

Surface Transportation Board
 RETAC Meeting November 14, 2019
 8:00AM, Paducah, KY

Meeting commenced at 0805 with opening welcome by **Chairman Ann Begeman**, followed by remarks from **Vice Chairman Patrick Fuchs and Board Member Martin Oberman**.

Chairman Begeman asked everyone to introduce themselves.

RETAC Members in attendance at the meeting were:

| | |
|--|---|
| George Duggan, BNSF – Committee Co-chair Co-chair | Brian Fuller, Southern Company. – Committee |
| Daniel Sabin, IANR – Secretary-Treasurer | |
| Ginger Adamiak, KCS | Kent Avery, PBF Refining |
| Linda Brandl, Union Pacific | Steve Ewers, Norfolk Southern Railway |
| Garrick Francis, CSX | Bob Guy, Smart TD |
| Brad Hildebrand, Cargill | Wes Lujan, Union Pacific |
| Phillip Obie II, Santee Power | David Owens, TVA |
| Barb Porter, Arch Coal Sales Co | James Rader – Greenbrier Management |
| Emily Regis, Arizona Electric Power Coop | Tony Reck, Paducah & Louisville Railway |
| Bette Whalen, Lower Colorado River Authority | Scott Yaeger, Peabody Energy |

STB staff in attendance:

| | |
|------------------|---------------|
| Ellen Erichsen | Lisa Novins |
| Kristen Nunnally | Valerie Quinn |

Others Present:

| | |
|---------------------------|---|
| Kevin McEwan, P&L Railway | Bill Ragen, SCH Services/Calumet Terminal |
|---------------------------|---|

Opening remarks by George Duggan followed by a BNSF video highlighting the continued Missouri and Mississippi Rivers flooding in Nebraska, Iowa and Missouri, followed by comments from Linda Brandl with similar flooding issues experienced by Union Pacific.

RETAC Secretary-Treasurer Dan Sabin reported \$532 remaining in the treasury.

George Duggan provided a rail Performance Measures Review emphasizing the safety performance of the rail industry (Class 1s) safer than most industries, with 2018 derailments down 36% and employee personal injuries down by 48% from 2000 to 2018. Following discussion, Duggan commented that the improved results were rules based, then behavioral based and increased technology.

Brian Fuller commented that a concern in their industry was the avoidance of reporting injuries when zero injuries were the target. Brad Hildebrand commented that “say something if you see something” needs to be part of the culture. He added that more engineering is needed to lessen risks to employees, similar to the automatic hatch door opener that was developed so that employees would not need to climb onto railcar roofs. Garrick Francis added that trespassers are a large problem for the railroads.

Duggan continued reporting the structural decline in coal traffic with coal declining from 52% of energy sourcing in 2000 to 22% in 2020. 16.4 billion tons moved in 2011, declining to under 10 billion tons in 2018, resulting in stranded assets built for higher volume density of coal traffic, and dramatic reduction in the percentage of railroad revenue from coal. Crude by rail peaked in 2014 with 493K cars originated and 540K cars terminated. In 2018, this volume dropped to 173K cars originated and 313K terminated.

Industrial sands have declined with Texas re-sanding existing wells with local brown sands shipped by truck. Ethanol volume is flat. Rail infrastructure spending climbed from \$20.2 billion in 2009 to \$30.3 billion in 2015, then dropping to \$24.9 billion in 2018.

Board Member Martin Oberman commented on the high cost of PTC for short lines with a start up at the end of 2020. He would like to see some PTC statistics and who are the suppliers requiring \$100 million from \$25 million in liability coverage. Vice Chairman Patrick Fuchs asked about inoperability of PTC and who is the underwriter for the high cost of short line liability coverage. Brad Hildebrand asked what we have learned from PTC.

Further discussion included 2007 has the high-volume point on coal with BNSF dropping from 1 billion tons to 600 million tons (Mt) in 2010. TVA dropped from 35 Mt to 15 Mt in 2012.

Kent Avery asked about rail service performance and the accuracy of trip plans vs. dwell time and train speeds. He asked why carloads are down but rail profits are up.

Brad Hildebrand asked about actual rail performance vs. trip plans. He asked what the result of PSR has been and what about the first mile and last mile performance.

