From: Cook, Trevor
Sent: Friday, May 04, 2001 4:26 PM
To: Anderson, Margot; Magwood, William
Cc: Braitsch, Jay
Subject: chapter 3 ne input...

did not find a specific reference to one item... some of these things are statements of common experience, i.e. they sky is blue!
attached is a MS word file with the requested text.

nuclear safety.doc
Stamos, John

From: Cook, Trevor
Sent: Wednesday, April 04, 2001 10:20 AM
To: Stamos, John
Subject: FW: New NEP chapter

---Original Message---
From: Margot
Sent: Monday, March 26, 2001 12:47 PM
To: Cont, John; Haspel, Abe; Zimmerman, MaryBeth; Lockwood, Andrea; Breed, William; KYDES, ANDY; Whatley, Michael; Carter, Douglas; Bratsch, Jay; Melchet, Elena; Cook, Trevor; Breed, William; 'jstater@epa.gov'; York, Michael; Freitas, Christopher; Friedrichs, Mark; Pumphrey, David; Kolevar, Kevin
Subject: FW: New NEP chapter

All,

Is anyone in DOE (EE,FE,NE, EIA, SO, PO) going to provide comments on this? Please let me know if you are and by when. Thanks.

Margot

---Original Message---
From: Anderson, Margot
Sent: Friday, March 23, 2001 2:36 PM
To: Cont, John; Haspel, Abe; Zimmerman, MaryBeth; Lockwood, Andrea; Breed, William; KYDES, ANDY; Whatley, Michael; Carter, Douglas; Bratsch, Jay; Melchet, Elena; Cook, Trevor; Breed, William; 'jstater@epa.gov'; York, Michael; Freitas, Christopher; Friedrichs, Mark; Pumphrey, David; Kolevar, Kevin
Cc: Keliker, Joseph
Subject: New NEP chapter

All.

Margot
From: Cook, Trevor
Sent: Wednesday, April 04, 2001 10:19 AM
To: Stamos, John
Subject: FW: NEP chapter 5

---Original Message---
From: Anderson, Margot
Sent: Tuesday, March 27, 2001 10:53 AM
To: Corl, John; Haspel, Abe; Zimmerman, MaryBeth; Lockwood, Andrea; Breed, William; KYDES, ANDY; Whatley, Michael; Carter, Douglas; Braitsch, Jay; Melcher, Elisa; Cook, Trevor; Breed, William; jkostler@epa.gov; York, Michael; Freitas, Christopher; Friedrichs, Mark; Pumphrey, David; Kolevar, Kevin; Pai, Inja
Cc: Kelliher, Joseph
Subject: NEP chapter 5
From: Freitas, Christopher  
Sent: Friday, March 23, 2001 4:03 PM  
To: Anderson, Margot  
Cc: Johnson, Nancy; Braitsch, Jay; DeHoratiis, Guido  
Subject: NEP- Chapter 4 environment comments  
Importance: High

Sincerely,

Christopher J. Freitas  
Program Manager, Natural Gas Infrastructure  
(202) 586-1657
From: Trevor Cook
Sent: Wednesday, April 04, 2001 10:18 AM
To: Stamos, John; Stamos, John
Subject: FW: chapter 7

---Original Message---
From: Anderson, Margot
Sent: Wednesday, March 28, 2001 7:09 PM
To: Corb, John; Haspel, Abe; Zimmerman, MaryBeth; Lockwood, Andrea; Breed, William; KYDES, ANDY; Whatley, Michael; Carter, Douglas; Braithwaite, Jay; Heinert, Elena; Cook, Trevor; Breed, William; jkoster@bpa.gov; York, Michael; Freitas, Christopher; Friednels, Mark; Pumfrey, David; Kolevar, Kevin; Pumfrey, David
Cc: Kellner, Joseph
Subject: chapter 7

Task Force Charlie,

Please circulate for review. This is a revised chapter 7 with graphics (we'll print out for hand delivery).

