = (74,000 × $360) – (15,000 × $290) – [(80,000 – 15,000) × ($290 – 255)] = $20,015,000**
* **Year 2 = (95,000 × $360) – (15,000 × $290) – [(60,000 – 15,000) × ($290 – 255)] = $28,275,000**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***Sales*** | ***Year 1*** | ***Year 2*** | ***Year 3*** | ***Year 4*** | ***Year 5*** |
|  | **New** | **$26,640,000** | **$34,200,000** | **$45,000,000** | **$37,800,000** | **$28,800,000** |
|  | **Lost sales** | **–4,350,000** | **–4,350,000** |  |  |  |
|  | **Lost revenue** | **–2,275,000** | **–1,575,000** |  |  |  |
|  | **Net sales** | **$20,015,000** | **$28,275,000** | **$45,000,000** | **$37,800,000** | **$28,800,000** |
|  |  |  |  |  |  |  |
|  | ***VC*** |  |  |  |  |  |
|  | **New** | **$11,470,000** | **$14,725,000** | **$19,375,000** | **$16,275,000** | **$12,400,000** |
|  | **Lost sales** | **–1,800,000** | **–1,800,000** |  |  |  |
|  |  | **$9,670,000** | **$12,925,000** | **$19,375,000** | **$16,275,000** | **$12,400,000** |
|  |  |  |  |  |  |  |
|  | **Sales** | **$20,015,000** | **$28,275,000** | **$45,000,000** | **$37,800,000** | **$28,800,000** |
|  | **VC** | **9,670,000** | **12,925,000** | **19,375,000** | **16,275,000** | **12,400,000** |
|  | **Fixed costs** | **4,700,000** | **4,700,000** | **4,700,000** | **4,700,000** | **4,700,000** |
|  | **Depreciation** | **3,072,350** | **5,265,350** | **3,760,350** | **2,685,350** | **1,919,950** |
|  | **EBT** | **$2,572,650** | **$5,384,650** | **$17,164,650** | **$14,139,650** | **$9,780,050** |
|  | **Tax** | **900,428** | **1,884,628** | **6,007,628** | **4,948,878** | **3,423,018** |
|  | **NI** | **$1,672,223** | **$3,500,023** | **$11,157,023** | **$9,190,773** | **$6,357,033** |
|  | **+ Depreciation** | **3,072,350** | **5,265,350** | **3,760,350** | **2,685,350** | **1,919,950** |
|  | **OCF** | **$4,744,573** | **$8,765,373** | **$14,917,373** | **$11,876,123** | **$8,276,983** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
|  | **NWC** |  |  |  |  |  |
|  | **Beg** | **$0** | **$4,003,000** | **$5,655,000** | **$9,000,000** | **$7,560,000** |
|  | **End** | **4,003,000** | **5,655,000** | **9,000,000** | **7,560,000** | **0** |
|  | **NWC Cash Flow** | **–$4,003,000** | **–$1,652,000** | **–$3,345,000** | **$1,440,000** | **$7,560,000** |
|  |  |  |  |  |  |  |
|  | **Net Cash Flow** | **$741,573** | **$7,113,373** | **$11,572,373** | **$13,316,123** | **$15,836,983** |

* **Book Value of equipment = ($21,500,000 – 3,072,500 – 5,265,350 – 3,760,350 – 2,685,350 – 1,919,950)**
* **Book Value of equipment = $4,796,650**
* **Taxes on sale of equipment = (BV – MV)(tC) = (4,796,650 – 4,100,000)(.35) = $243,828**
* **Cash Flow on sale of equipment = $4,100,000 + 243,828 = $4,343,828**
* **Project Cash Flows:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Time** | **Cash Flow** |  |  |  |
|  |  | **0** | **–$21,500,000** |  |  |  |
|  |  | **1** | **741,573** |  |  |  |
|  |  | **2** | **7,113,373** |  |  |  |
|  |  | **3** | **11,572,373** |  |  |  |
|  |  | **4** | **13,316,123** |  |  |  |
|  |  | **5** | **20,180,810** |  |  |  |