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Minutes of April 20, 2022
Surface Transportation Board
RETAC Meeting 9:00 AM EDT

Meeting commenced at 9:20 AM with opening welcome by Chairman Martin Oberman, followed by remarks from Vice Chairman Michelle Schultz, and Members Patrick Fuchs, Robert Primus, and Karen Hedlund.

Members in attendance at the meeting were:

Brian Fuller, Southern Co.- Committee Co-chair (Railroad Co-Chair vacant at beginning)

Daniel Sabin, IANR – Secretary-Treasurer

Ginger Adamiak, KCS

Angela Caddell, BNSF

Steve Ewers, Norfolk Southern Railway

Laura Heisterkamp, Union Pacific

Lee Johnson, Hess Corporation

Ed McKechnie, NOPB

James Rader, Greenbrier Management

Arizona Electric Power Coop

Kent Avery, PBF Refining

Jeff Eliason, CHS

Robert Guy, SMART Transportation Union

Mark Huston, Louis Dreyfus Corp.

Adam Longson, CSX

Phillip Obie II, Santee Power

Anthony Reck, Paducah & Louisville Railway Emily Regis,

Bette Whalen, Lower Colorado River Authority

STB staff were present:

Kristen Nunnally, RETAC, DFO

Opening remarks by Brian Fuller and Election of Railroad Co-Chair Ginger Adamiak

Labor Overview

Robert Guy reported on Labor's concerns with Precision Scheduled Railroading (PSR) and draconian attendance policies on some Class I railroads. In addition, he listed various issues, including:

Equipment in storage; sidings blocked with stored cars; fuel controls reducing speed and efficiency; too big trains; closed yards; shortage of manpower; railroad waivers on inspections; shortage of training; quick turnaround on trainees. "Worst situation he has ever seen."

Kent Avery added that refineries are short of needed rail service and railroads are restricting car volumes.

Ginger Adamiak read the railroad's prepared statement and discussed service issues.

Industry Segment Updates

Oil Industry Segment Update

Lee Johnson of Hess Corporation presented the Oil Industry Segment Update

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Oil Industry Segment Market Environment

- Global production/consumption was balanced except for Q-2 2020 drop in consumption due to the Covid-19 Pandemic. 2020 consumption dropped quicker than production reaction. We are now nearing equilibrium and EIA is forecasting continued growth.
 - Recent WTI Prices climbing:

March 2019	\$ 58.15
September 2019	\$ 56.95
March 2020	\$ 29.21
September 2020	\$ 39.63
March 2021	\$ 62.33
September 2021	\$ 71.65
January 2022	\$ 82.22
February 2022	\$ 91.64
March 2022	\$108.50
 - US Crude Oil Production was at a high of 12.82 million Barrels Per Day (MBPD) in Q-2 2020, and 11.37 MBPD in January 2022.
 - US Crude Oil Production is tight, with Peak 9.39 MBPD in Q-1 2020, 7.69 MBPD in October 2020, and 8.44 MBPD in January 2022, a shortfall of 1.5 MBPD.
 - Shale represents $\frac{3}{4}$ of U.S. Production.
 - Texas and New Mexico production is okay.
 - Land rig count is down 5.6% since the pandemic started with 574 rigs at that point, now down to 542. Lowest during the pandemic was 166.
 - Williston Basin Crude Oil Production is 1.15 MBPD and lacks pipeline capacity with the Dakota Access Pipeline held up in the courts. Crude by rail (CBR) is down 19.1% with railroads averaging 2 trains per day and no exports to Canada.
 - PADD 3 destinations increased in December

Summary

- Global crude oil consumption growing; projected to exceed pre-pandemic in 2023
- Global stock draw ended 1Q 2022; production and consumption are in equilibrium
- U.S. remains #1 global crude oil producing nation
- WTI pricing reached an eleven-year high in March (was \$109.53 a barrel April 2011)
- U.S. crude oil production recovering but down 11.3% from pre-pandemic levels
- U.S. tight crude oil production is recovering, but down 10.1% from pre-pandemic level
- ND crude oil production is down 19.1% from pre-pandemic levels
- Land rig count is recovering but down 5.6% from pre-pandemic levels
- PADD 4 CBR originations grew to approximately 50 carloads a day in December 2021
- PADD 3 CBR originations averaged 2 carloads per day in 2021
- Canada to US CBR is down 50% from 2019 peak
- SCOTUS rejected Dakota Access Pipeline (DAPL) appeal seeking to avoid further environmental reviews

Karen Hedlund asked about production in Alaska, Lee Johnson answered that it is flat. Further discussion about Natural Gas concluded that we lack infrastructure to move it.

