Food Industry's
Return on Investment Guidelines

For Companies Evaluating Private vs. Public Warehousing

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For

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Introduction

Because capital expenditure decisions involve significant resources that are committed long into the future, considerable time and effort should go into the evaluation of plant asset proposals. The length of time that financial resources are committed makes capital expenditures more risky than other investments. Before beginning a capital expenditure program that involves a large outlay of funds that will be tied up for many years, management should seek assurance that they will receive an acceptable return on investment. In order to quantitatively select from several options, the predicted cash flows must be compared to the required investments to determine if the return generated from each option meets or exceeds what management considers acceptable.

The purpose of this Return on Investment (ROI) Kit is to assist your company in evaluating whether your refrigerated warehouse needs can best be met through construction of your company's own distribution center, (referred to in this Kit as "private warehouse space"), or through use of one of the many public facilities available worldwide. In other words, is it better to construct your own facilities or "outsource" for space in public refrigerated warehouses?

Several techniques are available for evaluating capital expenditure proposals. This ROI Kit helps to organize factors to be considered in the capital expenditure decision, and provides worksheets to document your calculation of two commonly used methods. These two methods consist of:

Return on Investment: This calculation, also known as the book value rate of return, is commonly used because it is based on the accrual method of financial statement preparation, and is easy to apply. Its weakness is that is fails to consider the time value of money. The investment to be evaluated is the investment you would make if your company met its refrigerated storage needs by constructing your own refrigerated warehouse. The return on this investment will be defined as the difference between the annualized cost of building and operating your private refrigerated warehouse vs. the annual cost of using public refrigerated warehouse capacity.

Net Present Value: Present value is a way of re-stating a stream of future cash flows into today's dollars. When present value is applied to a capital investment, the future return is generally in the form of cash generated by the asset acquired. This model, however, calculates the net present value (NPV) of the cash outflows related to each option. All other factors being equal, the option with the lower present value cost is generally the most profitable decision.

Completion of this Kit

This Kit has been organized into two sections and worksheets to help you in collecting the appropriate data for performing each of these two calculations. Use of this kit assumes that you have already assembled the projected capital investment and operating costs of building and operating your own warehouse. Should you need assistance in assembling that information, however, supplemental schedules A and B have been included for your use in generating that

For simplicity, cash flow projections in Worksheet #2 assumes that all capital expenditures are incurred in the first year, and operating expenses are incurred equally over the time period selected by you to perform the net present value analysis.

areas of the worksheet are protected cells. You may move from box to box by using the tab key. Once your data is entered, the worksheet automatically calculates the remaining portions of the worksheets.

Should you find it necessary to use supplemental schedules A or B, the total from those supplemental worksheets do not automatically carry forward to the ROI or NPV worksheets. If necessary, you must enter the totals from those supplemental worksheets onto the appropriate lines of the ROI or NPV worksheets. When entering data on line 3b of worksheet #2 - NPV, don't forget that these operatin expenses should be net of the income tax benefit for both Private and Public Options. (See Supplemental Schedule B, Line 9)

Public refrigerated warehousemen would appreciate the opportunity to assist you in completing this Kit by providing an estimate of the annual expense you would incur if you used the services of their refrigerated warehouses. Their experience may also prove valuable in accumulating all appropriate costs associated with building and operating refrigerated warehouses. They can also provide comparative statistical data in other areas of the decision analysis.

Return on Investment (ROI) and Net Present Value (NPV)

The Return on Investment (ROI) calculations measures the rate of return on your proposed decision to make an investment in constructing your company's private warehouse facility. The return on this investment is defined as the difference between the annualized cost of building and operating a private refrigerated warehouse versus the annual cost of using a public refrigerated warehouse. ROI is used by many companies to refer to their own measure of project profitability. That rate of return is then compared with other investment options to determine which option exhibits a potential for a greater return. For instance, can you achieve a better use of capital by investing in other facilities, new products and technology, marketing, or in research and development?

Accounting or book value ROI calculations assume straight-line depreciation of all depreciable assets, and a constant annual difference in costs between the private and public refrigerated warehouse options. When these assumptions are valid, the ROI calculation is a straightforward way to evaluate a decision between private and public options. It fails, however, to consider the time value of money. In addition, some assumptions used in applying the ROI method may not be true, such as cash flow differences from year to year. For example, the ROI method is not appropriate

When additional capital expenditures are made after the project has started. Not including these costs will tend to understate the cost of the private warehouse option.