DOE -
Chapter 7 on renewables. Incorporates comments from interagency process. Please review.
Chris:

we noted that there was a blank under 'oil refineries', so we thought we should help to fill it in – here is some language to fill the blank –

I will now look at the rest of the chapter and see if I have any significant comments for you –

If you have any questions, please call me at 6-4763 – Bill

**********************************************************************************************

Oil Refineries:
Margot, FYI see graphics below. Same data in all just different files. More to follow next week.

Sincerely,

Christopher J. Freitas
Program Manager, Natural Gas Infrastructure
(202) 588-1657

PieChart.wpd  PieChart.doc  PieChart.ppt
Stamos, John

From: Cook, Trevor
Sent: Wednesday, April 04, 2001 10:17 AM
To: Stamos, John
Subject: FW: chapter 9

----Original Message----
From: Anderson, Margot
Sent: Thursday, March 29, 2001 8:53 AM
To: Cook, Trevor; Haspel, Abe; Zimmerman, Marybeth; Lockwood, Andrew; Breed, William; KYDES, ANDY; Whatley, Michael; Carter, Douglas; Braitsch, Jay; Mutchert, Elena; Cook, Trevor; Breed, William; 'xktler@bpa.gov'; York, Michael; Fredas, Christopher; Friedrichs, Mark; Pumphrey, David; Kolevar, Kevin; Pumphrey, David; Scaligi, Paula
Cc: Keliher, Joseph
Subject: chapter 9

All,

Crystal - still no luck getting through to Jeff but we much need a BPA review, Can you help?

Thanks,

Margot

Crystal-03-29.doc
Sikorski Valley.doc
transmittal032001.doc

5890

DOE011-0295

Obtained and made public by the Natural Resources Defense Council, March/April 2002
After talking with Barry, here are some comments:

Comments on NPRA energy policy ideas (23 MAR 01)

We agree with many of the points they make on the situation in the refining industry.

William Breed
Acting Director, Office of Energy Efficiency, Alternative Fuels, and Oil Analysis (PO-22)
202-586-4763

---Original Message---
From: Anderson, Margot
Sent: Friday, March 23, 2001 11:58 AM
To: Breed, William
Subject: FW: NPRA Recommendations on National Energy Policy

Bill,

Can you ask your crack staff if any of these policy recommendations from NPRA have merit?

Margot

---Original Message---
From: Kelliher, Joseph
Sent: Friday, March 23, 2001 9:04 AM
Stamos, John

From: Cook, Trevor
Sent: Monday, March 26, 2001 10:54 AM
To: Stamos, John
Subject: FW: These are the remaining placeholders for the nuclear policy initiatives

Importance: High

---Original Message---
From: Cook, Trevor
Sent: Friday, March 23, 2001 12:54 PM
To: Anderson, Margot
Subject: These are the remaining placeholders for the nuclear policy initiatives
Importance: High

Thanks for getting these in, we will have full papers on Tuesday, possibly Wednesday, but these convey the gist of our ideas.

Trevor.
Stamos, John

From: Cook, Trevor
Sent: Monday, March 26, 2001 9:24 AM
To: Magwood, William
Cc: Stamos, John
Subject: FW: Chapter 8 (Increased production of U.S. Energy Resources).

Bill,

I rev.

---Original Message---

From: Anderson, Margot
Sent: Saturday, March 24, 2001 10:41 AM
To: Conti, John; Haspel, Abe; Zimmerman, MaryBeth; Lockwood, Andrea; Breed, William; KYDES, ANDY; Whatley, Michael; Carter, Douglas; Britsch, Jay; Helczer, Elena; Cook, Trevor; Breed, William; 'jostler@bpa.gov'; York, Michael; Prentis, Christopher; Friedrichs, Mark; Pumphrey, David; Kolevar, Kevin
Cc: Kellner, Joseph
Subject: Chapter 8 (Increased production of U.S. Energy Resources).