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Ethanol/Biofuels Segment Update

Jeff Eliason from CHS and Mark Huston from Louis Dreyfus Company provided the Ethanol/Biofuels Segment Update:

Serious issues are fertilizer cost and supply and cold and wet weather for the planting season. Ukraine produces 17% of export corn and combined with Russia, 25% of export wheat. The crisis will require the expansion of U.S. exports. Wheat export supply is not on rivers, requiring high rail demand.

US Corn Supply and Demand charts for years 2019-2022:

	2019	2020	2021 USDA Est.	2022 Outlook
Total Supply	15,883	16,055	16,375	16,705
Total Use	13,964	14,821	14,935	14,840
Carry Out	1,919	1,235	1,440	1,865

In millions of bushels

Yield per acre: 2019-167.5; 2020-171.4; 2021 Est.-177.0; 2022 outlook-181.0. This could be reduced with a cold and wet April and early May delaying planting.

2021 use was increased with more ethanol grind and exports. With the Russia/Ukraine situation, this could increase more in 2022.

21/22 stocks-to-use expected to increase but remain on the lower end of the past 20 years. Ending stocks-to-use is up over end carryover for last year by about 425 million bushels. Yellow corn farmgate pricing is at about \$8.00 per bushel.

2021-22 total use forecast only marginally higher than 2020-21 with higher ethanol grind and lower exports with China expected to be lower.

US Ethanol Production vs. Milling Margin

Ethanol gross margins peaked at the time of the last RETAC meeting. Interior margins went from \$1.00/gallon to break even net of variables. Today we are at \$.15 net. Some of this precipitous drop is due to poor rail service.

In-Transit Inventory vs. Rail Performance

Dwell time in terminals and train speeds influences the ethanol inventory on wheel adjustments, which requires more cars to handle the same volume levels. Four week rolling average in transit ethanol inventory continued to increase. Dwell time has fluctuated with major spikes, but train speeds have been mostly stable. In transit inventory at 750 million gallons is equivalent to 24,000 rail cars. There are 37,000 cars in ethanol service.

Average UP release date to train departure was one day in March 2021. Today average release to train departure averages 5 days with a 12-day departure being noted in the data file. Average BNSF release to train departure was one day in April 2021. Today the average release to train departure averages three days with a six-day departure noted in the data file.

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Empty wait delays are seen on both NS and CSX with predominantly poor performance in Florida and North Carolina.

Monthly Biodiesel Production

Production volumes through climbed in Q-3 and into Q-4, 2021 over First Half, 2021, with production at 1.1 billion gallons. Feedstock for Bio-Diesel and Renewable Diesel is at 1.7 billion lbs. as of January 2022, with a use of 1.9 billion lbs. in December 2021.

Renewable Diesel

Combined Bio-Diesel and Renewable Diesel production is at 268 million gallons for December 2021, with current margins of \$.70 per gallon for Bio-Diesel. We will quickly be at 500 million gallons.

Rail Service Issues:

- Although flooding in 2019 hurt performance, service issues have been mostly in the past year.

Chairman Oberman asked for a ten-year history of service performance.

- Carriers continue to pursue widespread driven PSR strategies have caused financial hardship to Ag and other business sectors.
- Delays in trains, largely obtaining power and crews, has led to numerous slowdowns and shutdowns during and above average profit margin period.
- Producers/Shippers are left to front financial losses caused by carrier's poor service while carriers demand penalties if we hold our private cars out for 24 hours or less.
- Carriers are imposing, or threatening, embargos on customers in order to protect themselves from themselves.
- Today, Customer Service is not in the top three priorities at most carriers.

