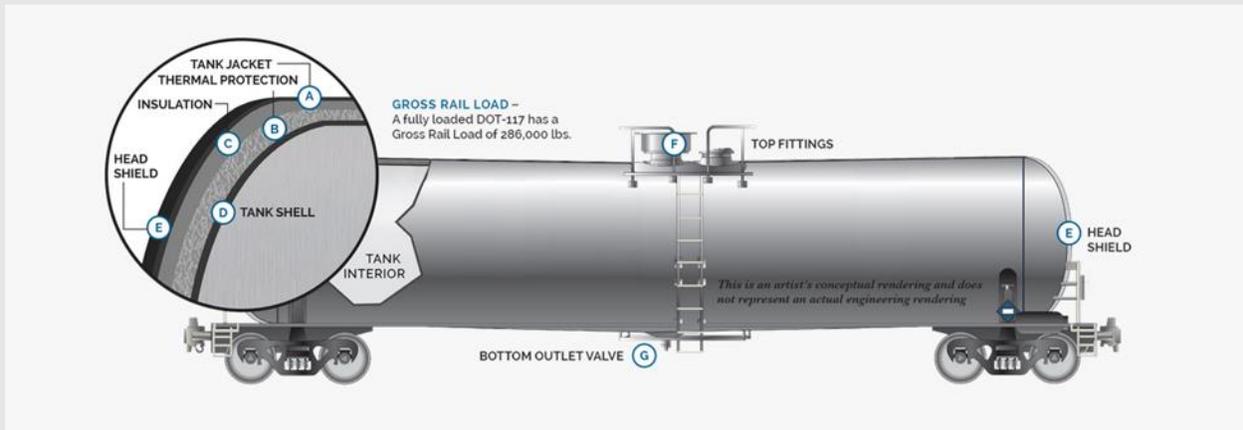


Railroad Tank Car Assignment

This assignment consists of two separate questions. The first assignment requires you to determine the “cost/value” of a railroad tank car using traditional discounted cash flow analysis where you have to discount forecasted cash flows. This requires you to forecast the cash flows. The forecasted cash flows are from the perspective of ONT, the owner and operator of the tank cars. The second assignment is related to the first question but is a separate decision. Assignment two relies entirely on information from question one. The words “assignment” and “question” are used interchangeably in this case.

Modern Railroad Tank Car



Source: www.rsiweb.org

Assignment 1: Assume that you are a Controller at Ontario Northland (ONT), one of regional railroads in Canada. ONT is acquiring 100 railroad tank cars to transport crude oil from northern Canada to the US. You are transporting the oil for Numac Energy, ONT’s sole customer for the tank cars. Your current 10-year transport contract stipulates the following, among other things: (1) if the tank cars are transported half-full (at 50% of capacity), the rate that Numac pays is \$900 per day per car; (2) if they are transported three-fourths (75%) full, the rate is \$ 1,050 per day per car, and if they are full (100%), the rate will be \$1,300 per day. You estimate that the tank cars will operate half-full 20% of the time, three-fourths full 30% of the time, and totally full 50% of the time. Total expenses amount \$28,000 per day when the cars are in use, 330 days per year. When they are not in used, the tank cars will cost \$18,000 per day to “run”. These costs include depreciation, assuming a 10-year life span of a tank car. After the first 5 years, you will incur retrofit costs of \$20,000 per tank car. While the retrofit does not prolong the life of a tank car, federal regulations require a retrofit to continue to operate the car after the initial five-year period. If the retrofit is not completed, you can sell the tank cars for \$48,000 to a South American operator (you will use this information in assignment question two below). After the 10-year period (assuming you undertake the retrofit and still own the cars), the cars are sold for scrap, which generates \$15,000 per car. Assume an 8 percent discount rate and a 20 percent tax rate. Railroad tank cars are depreciated over their useful life using straight line depreciation with no salvage value. You estimate depreciation expense based on your previous average acquisition cost, which is \$125,000 per tank car. When calculating the daily cash flows, et cetera, use a 360-day year. Using discounted cash flow analysis, what is the value of the 100 railroad tank cars? What is the cost of the 100 railroad tank cars? Cost is defined as the cost that would

be used to record the journal entry to acquire 100 brand-new tank cars. Value is defined as the discounted cash flow method (Present Value) where you discount future cash flow to arrive at a value. Discuss why the result is different compared to a purchase price of \$125,000. Is this a good investment for ONT? Why or why not? Note: use 360 days in your calculation if you decide to calculate the numbers using days.



Assignment 2: Is it better to keep the tank cars for 10 years or sell them to the South American operator after five years. Show calculations.





Deliverables: A report addressed to management answering the questions using calculations and supporting documentation. The executive summary should address the questions and the answers or recommendations briefly explaining the rationale. The executive summary should not exceed half a page. Please answer the questions in detail in the body of your report. Attach Excel sheets to your email AND copy and paste into the document itself. If you want to, or need to, show calculations in the body of the paper, feel free to do so. The maximum length of the paper is four pages (about two pages per question), excluding the title page and executive summary. Cite all the works that you use, if any.

© Jan Smolarski