



THE CHILDREN'S INVESTMENT FUND

Via E-Filing
Mr. Vernon Williams (Secretary)
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20423

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Re: STB Ex Parte No. 664 – Methodology to be Employed in the Determining the Railroad Industry's Cost of Capital.

Dear Secretary Williams:

As one of the largest investors in the US freight railroad sector, we are grateful for the opportunity to submit to you our thoughts regarding STB Ex Parte No 664.

The Children's Investment Master Fund (TCI) is a long-term, value-oriented investment fund that has invested over \$1.5 billion in US railroads. We invest in a variety of different industries and countries around the world. Our investment approach is to develop a thorough understanding of the companies we invest in and remain an engaged and value-added shareholder for many years. US railroads are currently our largest holding and we have dedicated over two years of time developing and deepening our understanding of the industry

We are excited about the prospects for the US railroad industry. Railroads can, and should, play an important part in meeting America's growing freight transportation needs. Railroads are the cheapest, most efficient and most environmentally friendly form of land-based freight transportation. However, the railroads' ability to meet the growing freight transportation needs rests firmly on the industry's ability to attract much-needed capital. Railroads are already by far the most capital intensive major industry in the country, re-investing 17% of revenue (versus approximately 3-5% for the average S&P500 company), and these capital needs will only grow over time. We estimate railroads may need to invest upwards of \$400 billion over the next 30 years to maintain and grow their networks; that represents \$14 billion a year in investment, which is roughly double the annual net income the industry generates today.

We are submitting this letter because we believe large investors in the railroad industry can, and should, provide insight into the cost of equity they 'charge.' The Board having further insight into this cost of equity will hopefully increase the probability of railroads achieving it. As discussed, the ability to achieve fair returns will determine whether the industry can attract the capital needed to serve the long term interests of the railroads, its customers and its workers. The significance of the Board's decisions on these matters, therefore, should not be underestimated

We understand the Board's ultimate objective on this matter is to provide a stable and transparent regulatory framework that reflects the true economics of the industry. In this context, we believe the Board should allow a 12-14% cost of equity and judge returns based on replacement cost

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I. Cost of Capital

The Board is well steeped in the issues concerning CAPM and DCF-based approaches to calculating a cost of capital. From our perspective, whatever the path forward, the ultimate question is the outcome. It is the *outcome* that we can provide a valuable and practical perspective on, as in the end it is the cost of capital that you are trying to estimate.

As investment professionals that invest across industries and across countries, estimating the cost of capital is a core part of our investment process. This is how we are able to allocate capital between (for example) a Brazilian utility, a Chinese toll road, a European stock exchange and a US railroad. Academic theories aside, we are estimating costs of capital continuously based on judgements and quantifications of applicable risks.

As a practitioner, and with all due respect, we assure you that an 8.4% cost of equity (as contemplated by the recent Notice) considerably understates the true risk borne by an equity investor in a US railroad. When we evaluate this industry, these are just some of the risks such an equity investor must consider

- **Legislative risk** – Congress could enact at any time a bill, like H.R.2125/S.953, that would dramatically reduce the industry's profitability. The nature of the legislative process makes probabilistic quantification of this risk extremely difficult
- **Regulatory risk** – Several key elements of the regulatory framework are currently uncertain (eg. cost of capital, when railroads will be deemed *revenue adequate*, consequences of revenue adequacy), and other elements, in our opinion, do not reflect economic reality (calculation of returns based on historic cost as opposed to replacement cost). Regulatory uncertainty/deviations from economic reality pose risks for investors
- **Catastrophe risk** – There are very few businesses in the world where a single accident, which could occur any day, could cause bankruptcy. This is the risk taken by railroad shareholders every time a chlorine tanker is transported in a populated area, as this risk is not compensated by chemical shippers in their rail rates
- **Business risk** – Environmental concerns make the future of coal, which represents 20% of railroad volumes, at best uncertain. Another 20-30% of rail volumes are housing and auto related, and thus susceptible (as we have witnessed) to significant volatility
- **Operating leverage** – All of these risks, and others, are exacerbated by a largely fixed cost structure, where (in general), any percentage change in revenue is multiplied by a factor of 4-5x to get to the corresponding percentage change in net income

No rational equity investor would accept all of these risks for an 8.4% return. The inherent risks and attributes of the US railroad business warrant in our judgement an equity return in the range of 12-14%.