Railcar Segment Update

James Rader from Greenbrier Management Services provided the Railcar Industry Segment Report

Freight Car Activity

Rail Trends in Energy:

- Ukraine conflict impact on railcar demand and carloadings
- Refinery production yo-yo
- Renewable energy growth to impact covered hopper and tank segments
- Crude-by-rail slowdown
- Increase in coal demand
- Railcar orders and deliveries
- Tank car retrofit is quickly approaching
- Suspension of LNG by rail?

Food vs. Fuel-Renewable Energy Impact on Covered Hoppers:

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Farm products loadings in tank cars jumped up in 2020 to 1.82 million, but dropped slightly in 2021 to 1.81 million, and is expected to grow annually for the next five-plus years to over 1.92 million.

Grain hopper car deliveries have remained at about 6,000 from 2019 through 2021, but will climb to over 10,000 by 2023, then settle in at about 7,500 through 2026.

Grain/fertilizer railcars in storage jumped to approximately 54,000 in 2020, then declined with some brief increase in Q-3 and Q-4 2021 and has now dropped to about 25,000.

Open-top Hopper and Gondola orders climbed from zero in 2021 to 800 in Q-4 2021.

Coal railcars in Storage in April 2020 was at 70,000, climbing to 82,500 in Summer 2020 and has dropped to 43,593 in March 2022.

Tank Cars Impacted by Compliance Date:

Based on 4th. Quarter 2021 numbers, the number of tank cars that require replacement to DOT-117J, or retrofitted to DOT-117R, or removed from flammable liquid service by service date:

2023 Ethanol Class 111 & Non-Jacketed CPC-1232-8,902 cars. Ethanol transported in jacketed CPC-1232 tank cars are not authorized after 5/1/2025.

2025 Crude Oil, Ethanol Jacketed CPC-1232-1,866 cars.

2025 Other Flammable Liquids-33,150 cars. In the U.S., flammable liquids in Packing Groups II and III transported in Class 111 tank cars are not authorized after 5/1/2029.

43,918 tank cars require replacement, retrofitting, or removal from flammable liquid service in the North American fleet based on commodity movements in Q-4 2021.

Suspension of Liquefied Natural Gas-by-Rail?

2019-Executive order by the Trump administration for DOT to regulate LNG the same “as other cryogenic liquid and permit LNG to be transported in approved rail tank cars.”

June 2020-PHMSA and the FRA issued a rule allowing the transport of LNG in DOT-113 specification tank cars with enhanced outer tanks of thicker carbon steel. Enhanced liquefaction capacity and lack of pipelines could support LNG-by-rail growth.

November 2021-PHMSA and the FRA proposed to amend the Hazardous Materials Regulations to suspend the authorization of LNG-by-rail pending either the completion of separate rulemaking or June 30, 2024, whichever comes first.

December 2021-14 U.S. Attorney Generals asked PHMSA for a “prompt suspension” of the 2020 final rule claiming it was based on the lack of sufficient safety studies or an adequate analysis of environmental and climate impacts.

February 2022-25 U.S. Attorney Generals asked PHMSA not to proceed with the suspension or withdrawal of the 2020 final rule because it creates regulatory uncertainty, the rule was subject to extensive notice and comment rulemaking, and current geopolitical events involving Ukraine show painful clarity the need for United States energy independence.

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As of April 13, 2020, over 7,000 comments have been received under Docket HM-264A.

Utilities Segment Update

Phil Obie of Santee Cooper and Emily Regis of Arizona Electric Power Cooperative presented the Utilities report:

Inventory Challenges

The percentage of utilities with days of inventory with 30 days or less continues to grow.

Chart from March 2020 to February 2022 indicates at about 60% in 2022 vs. about 30% in 2020.

Railroad Challenges

Based on STB Class I Railroad Data, hiring continues to be an issue on the crew side and has been relatively flat or has declined over the period.

Two-Year Trends on Average Train Velocity for Four Class I Railroads

Decreased Velocity of 7% Year over Year, Terminal dwell up 8% on four-week basis.