When the use of accelerated depreciation varies the income tax impact each year, and calculations are made on an after-tax basis.

When the investment in building and equipment does not occur all at once. For example, if the purchase of some equipment may be deferred to coincide with the subsequent increase in revenues generated by the new project.

A discounted cash flow method may be more appropriate when cash flows differ from year to year because it can accommodate cash flow fluctuations, and because it considers the time value of money. A variation on the discounted cash flow method is called the "net present value" (NPV) method, which assumes some minimum desired rate of return. This desired rate of return is the rate at which the cash flows are discounted to present dollars. A capital investment proposal is considered acceptable if the present value of its future expected net cash flows equals or exceeds the amount of the initial investment. More specifically, this kit assists you in identifying net cash flows related to costs of both a private or public warehouse option, and then calculates the net present value (NPV) of each. All other factors being equal, you should choose the option with the

Information Needed to Calculate Worksheet #1 - ROI

1a. Annual Cost to Use Public Refrigerated Warehouse Space:
As discussed elsewhere in this Kit, this information may be obtained from a local public refrigerated warehouse.

1b. Transportation Costs:
Your cost estimate should include the costs to convey items to and from the warehouse.

2. Total Annual Operating Expenses to Operate Your Private Warehouse:
If you have not already generated this information, Supplemental Schedule B included within this Kit may be used to accumulate operating expenses normally considered in refrigerated warehouse operations. In generating your operating cost estimates be sure to consider the following expenses unique to refrigerated warehouses:

Operating and maintenance of refrigeration systems.
Increased use of electric power with the possibility of peak power electric penalty rates.
Additional clothing and protection equipment for employees working in a refrigerated environment.
Increased safety and environmental expenses associated with ammonia refrigeration systems.

Because of their situation-specific nature, the costs related to blast freezing are not specifically included in this worksheet. Each situation must be uniquely evaluated. Accurate determinations of these costs can be obtained by contacting a Public Refrigerated Warehouse.

4. Total Costs to Construct Your Private Warehouse:
Supplemental Schedule A has been enclosed in this Kit to assist you in accumulating the cost of your investment in your company's own refrigerated warehouse. Otherwise use your own estimate of those capital costs. Your estimates should consider the following construction costs considered unique to refrigerated warehouses:

Refrigeration equipment
Additional insulation, including floor
Refrigerated loading docks
Freezer and escape doors
Freezer clothes
Inspection room equipment

Underfloor heating system

Information Needed to Calculate Worksheet #2 - NPV

1. The Period over Which to Perform the Analysis.
This may cover the entire useful life of the private warehouse option, or some shorter period of time. A shorter period will be relevant if your company has a shorter investment horizon, or if there is some uncertainty about costs after a certain point in time.

2. Required Rate of Return.
This rate should reflect the time value of money and the risk of the cash flows of the two options. Management should use their judgement in arriving at the required rate of return. Since greater risk is attached to capital investments than to a bank loan, the rate is usually above the interest rate at which banks are lending money. After a company's required rate of return is estimated, the present value method can be applied to discount the cash flows to the present.

3. The Relevant Annual Cash Flows.
Document the annual cash flows for both the public and private options separately so as to consider the tax implications of each option. Cash flows for each project should be measured on an after tax basis. In addition to statutory tax rates, three things affect the company's taxes; revenues, expenses, and timing of recognition of those revenues and expenses for tax purposes. The present value of taxes paid is less on a revenue item the further into the future that the tax payment actually occurs. Similarly, the present value of taxes saved is greater on an expense item the sooner the reduction in taxes paid actually occurs. The most common discrepancy between cash flow timing and tax recognition concerns depreciation. Because depreciation is included in expenses, it affects the timing of tax payments. Remember that cash is expended upon acquisition of a capital asset. Consequently, depreciation is not a cash expense. However, the tax deduction associated with

a. Private Warehouse:
For simplicity purposes, Worksheet #2 assumes that all capital expenditures are incurred in the first year, and operating expenses are incurred equally over the time period selected by you to perform the analysis. In performing a more detailed analysis using your own worksheet, you should consider the additional costs unique to a refrigerated warehouse. Construction of your own warehouse involves initial cash flows from the capital investment, followed by cash flows from operating activities. Also consider capital costs for each year that such costs will be incurred should they not all be incurred in year one, the cash inflow (net of tax), of a gain on sale of the asset, salvage value or market value in the final year.