To put this return in context we offer the following observations. First, the regulated electric and gas utilities in the US have been allowed returns on equity, on average, in the range of 10-12% over the past decade. These utilities are largely monopolies, and therefore their volumes are not subject to competition and are not as economically sensitive as rail volumes. As a result the



returns they are allowed are virtually guaranteed to be earned, subjecting their shareholders to significantly less risk than railroad shareholders. In fact, even when judged by return on invested capital, which massively overstates true economic returns, the US railroads have *never* earned their cost of capital on a sustained basis as far as we can tell, and certainly not in the past few decades. On that basis alone, it would be unreasonable to expect that railroad shareholders would deserve lower, or even the same, returns as shareholders of regulated utilities in the US.

Second, we believe the UK regulators provide another useful benchmark, as the regulatory framework in the UK is advanced and is proven to provide stability to investors and attract needed capital. Consider for example that there is more investment in the UK transmission grid than the US transmission grid, despite the UK being a fraction of the size. As the following table shows, the allowed nominal cost of equity for regulated businesses in the UK ranges from 9-11%:

<i>Cost of Equity</i>	<u>Electricity Transmission</u>	<u>Electricity Distribution</u>	<u>Water</u>	<u>Gas Distribution</u>	<u>Heathrow Airport</u>	<u>Gatwick Airport</u>
Real	6.25%	7.5%	7.7%	7.0%	7.5%	8.2%
Nominal (2.5% inflation)	8.75%	10.0%	10.2%	9.5%	10.0%	10.7%

There are two very important differences between these businesses and US railroads that must be considered in their respective costs of equity. First, these businesses are largely monopolies free from any real competition, and thus subject to significantly less risk than US railroads. Second, these businesses are regulated on a return on *inflation adjusted* regulated asset base (RAB). As discussed further in this letter, if the US railroads were to have an inflation adjusted RAB, as in the UK, the capital base would be multiples higher than the capital base used by the Board. So while the cost of equity used in the UK may appear only 40-240 basis points higher than that proposed by the Board, it is probably 500+ basis points higher on a comparable, inflation adjusted capital base.

As a result, the UK model not only provides transparency and stability, as the RAB is well known and easily forecastable, but compensates for the replacement cost for re-investment, unlike the Board's methodology which only provides a return on the historic capital base. Again, as is the case with the US regulated utilities, achieving these returns is virtually guaranteed as these businesses are all monopolistic and the RAB based methodology eliminates volume and most other business risks. In fact, in the UK the regulators have the expectation that achieved returns will *exceed* these allowed returns, and history has proven this to be the case. For all of these reasons, shareholders in these regulated UK businesses bear significantly less risk than shareholders in the US railroads.

In addition, we can tell you from our own experience that the absolute lowest cost of equity we ever 'charge' is 9%. This is only for "bullet-proof" businesses which we believe are not susceptible to any significant risks and whose minimum long-term cashflows are visible and predictable with a high degree of certainty. US railroads, with all of the risks discussed above and with historical results as a guide, certainly do not qualify as such.



II. Return on Capital

It is hard for us to offer you our thoughts on the cost of capital without also discussing the related issue of what capital base this cost of capital should be charged to when evaluating returns. With all respect, we firmly believe the current practice of using historic cost book values to account for the capital base is incorrect and produces returns which overstate true economic returns by 5-7x

As you well know, railroad assets are particularly long-lived and there has been marked inflation in the inputs used to construct those assets over time. As a result, the current book value of railroad assets is a fraction of the current cost of replacing them. For example, our own analysis (Appendix 1) suggests that the replacement value of the major railroads' assets, *excluding land*, is 5-7x the invested capital base calculated in the Board's current revenue adequacy methodology. This level of replacement value implies most railroads are earning only 1-2% returns rather than 8%+ returns currently calculated on a historic cost basis. Of course, this analysis is high-level, but the magnitude of the divergence is staggering, even when excluding the value of the land (which also must be compensated).

In order to provide an incentive to maintain the current network, railroads must be compensated for the true value of the capital that is 'tied-up' in the network today. This cannot be estimated by using historical steel, labor, and property prices. Compensating based on historic cost not only provides an incentive to shrink the network and release the capital if there is a better economic alternative use, it also doesn't allow railroads to generate the cashflow required to re-invest in and expand capacity to meet growing freight transportation needs.