NCTA/FRCA/NRECA On Time Performance Survey Collected since August 2019 to December 2021 – 6-month periods:

- 28 Plants Reported Shipper Perspective Railroad Performance Data
- 92% reported Rail Service Issues have impacted utility operations
- 60% reported Rail Service worse than it was in 2019 and 2020
- 64% reported modifying operations in 2021 due to Rail Service
- Railroads Serving Plants Reported; BNSF, UPRR, NS, Multi-RR
- Four Coal Supply Regions – Mine Sources Reported: SPRB, NPRB, Rockies, NAPP, ILB.
- Monthly Trainload Nominations Received “Yes or No” Jan-Dec 2021.

Chart provided indicated “No” greater than “Yes” in January (about 52%), February (60%), March (51%), April (50%), down in June (about 44%), increased in July (53%) through October (80%) with reduction in November (66%) and slight increase in December (about 68%).

Utilities are experiencing operations impacted by Railroad Service Issues:

0%	No issues, service has been about the same as usual;
58%	Railroad service has been deteriorating for several months;
82%	Coal inventory stockpiles reduced below target levels;
58%	Coal unit curtailment efforts were necessary to conserve coal supply;
50%	Coal supply commitments for the year were not met;
50%	Rail car maintenance was impacted due to loss of time;
8%	Force majeure declared;
50%	Restricted from adding more train sets by the railroads;
18%	Train sets had to be parked as mandated by the railroads;
24%	Additional trains or leases were necessary to make up deliveries;
16%	Other

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Shipper Quotes and Concerns:

“...Railroads seem to be worried about velocity and reducing set counts on their systems...”

“...the railroad elected to park half of my rail fleet...”

“Service issues related to locomotive power problems and lack of crews have been ongoing for several months”

“Lack of crews may be the biggest issue, our railroad will leave an unloaded train on our site for up to 2-3 days until another set is unloaded, then they send a crew to double the trains and depart”

“...our communication with the railroads was great. They were all forthcoming with their challenges...”

“Communication (with the Railroads) was terrible”

“Increased bunching of trains caused us to incur costs to add coal to our stockpile...”

“All 4 major providers had issues with crews, power and communication in 2021...”

“Reduction in employees that worked the 24-hour desks resulted in terrible communication and lack of crews kept trains sitting”

Ed McKechnie provided the rail performance update:

Narrative with prepared slides:

SLIDE 2 Coal carloads have been on a downward trend for many years, but 2021 saw a reversal. This chart shows that originated Class I carloads of coal rose to 3.3 million in 2021, up 10% from 2020's 3.0 million carloads. Railroads were able to respond to market needs.

SLIDE 3 The largest driver behind coal consumption in the United States is, of course, electricity generation. According to the Energy Information Administration, coal's share of U.S. electricity generation rose to 22% in 2021 from 19% in 2020. It was the first year-to-year increase in coal's share since 2013.

In recent years, coal's share has been supplanted by natural gas, which had a 38% share in 2021, up from 24% in 2020; and renewables, which had a record-high share of 14% in 2021, up from 4% in 2010.

SLIDE 4 Railroads accounted for 69% of coal deliveries to coal-fired power plants in 2021, according to EIA data. That means that, in 2021, the share of U.S. electricity generation by coal delivered by rail was about 15%, up from about 13% in 2020 but well below railroads' approximate 35% share 15 years ago and 20% share five years ago.

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Put another way, today, approximately 85% of U.S. electricity generation does not directly involve railroads. The electricity generation market reflects perhaps the clearest real-world example of the intense competitive constraints imposed on railroads by product competition.

SLIDE 5 Environmental concerns have played a major role in coal's decline in recent years, but so have market forces. U.S. natural gas production is much higher today than it used to be, thanks mainly to the development of shale deposits made possible by fracking and horizontal drilling. As the chart on this slide shows, 2021 was an all-time record for U.S. natural gas production, although the increase over 2019 and 2020 was small.

SLIDE 6 The increase in natural gas production over time led to sharply lower natural gas prices. Adjusted for inflation, U.S. natural gas prices in 2020 were the lowest in EIA records going back to 1990. Those extremely low prices did not last. You can see that natural gas prices in 2021 were more than double what they were in 2020, which helps explain why coal regained a few percentage points of market share last year.