Chapter 8 (Increased production of U.S. Energy Resources).

5932

DOE011-0337

Obtained and made public by the Natural Resources Defense Council, March/April 2002
From: Cook, Trevor
Sent: Wednesday, March 21, 2001 12:12 PM
To: Magwood, William
Cc: Stamos, John
Subject: Heads up on the National Energy Policy Development for Nuclear
Importance: High

due today or early tomorrow

--- Original Message ---
From: Anderson, Margot
Sent: Wednesday, March 21, 2001 11:57 AM
To: Cook, Trevor
Subject: as we discussed

Helpful to use redline method if you can/
Joe Kelliher: Attached is a short document which includes NPRA’s current thinking as to what changes in national energy policy are needed to help the refining sector.

I would like specifically to highlight three:

One. We believe that the Administration is missing an important opportunity to improve energy policy by not addressing the onroad diesel sulfur rule. This rule will have a greater adverse supply impact than any other in the next five years and should be reviewed. Instead of requiring essentially 100% of onroad diesel output to be reduced from 500 ppm to 15 ppm sulfur by mid-2006, at a cost of $8 billion, the Administration could move the required supply date back to 2008-9 and provide a reduction in the diesel excise tax for the 15 ppm sulfur diesel sold in advance of the 2008 date. This could provide all the necessary supply for new trucks which need the diesel in 2006-7 (probably only 5% of demand). There are no environmental benefits from using the new diesel in old truck engines, so the program in its current form constitutes massive waste, since those trucks aren’t a sufficient force in the market until 2008 at the earliest. This change will help prevent loss of diesel supply and refinery closures which will take place under the rule in its current form. The overall benefits of the program are not reduced. We would like to talk with you more on this.

Two. The EPA’s enforcement campaign against U.S. refineries should be halted and reexamined. As you know, it is impossible to build new refineries, so the industry has had to add capacity at existing sites in an attempt to maintain an adequate supply of products for consumers in the past twenty years. Even at that, the industry has been able to keep U.S. capacity only flat over the past decade, so new demand has been met by increased imports of refined products. The Browner EPA launched an extensive and coordinated campaign against the industry, alleging that capacity additions during the past twenty years were not appropriately permitted. This despite the fact that refinery improvements were made with the knowledge of both state and federal environmental agencies and in keeping with permitting requirements as they were understood at that time. The EPA has sent section 114 requests, in effect blanket subpoenas, to most refiners, and many are now facing notices of violation and legal action. A few have settled because they believe that it is easier to pay a fine, sign a consent decree and move forward than resist. All this comes at a time when federal and state authorities have urged the industry to continue its herculean efforts to produce product all-out to avoid shortages. EPA’s actions are really nothing more than an attempt to discredit the industry and collect tribute in the form of fines in order to allow refiners to get on with their business. We believe that everyone in the industry should obey the law, and we believe that they do, often under difficult circumstances. But this activity goes far beyond the pale of reasonable enforcement activity and should cease.
Three. The Unocal patents, recently upheld by a federal court of appeals in a decision that the Supreme Court let stand, provide no real benefit to the industry or consumers. The huge royalties granted by a California District Court—5.3/4 cents/gallon—are far in excess of the cost of even the reformulated gasoline program and may well cost consumers over $200 million per year when implemented. The existence of the payents will increase the cost of gasoline, reduce supply, and eliminate all of the incentive for overcompliance with environmental regulations. The patent will also make it even harder to use ethanol in gasoline where ozone problems exist during the summer months (e.g. Chicago and Milwaukee). The Administration should study this issue and take steps to put any royalty collections on hold. Otherwise, this situation will affect Midwestern and East Coast gasoline supplies adversely this summer, as it did last year.

The rest of our thinking is attached. Thank you for your call yesterday. I'm available to discuss these matters with you at any time.