Another consequence of not moving to replacement cost is that it will accelerate when the Board might deem the railroads to be sustainably *revenue adequate*, which in turn could subject the railroads to a corresponding adverse change in regulation very prematurely. As an investor we are deeply concerned that the Board may be pressured to change the rate case methodology away from stand-alone cost (after finding railroads to be revenue adequate) to in effect cap revenues at levels required to be revenue adequate. However, if this is based on returns on historic invested capital, then the net result is that the Board will have ensured that the railroads will never *truly* be revenue adequate on an economic/replacement cost basis. This risk, coupled with the lack of clarity of how and when the Board may declare railroads to be revenue adequate, results in a tremendous amount of uncertainty for railroad shareholders, with the obvious result of making long-term investment decisions difficult to make prudently.

The Staggers Act did not envision today's railroad situation, where the need is to grow the network, not shrink it. The Board's return on capital methodology similarly didn't envision today's situation, and isn't appropriate for it. If the basic economic principle for Staggers was to allow railroads to earn the returns they would earn in the free market, with the limitation of not being able to earn monopoly rents on the small fraction of the business which is truly captive, then there are many industries that provide a guide for what appropriate returns are for businesses that are capacity constrained in the free markets. Steel, oil, refining, iron ore and many other industries have had the prices of their goods rise to provide re-investment economics to induce capacity expansion. Railroads should be no different.



We therefore strongly urge the Board to adopt replacement cost accounting to evaluate railroad returns. The use of current cost accounting in a regulatory setting has sound economic basis and is successfully used around the world for businesses with long-lived assets like railroads.

*"When prices are rising, accounting charges based on the historical cost of the asset will be insufficient to fund replacement at the end of the useful life of the asset."*¹ OFWAT, UK water utility regulator

*"[The] economic rationale of the regulators' model is that it emulates the workings of a contestable market, by setting tariffs at a level just short of that required to motivate a new entrant"*² Study on Australian regulation

We accept that there can be subjectivity and imprecision in calculating replacement costs. However, when the divergence between returns on historic invested capital and true economic results is so great, it must be better to be approximately right than precisely wrong.

Lastly, the Board's annual return calculations are used by policymakers and other constituencies as a matter of fact. Publishing returns which dramatically overstate the industry's true profitability, as we believe the Board's published ROICs do, have an *unintended but dangerous* consequence of allowing some legislators and shippers to promote legislation which is damaging to the railroad industry's prospects. These arguments and related legislative risks would certainly not be as great if others believed, as we do, that the railroads are earning only 1-2% economic returns.

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We thank you for the opportunity to offer our views on these matters. We hope the opinions of experienced investors with considerable long term capital invested in the US freight railroad sector are helpful in your deliberations. As you are no doubt aware, capital will flow to where it can earn the best true risk-adjusted returns. If the railroad industry is regulated using metrics that do not correspond to economic reality, the direct result will be less capital invested in the sector. Although shareholders are just one stakeholder, less capital investment will also mean worse service and less capacity for shippers, lower employment for labor and increased congestion and pollution for the country. It is an outcome everybody should want to avoid.

Sincerely,

Snehal Amin
Partner

¹ OFWAT Letter to Managing Directors of all Water and Sewerage Companies regarding Current Cost Depreciation (1995)

² "Replacement Cost Asset Valuation And The Regulation of Energy Infrastructure Tariffs – Theory and Practice in Australia", David Johnstone (2002), Centre For The Study Of Regulated Industries, University of Bath



**APPENDIX 1: High Level Estimate of Railroads' Replacement Value
(excluding land/right of ways)**

	NSC	CSX	BN	UP
<u>Asset Inventory</u>				
Owned Locomotives	3,722	3,403	3,200	4,880
Owned Freight Cars	82,158	64,227	42,996	54,483
Total Track Miles	30,426	30,595	39,778	44,091
<u>Average Cost Per New Unit (\$m)</u>				
Locomotive	\$1.8	\$1.8	\$1.8	\$1.8
Freight Car	\$0.1	\$0.1	\$0.1	\$0.1
Mile of Track	\$2.5	\$2.5	\$2.5	\$2.5
<u>Replacement Value (\$bn)</u>				
Owned Locomotives	\$6.7	\$6.1	\$5.8	\$8.7
Owned Freight Cars	\$8.2	\$6.4	\$4.3	\$5.4
Total Track Miles	<u>\$76.1</u>	<u>\$76.5</u>	<u>\$99.4</u>	<u>\$110.2</u>
TOTAL	\$91.0	\$89.0	\$109.5	\$124.4
<u>Multiple Of STB Inv.Capital</u>				
Return on Replacement Value	7.2x	6.2x	5.5x	5.3x
	2.0%	1.3%	2.0%	1.5%

Note: this replacement value excludes the cost of land/right of ways

Source: R1 Reports, TCI Internal Analysis