The war in Ukraine has inflicted an unimaginable direct human cost on innocent people, but the war's impact is being felt indirectly all over the world as well. One example is in oil and natural gas markets. Russia is a major oil and gas producer, accounting before the war for some 40% of European natural gas consumption. The desire to replace Russian supplies has meant sharply higher global natural gas prices. That has meant even more natural gas price increases in the United States. The red dot on this slide shows the Henry Hub spot price for natural gas as of April 12.

This slide speaks to a broader point. There are risks associated with the strategy that many utilities have adapted to shift away from coal to natural gas. With sharply higher natural gas prices today, many utilities are seeking additional coal, but coal production cannot be turned on and off like a light switch. Scores of coal mines have closed in recent years and many of those that remain have reduced their investments and productive capacity. Thousands of miners have left the industry in recent years. Railroads acknowledge that service quality today is not always what their customers want, but even if rail service were perfect today, utilities would still be having difficulty obtaining all the coal they want, simply because of the shrinkage of the U.S. coal industry and the severe broad logistical and labor market challenges facing all

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industries today. This also means coal is unable to be a “check” on natural gas prices as effectively as it once was.

SLIDE 7 It’s worth noting that coal exports rose in 2021 as well. Exports are equivalent to 13% to 15% of U.S. coal production in a typical year. In 2021, U.S. coal exports totaled 82.5 million tons, closely split between metallurgical and steam coal. Railroads are responsible for moving much of the coal that arrives at U.S. ports for export.

SLIDE 8 Moving to crude oil, U.S. crude oil production, like natural gas production, grew sharply over the past decade, approximately doubling from 2012 to 2019 before falling slightly in 2020 and 2021 due to a variety of factors, including a desire by capital markets to instill more discipline into the market and actions taken by government authorities that intentionally or not has had the effect of making it more difficult for producers to raise output.

SLIDE 9 Rail carloads of crude oil have fallen sharply from their peak in 2014. In 2021, Class I railroads originated 91,000 carloads of crude oil in 2021, down from 138,000 in 2020 and a peak of close to 500,000 in 2014. Terminations are higher mainly because of crude oil that originates in Canada and is transported south. Terminated carloads totaled nearly 178,000 in 2021, down from 236,000 in 2020 and a peak of 540,000 in 2014. In 2021, crude oil accounted for 0.3% of originated carloads and 0.6% of terminated carloads for Class I railroads.

SLIDE 10 This chart shows exports shipments of Canadian crude oil by rail, virtually all of which goes to the United States. These shipments bottomed out in the middle of 2020 and have since recovered but remain well below where they were in 2019, largely because the expansion of pipeline capacity in recent years.

Member Robert Primus said that railroads need a ready force to deal with fluctuations.

McKechnie responded that responding to immediate changes is difficult.

SLIDE 11 Finally, this chart shows that, according to EIA data, rail carloads of ethanol have fluctuated within a fairly narrow band in recent years. Ethanol is the highest-volume single chemical transported by rail in the United States, with volumes of around 20 million barrels in a typical month. That’s equivalent to 26,000 to 27,000 carloads per month, or well over 300,000 carloads per year.

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Angela Caddell from BNSF made several comments.

- We are focused on getting people;
- Ethanol volume has increased by double digits;
- BNSF is hiring 3,000 more employees with half in train and engine crews and half in maintenance;
- We have considerable unproductive inventory
- We are watching the operating metrics
- We have been dealing with unpredictable circumstances.

Co-Chair Brian Fuller asked for any other comments or questions:

Summary of Written Public Comments

None received

Roundtable Discussion

Chairman Oberman commented:

RETAC Charter Amendments will be coming out.

Eight vacant seats from need to be filled.

Member Karen Hedlund commented that the material discussed today was useful, the discussion was about 40 to 100-year investments, and that there was likely to be more uncertainty in the future.

The next meeting date needs to be determined.

The meeting concluded at 1203 PM.

Respectfully submitted,

Daniel R. Sabin (IANR), Secretary and Treasurer for RETAC