Bob Slaughter
NPRA 202.457.0480 x 152; home 202.362.8558
Economic Impact of U.S. Freight Railroads

Freight railroads move just about everything — from lumber to vegetables, from coal to orange juice, from grain to automobiles, from chemicals to scrap iron — and connect businesses with each other across the country and with markets overseas. They also contribute billions of dollars to the economy through investments, wages, purchases, and taxes.

America's Freight Railroads Carry...

- More than 40 percent of the nation's intercity freight;
- Approximately 70 percent of vehicles from domestic manufacturers;
- 64 percent of the nation's coal to coal-fired power plants (coal generates more than 50 percent of the nation's electricity);
- Some 40 percent of the nation's grain.

...and Move Tens of Millions of Tons Every Day

- Class I railroad freight volume in 1999 was 1.43 trillion ton-miles. U.S. railroads hauled more than 27 million carloads of freight in 1999, including more than 9.0 million intermodal trailers and containers. Intermodal volume has nearly tripled since 1980.
- Class I railroads operated 20,256 locomotives in 1999 which hauled a fleet of 1,368,836 freight cars with an aggregate capacity of 134.4 million tons — an increase of 24 percent since 1990. It would take three million trucks to equal the capacity of the rail car fleet.
- U.S. railroads operated 145,000 route miles in 1999, enough to circle the globe almost six times.

Railroads Move Freight at a Lower Cost Than Ever Before

- On average it costs 28 percent less to move freight by rail now than it did in 1981, and 57 percent less in inflation-adjusted dollars. These rate reductions have saved American consumers tens of billions of dollars.

Railroads Directly Boost the Economy

- U.S. freight railroads directly contribute some $13 billion a year to the economy in wages and benefits to nearly 200,000 employees and billions more in purchases from suppliers.
- Almost 700,000 retired railroad workers and family members receive $8 billion in retirement benefits each year.
- In 1999, Class I railroads paid $2.3 billion in payroll taxes, $379 million in federal income taxes (in addition to incurring $1.3 billion in deferred income tax liability), and nearly $694 million in other taxes.

Association of American Railroads

5967

DOE011-0372

Obtained and made public by the Natural Resources Defense Council, March/April 2002
America's Freight Railroads
Economic Facts-At-A-Glance

Investing in the Future:
Capital Expenditures

Lower Rates Help Rail Customers

Moving More Freight

The Gap Persists

Association of American Railroads

Obtained and made public by the Natural Resources Defense Council, March/April 2002
Investment: Essential to Railroads and Their Customers

As the U.S. freight railroads well know from their experiences in the years before the Staggers Rail Act of 1980, a rail system deteriorates rapidly when railroads are capital-starved. Capital is the lifeblood of the freight rail industry and today, thanks to infusions of capital and the massive investment made possible by deregulation, railroads have been reborn. Since 1980, major freight railroads in the United States have invested more than $25 billion to maintain and improve their infrastructure and equipment, and to create a national system that is the envy of the world.

Prior to Deregulation, Rail Investment Was Woefully Deficient

> In the 1970s, railroads simply lacked the ability to invest at adequate levels. Due largely to stifling regulation, during the 1970s the rail industry's rate of return averaged two percent and rail bankruptcies were commonplace.

> In the mid-1970s, 25 percent of the nation's rail miles had to be operated at reduced speeds because of dangerous conditions. Congress estimated that, absent meaningful change, the rail industry's capital shortfall would approach $20 billion by the mid-1980s.

Deregulation Gave Railroads the Means to Invest

> By giving railroads the opportunity to earn revenues sufficient to cover their cost of operations, deregulation sparked an industry transformation.

> As income increased, so did investment. Investment led to greater efficiency, sharply improved safety, better service, and dramatically reduced rates — down 57 percent in real terms from 1981 to 1999.