Operating expenses of your private warehouse option should be converted to cash flows net of tax for each year of operation. Consider unique start up costs in the early years, and additional costs associated with closing down the facility at the end of its useful life. Also consider fixed costs of your private facility that may be only part time based on seasonal fluctuations.

b. Public Warehouse:

To identify the cash flows associated with the use of a public warehouse facility, contact your local public warehouseman as discussed elsewhere in this kit. Be sure to include the cost of transportation to and from the warehouse, and consider the related tax deduction that you will obtain by expensing the costs related to the use of the public facility.

The following public warehouse operating factors should contribute to a reduction of expenses:

- Lessens the impact, and costs, of seasonal fluctuations in inventory as expenses are generally incurred in relationship to product storage.
- Provides flexibility to both grow and adapt to changing circumstances.
- Cost savings may be realized through consolidation of shipments with various other users.
- A full menu of public warehouse services provides you with the flexibility of selecting only those services needed for your products.

Worksheet #1 — ROI

Return on Investment Kit—Worksheet #1

Computing Return on Investment

NOTE: See Intro and Instructions Tabs for detailed information on completing these worksheets

1. ANNUAL COST OF USING PUBLIC REFRIGERATED WAREHOUSE:

a. Annual fee to use public refrigerated warehou: $ _____

(This estimate should be obtained from a local public warehouse.)

b. Transportation costs _____

Total - Public Refrigerated Warehouse -

2. TOTAL ANNUAL OPERATING EXPENSE OF COMPANY (PRIVATE) WAREHOUSE

3. DIFFERENCE - Estimated net increase (decrease) in pre-tax cash outflows -

4. TOTAL INVESTMENT

5. RETURN ON INVESTMENT (BEFORE TAX)

$$= \frac{\text{Difference in Cost (Line 3)}}{\text{Total Investment (Line 4)}} \times 100 = \text{\#DIV/0!}\ \%$$

6. RETURN ON INVESTMENT (AFTER TAX)

May be roughly approximated by reducing the percentage calculated on line 5 above by the composite of your federal and state income tax rates

Conclusion: If the results of line 3 is less than zero, the public warehouse option would appear to be more attractive, even before consideration of ROI. Compare the ROI calculated above to the ROI your company generally achieves, or to returns available to other investment options.

Return on Investment Kit—Worksheet #2

Calculation of Net Present Value of Cash Flows

1. Number of years to calculate analysis	=		Years	
2. Required rate of return	=			
3. Relevant annual cash flows		Private		Public
a. Year 1 - Capital expenditures		$		0
b. Annual operating expenses-net of tax		$		

4. Results:	Year #	Private	Public
	Initial Capital Expenditure	-	0
	1	-	-
	2	-	-
	3	-	-
	4	-	-
	5	-	-
	6	-	-
	7	-	-
	8	-	-
	9	-	-
	10	-	-
	11	-	-
	12	-	-
	13	-	-
	14	-	-
	15	-	-
	16	-	-
	17	-	-
	18	-	-
	19	-	-
	20	-	-
	Total NPV Cost	-	-

Return on Investment Kit—Schedule A

Investment Costs - Private Warehouse

INVESTMENT

1. Land: Costs should include land clearing and building demolition costs. Land costs should be considered in your analysis even if already owned.