Patrick Fuchs commented on the EP 724 data submitted by the Class I carriers to the Board.

At 09:10 AM the meeting turned to Industry Segments.

Utilities Segment Update

Brian Fuller of Southern Company presented the Utilities report polling the utilities representing about 25% of US utility burn:

1. What region is most of your coal-fired generation located?
 - Midwest-45%
 - South-25%
 - Southeast-20%
 - West-10%
 - Northwest-0%

2. How many tons per year does your utility burn?
 - Less than 10M – 75%
 - 10-20M – 20%
 - 20-30M – 0%
 - 30-40M – 5%
 - 40M+ – 0%

3. YTD Actual Coal-Fired Generation (Rail Deliveries similar to these responses).
 - Below forecast – 60%
 - Similar to forecast – 30%
 - Above forecast – 10%

4. Current coal inventory (average days of burn on hand for generators that run all year).
 - Greater than 70 days – 20%
 - 50-70 days – 35%
 - 30-50 days – 40%
 - Less than 30 days – 0%

5. Rail Cycle Times Are...
 - No Response – 10%
 - Slower than the prior year – 35%
 - Similar to the prior year – 40%
 - Faster than prior year – 15%

6. Rate your recent service on the Norfolk Southern Railroad.
 - Average – 5%
 - Above Average – 15%
 - Not Applicable – 80%

7. Rate your recent service experience on the Union Pacific.
 - Unacceptable – 0%
 - Unsatisfactory – 10%
 - Average – 24%
 - Above Average – 10%
 - Excellent – 0%
 - Not Applicable – 55%

8. Rate your recent service experience on the BNSF.
 - Unacceptable – 0%
 - Unsatisfactory – 10%
 - Average – 30%
 - Above Average – 25%
 - Excellent – 0%
 - Not Applicable – 35%

9. Rate your recent service experience on the CN.

Unacceptable – 0%
 Unsatisfactory – 0%
 Average – 5%
 Above Average – 0%
 Excellent – 5%
 Not Applicable – 90%

10. Rate your recent service experience on the CSXT.

Unsatisfactory – 5%
 Average – 15%
 Not Applicable – 80%

11. No respondents were served by the KCS.

Oil Industry Segment Update

Kent Avery of PBF Energy presented the Oil Industry Segment Update.

Oil Industry Segment Market Environment

- Global production/consumption are balanced.
3Q of 2016-2019 slightly higher than production.
- US Crude Oil Production/Exports/Refinery Capacity/Share for 3Q 2016-2019:

| | <u>Production</u> | <u>Exports</u> | <u>Refinery Input</u> | <u>Domestic Share</u> |
|---------|-------------------|----------------|-----------------------|-----------------------|
| 3Q 2016 | 8.62 MBPD | 0.17 MBPD | 18.3 MBPD | 46.2% |
| 3Q 2017 | 9.33 MBPD | 0.20 MBPD | 18.6 MBPD | 49.1% |
| 3Q 2018 | 11.25 MBPD | 0.25 MBPD | 18.6 MBPD | 59.1% |
| 3Q 2019 | 12.24 MBPD | 0.28 MBPD | 18.8 MBPD | 63.6% |

- WTI price in 2019 remains variable in a fairly narrow range:

May \$60.83 June \$54.66 July \$57.35 Aug \$54.81 Sep \$56.95

- US land rig count down 22.8% from 1,046 in 2018 to 807:
10/25/2019 Counts and percentage of total:
Texas-418 (51.8%) New Mexico-110 (13.6%) North Dakota 53 (6.6%)
- Domestic Crude by Rail (CBR) volumes flat; growth is imported Canadian crude oil.