> Today, U.S. freight railroads reinvest more in plant and equipment as a percentage of revenues than any other major U.S. industrial sector. Class I railroad revenues reached $33.5 billion in 1999. Of that, railroads reinvested $6.6 billion, or 19.8 percent.

> Capital expenditures per mile of road owned were more than $66,000 in 1999, almost 2 ½ times the comparable inflation-adjusted 1983 figure.

![Graph: Class I Capital Expenditures Per Mile of Road Owned (1999 Dollars)](source:AAR)
Reregulation Would Threaten Rail Investment and the Viability of the Rail System

- U.S. freight railroads are overwhelmingly privately owned and operated. Because they receive no appreciable government funding, they must earn enough year after year to cover the massive spending they require.

- The industry is committed to expending the resources needed to continue to improve service, expand capacity, and offer their customers reasonable rates. But, they would be unable to do so if reregulation prevented them from earning revenues and attracting the capital necessary to cover their total costs and make the required level of investment.

- The cash generated by the rail industry since Staggers has been insufficient to sustain the capital investment required. Railroads have found it necessary every year since 1980 to obtain funds from outside sources: from 1981 to 1999, of the cumulative $81.9 billion in capital expenditures, approximately 64 percent was provided from internally-generated funds and 36 percent from external capital providers. Thus, artificial or unrealistic restrictions that impede the rail industry's opportunity to generate sufficient returns will compromise its ability to retain and attract the capital it needs to sustain its investment and operations over the long term.

Railroads will have to invest an estimated $162 billion (in 1997 dollars) by the year 2020 — the equivalent of rebuilding the entire rail system twice — simply to maintain their current share of the freight market. This can occur only if railroads are allowed to operate under a stable and limited set of regulatory constraints.

- Railroads are far more capital intensive than other major

Association of American Railroads
industries. For example, in 1998 (the latest year for which comparable non-railroad data are available), railroads’ capital expenditures were equal to 21.7 percent of revenue, compared to an average of just 3.2 percent for all manufacturing industries.

Similarly, data for Fortune 500 firms in selected industries that are major rail shippers or competitors reveal the capital intensive nature of railroading. Compared on the basis of total assets required per dollar of revenue produced, railroads have significantly higher asset needs — $2.57 of assets for each dollar of revenue produced.

### Capital Expenditures as a Percentage of Revenue for Various U.S. Industries: 1998

<table>
<thead>
<tr>
<th>Industry</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>All manufacturing</td>
<td>3.9%</td>
</tr>
<tr>
<td>Food manufacturing</td>
<td>2.6%</td>
</tr>
<tr>
<td>Wood product manufacturing</td>
<td>3.0%</td>
</tr>
<tr>
<td>Paper manufacturing</td>
<td>5.5%</td>
</tr>
<tr>
<td>Chemicals manufacturing</td>
<td>5.1%</td>
</tr>
<tr>
<td>Petroleum &amp; coal products mfg</td>
<td>3.7%</td>
</tr>
<tr>
<td>Nonmetallic mineral product mfg</td>
<td>5.3%</td>
</tr>
<tr>
<td>Primary metal product mfg</td>
<td>4.0%</td>
</tr>
<tr>
<td>Fabricated metal product mfg</td>
<td>3.9%</td>
</tr>
<tr>
<td>Machinery manufacturing</td>
<td>3.6%</td>
</tr>
<tr>
<td>Computer &amp; electr. product mfg</td>
<td>4.8%</td>
</tr>
<tr>
<td>Transportation equipment mfg</td>
<td>3.9%</td>
</tr>
<tr>
<td>Class I Railroads</td>
<td>21.7%</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of the Census, AAR