Market value of land to be purchased:

* Acres or square feet _____		
* Firm bid, or $_____ per acre or square foot	$	
* Acquisition and related costs (if purchased)		
Total Land Cost		$ -

2. Building

* Shell construction, including engine room and maintenance area, inspection rooms, battery charging area, offices, etc.	$	
* Refrigeration equipment (cs)		
* Insulation, including floor (cs)		
* Sprinkler systems		
* Electrical systems		
* Architectural/design fees		
* Land survey fees		
* Environmental compliance		
* Soil testing fees		
* Grading and fill		
* Site preparation (pilings, etc)		
* Installation of access roads, rail sidings, etc.		
* Parking lot paving		
* Water supply - connections, wells, storage tanks, etc.		
* Power supply to property		
* Loading docks, enclosed or open, (cs) refrigerated or unrefrigerated		
* Dock seals		
* Dock levelers		
* Underfloor heating system		
* Office finishing (excluding furniture)		
* Freezer and escape doors (cs)		
* Outdoor storage facilities (e.g. for stacking aids)		
* Interest during construction		
* Transaction costs (attorney fees, survey, environmental survey, title insurance, transfer taxes and recording fees)		
Total Estimated Building Cost		-
Add contingency		
Total Building Cost		$ -

3. Warehouse Equipment:		
* Forklifts, forklift parts and batteries, (cs) modified to work in freezer	$	
* Battery chargers, installed		
* Battery exchange equipment		
* Conveyors		
* Racks and bins, installed		
* Pallets		
* Safety, security and sanitation systems		
* Hand trucks and other equipment		
* Stretchwrap equipment		
* Freezer clothes, rope, tape, miscellaneous (cs)		
* Inspection room equipment (cs)		
Total Warehouse Equipment Cost		$ -
4. Office Equipment:		
* Furniture and accessories	$	
* Computer equipment		
* Telephone and facsimile equipment		
Total Office Equipment Cost		$ -
5. Transportation Equipment:		
* Equipment to convey items to and from the warehouse		$
6. Other (Please Describe)		$
7. TOTAL INVESTMENT		$ -

cs - unique to cold storage warehouses

Return on Investment Kit—Schedule B

Operating Expenses - Private Warehouse

OPERATING EXPENSES

1. Payroll-Plant		
* Administrative - Warehouse (manager and plant supervision)	$	
* Administrative - Warehouse (general office, clerical)		
* Handling labor		
* Engineering and maintenance		
* Compliance and safety		
* Extra labor provided - overtime,contract,seasonal		
* Engine room & refrigeration systems (cs)		
Total payroll		$ -
2. Payroll Taxes, Insurance, Fringes		
* Payroll taxes	$	
* Insurance - hospitalization, life,etc.		
* Other employee benefits		
* Insurance - Workmen's Compensation		
* Pension and profit sharing		
Total payroll taxes, insurance		$ -
3. Plant Utilities		
* Light, heat and electric power (cs)	$	
* Water		
* Miscellaneous utilities		
Total utilities		$ -
4. Maintenance		
* Maintenance (including outside contractors and supplies)	$	
* Plant		
* Engine room & refrigeration system (cs)		
* Handling equipment		
Total maintenance & supplies		$ -
5. Other Expenses - Plant		
* Safety and hazmat compliance (ammonia) (cs)	$	
* Equipment rentals		
* Loss and damage		
* Plant supplies		
* Security		
* Sanitation		

* Miscellaneous-(identify amounts greater than $5,000):		
a. Pallets		
b. Transportation		
c.		
d.		
Total other plant expenses		$ -

6. Administrative Expense	a. Corporate Allocation	b. Plant
* Administrative salaries - (Corporate officers, directors, sales,	$	$
* Fringe benefits for administrative salaries		
* Travel, entertainment & auto		
* Telephone and fax		
* Management Information Systems		
* Donations and contributions		
* Dues, fees, and subscriptions		
* Advertising and public relations		
* Other selling expenses		
* Maintenance and repair - office		
* Office supplies, forms, software, etc.		
* Postage		
* Professional - legal, auditing and consulting		
* Provision for bad debts		
* Taxes, sales & use		
* Miscellaneous administrative expenses		
a. License and permits		
b.		
c.		
Total administrative expenses	-	-
Grand total	$ -	

7. Property Taxes and Insurance		
* Taxes - property and real estate	$	
* Insurance - property, machinery & liability		
Total property taxes & insurance		$ -

8. TOTAL OPERATING EXPENSE BEFORE DEPRECIATION AND INTEREST	$ -

9. LESS: Tax benefit	
Composite federal and state income tax rate	
Benefit related to:	

a. Operating expenses	$	-
b. Depreciation		
10. NET CASH FLOWS FROM OPERATIONS	$	-

cs - unique to cold storage warehouses.