### Ratio of Assets to Revenues of Fortune 500 Firms for Selected Industry Groups: 1999

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of Firms</th>
<th>Total Revenues ($ Billions)</th>
<th>Total Assets ($ Billions)</th>
<th>Ratio of Assets to Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals</td>
<td>15</td>
<td>$114.4</td>
<td>$162.1</td>
<td>1.42</td>
</tr>
<tr>
<td>Food</td>
<td>19</td>
<td>176.6</td>
<td>116.2</td>
<td>0.65</td>
</tr>
<tr>
<td>Forest &amp; Paper Products</td>
<td>11</td>
<td>106.3</td>
<td>134.0</td>
<td>1.25</td>
</tr>
<tr>
<td>Industrial &amp; Farm Equipment</td>
<td>11</td>
<td>81.2</td>
<td>88.3</td>
<td>1.09</td>
</tr>
<tr>
<td>Metals</td>
<td>8</td>
<td>44.2</td>
<td>54.6</td>
<td>1.24</td>
</tr>
<tr>
<td>Mining, Crude Oil Production</td>
<td>3</td>
<td>17.0</td>
<td>24.6</td>
<td>1.45</td>
</tr>
<tr>
<td>Motor Vehicles &amp; Parts</td>
<td>14</td>
<td>452.8</td>
<td>634.6</td>
<td>1.40</td>
</tr>
<tr>
<td>Railroads</td>
<td>4</td>
<td>36.4</td>
<td>93.6</td>
<td>2.57</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>13</td>
<td>269.6</td>
<td>636.0</td>
<td>2.20</td>
</tr>
<tr>
<td>Trucking</td>
<td>2</td>
<td>8.8</td>
<td>4.4</td>
<td>0.50</td>
</tr>
<tr>
<td>Gas &amp; Electric Utilities</td>
<td>37</td>
<td>266.3</td>
<td>584.8</td>
<td>2.23</td>
</tr>
</tbody>
</table>

Source: Fortune, April 17, 2000

---

Association of American Railroads
Railroads: Building a Cleaner Environment

Investments in new technology and infrastructure have made the railroad industry environmentally "cleaner and greener" than ever before. Over the past five years alone, railroads have invested billions of dollars in more than 4,000 locomotives that are more fuel efficient and environmentally friendly.

Railroads Are More Environmentally-Friendly Than Other Modes

- The U.S. Environmental Protection Agency (EPA) estimates that for every ton-mile, a typical truck emits roughly three times more nitrogen oxides and particulates than a locomotive. Other studies suggest that trucks emit six to 12 times more pollutants per ton-mile than do railroads, depending upon the pollutant measured.

- According to the American Society of Mechanical Engineers, 2.5 million fewer tons of carbon dioxide would be emitted into the air annually if 10 percent of intercity freight now moving by highway were shifted to rail.

- Railroads are committed to substantial reductions in atmospheric emissions. They endorse an EPA proposal that calls for a 60 percent reduction in nitrogen oxide (NOx) emissions from locomotives manufactured beginning in 2005.

- According to the EPA, railroads account for just 7 percent of total transportation-related NOx emissions and less than 5 percent of transportation-related particulate emissions, even though railroads account for 40 percent of the nation's intercity freight ton-miles.

Railroads Are the Most Fuel-Efficient Form of Ground Transport

- Railroad fuel efficiency has increased 64 percent since 1980, when a gallon of diesel fuel moved a ton of freight an average of 233 miles. In 1992, railroads moved a ton of freight an average of 386 miles per gallon.

- If just 10 percent of the freight moved by highway were diverted to rail, the nation could save as much as 200 million gallons of fuel annually.

- On average, railroads are three times more fuel efficient than trucks.

Public Policy

- National transportation policy should recognize the freight railroad advantages in energy efficiency and pollution abatement.

Association of American Railroads
America's Freight Railroads
Environmental Facts-At-A-Glance

Gains in Railroad Fuel Efficiency

Toward a Cleaner Environment
Railroad Plans to Reduce NOx Emissions

Modal Comparisons of Nitrogen Oxide Emissions

Railroads: The Best Choice for the Environment

Association of American Railroads
Additional comments by Hamberger not included in bullets:

Railroads and barges comprise the foundation of the domestic coal distribution system, together handling three-quarters of all coal shipments. Trucks and conveyor systems generally are used to move coal over shorter distances. Lake carriers and ocean vessels move large coal shipments over water. Association of American Railroads want to remove anticompetitive 4.3 cents sales tax railroad and barges pay in legislation: HR1024 and S661. Railroads move more coal than any other commodity and account for 22 percent of total rail freight and more than 40 percent of total Class I freight tonnage transported.

According to Mr. Edward Hamberger, President of Association of American Railroads, Class I from 1980 to 2000 ton-miles, the movement of a ton of freight one mile, a standard freight volume measurement - rose from 919 billion to 1.47 trillion, a 60% increase. The rail network is used more intensely and far more productively than in the past, and in some cases running at full track capacity today. For instance, ton-miles per mile of road owned rose from 5.6 million in 1980 to 14.8 million in 2000 a 165% increase. During this period of huge traffic expansion, railroads carefully managed their cost and generated enormous productivity growth 172 % while reducing their operating costs 41% inflation adjusted basis, but operating revenue declined 36%.

As traffic congestion on our highways becomes even more acute and pressure to reduce emissions, conserve fuel and promote safety continues to increase, railroads are likely to be called upon to do even more based on their advantages over other modes. The demand for additional passenger service utilizing freight lines is widespread and growing. In addition to infrastructure capacity, configuration of infrastructure is a critical issue in determining feasibility of running passenger trains on freight-owned tracks. Also passenger railroad companies should be required to work out a deal with freight companies that own the tracks they want to use, the Government should not demand passenger railroads can use these tracks without such agreements. There are different engineering and maintenance standards that will have to be addressed if passenger and freight trains eventually share same tracks, for example curves are different for slower moving freight trains than faster passenger trains. Unfortunately most knowledgeable people would agree that most readily attainable gains of companies sharing the cost of upgrading infrastructure costs have mostly already been made. Gains from this area going forward are more evolutionary not revolutionary. Government should be willing to help with upgrading Class I lines. Believes Government should pass HR1020 for Class II and III railroads.

Since the railroad industry depends on the capital markets to fund a large portion of their investment, and that the return on investment does not provide a return equivalent to alternative investments of similar risk, the railroad companies will be challenged to increase theses returns by say limiting capital expenditures. Railroads will continue to face pressure from investment community to maximize returns and are most likely unable to accommodate the financial demands required to improve infrastructure while trying to appease lenders return on investment requirements.
## U.S. RAILROAD MILEAGE

<table>
<thead>
<tr>
<th>Class</th>
<th>Owned</th>
<th>Leased</th>
<th>Trackage</th>
<th>Govt. Trackage</th>
<th>Total Excl. Trackage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I Subtotal</td>
<td>88,848</td>
<td>8,642</td>
<td>21,586</td>
<td>1,587</td>
<td>99,400</td>
</tr>
<tr>
<td>Regional Railroads</td>
<td>14,473</td>
<td>1,654</td>
<td>2,563</td>
<td>2,409</td>
<td>18,687</td>
</tr>
<tr>
<td>Local Railroads</td>
<td>14,149</td>
<td>1,257</td>
<td>1,154</td>
<td>4,158</td>
<td>21,118</td>
</tr>
<tr>
<td>S&amp;T Railroads</td>
<td>4,562</td>
<td>255</td>
<td>731</td>
<td>1,646</td>
<td>6,573</td>
</tr>
<tr>
<td>Canadian</td>
<td>581</td>
<td>0</td>
<td>976</td>
<td>0</td>
<td>581</td>
</tr>
<tr>
<td>TOTAL</td>
<td>122,613</td>
<td>11,808</td>
<td>27,010</td>
<td>9,800</td>
<td>145,205</td>
</tr>
</tbody>
</table>

Source: AAR

Obtained and made public by the Natural Resources Defense Council, March/April 2002