Williston Basin

- Williston Basin pipelines are taking market share from CBR. CBR is used for west coast refineries, replacing Alaska crude.
- Williston Basin Crude Oil Modal Share:
 Pipeline Export-74%
 Truck/Rail to Canada-5%
 Refined-5%
 Estimated 16% of the crude oil modal share is by rail (or shipped out by rail vs. pipeline truck and rail or locally refined)

Williston Basin Production Barrels Oil Production Per Day

| | <u>Avg Production/BOPD</u> | <u>Rail/BOPD est.</u> |
|--------|----------------------------|-----------------------|
| 6/2014 | 1,092,519 | 644,586 |
| 6/2015 | 1,211,328 | 569,324 |
| 6/2016 | 1,027,131 | 297,868 |
| 6/2017 | 1,032,873 | 72,301 |
| 6/2018 | 1,225,510 | 232,847 |
| 6/2019 | 1,335,064 | 226,961 |
| 8/2019 | 1,477,394 | 236,383 |

Williston Basin PADD 2 Destinations August 2019

| | |
|------------|-------|
| West Coast | 67.0% |
| East Coast | 28.3% |
| Gulf Coast | 4.6% |

- Canadian crude is heavy and high residue.
- 2018 - Canadian crude oil growing CBR
 2019 - Canadian regulators dropped production volume
 2020 - Canadian regulators allowing production only if moved by rail
 2021 - Expect continued Canadian CBR
- Enbridge Line 3 expanded and rebuilt, moving more Canadian crude to US

Permian Basin Production

- Crude oil production volumes continue to grow
- August production 4.4 MBPD
- Estimated pipeline capacity 3.9 MBPD
- Pipeline capacity being increased to meet demand
- Dropped CBR volumes:
 - Local frac sand surplus handled by truck
 - More pipelines placed in service diverts crude from CBR
 - CBR volume within and from PADD 3 (Gulf Coast Alabama, Mississippi, Arkansas, Louisiana, Texas and New Mexico) declined 18.6 % since February:
 - July, 2019 1.4 MB moved within PADD 3 (approximately 2.1K carloads)
 - July, 2019 0.39 MB moved PADD 3 to PADD 5 (West Coast including Nevada and Arizona)
- Potential Barriers to long term CBR:
 - Cost differential
 - Increasing pipeline capacity
 - Limited rail loading terminal capacity
 - Availability of rail unloading capacity depends on market

Changing CBR Patterns – July 2019 Snapshot

- CBR shipments from Canada to the US have doubled since January
- EIA reports 24.31 MB moved by rail within US and from Canada
 - 12.95 MB were Intra – US movements (53.3%) approximately 18.5k carloads
 - 11.36 MP were US imports from Canada (46.7% approximately 17.5k carloads)
- The 11.36 MP imported from Canada were shipped to:
 - 1.10 MB to PADD 1 – East Coast (9.7%)
 - 2.43 MP to PADD 2 – Midwest (21.4%)
 - 6.26 MB to PADD 3 – Gulf Coast (55.1%)
 - 0.00 MP to PADD 4 – Rocky Mountain (0.00%)
 - 1.57 MB to PADD 5 – West Coast (13.8%)

Washington State SB 5579

- May 9, 2019 the governor of the State of Washington signed into law the Engrossed Substitute Senate Bill 5579, Crude Oil by Rail, Vapor Pressure effective July 28, 2019.
- July 17, 2019 the Attorneys General of the states of North Dakota and Montana filed an Application for Preemption of the Washington law with PHMSA.
- July 24, 2019 a Public Notice and Invitation to Comment was published in the Federal Register.
- August 23, 2019 Sandia National Laboratory reported on a study funded by DOT, DOE and Transport Canada concluding that there was “insufficient evidence to show that light sweet crude oil from the Bakken region significantly increased the probability of fire and explosion in case of release.”

- September 23, 2019 comments were received by PHMSA.
- October 23, 2019 rebuttal comments were received by PHMSA.

Summary

- Global crude oil production continues to meet slowly growing global demand.
- US crude oil production growth continues to surpass growth in exports; Canadian imports remain dominant.
- Market share for domestic crude oil has increased dramatically.
- Crude oil prices remain volatile but within a fairly narrow range.
- US land-based rig count down 22.8% year-over-year; production is up 8.8%.
- US onshore E&P growth remains in pipe centric production regions.
- Bakken production increased 20.6% year-over-year; CBR volume declining.
- CBR volumes from Canada have doubled since January.
- Washington State's SB 5579 "Crude Oil by Rail – Vapor Pressure" presents a threat to the uniform application of federal hazmat regulations.

Railcar Segment Update

James Radar of Greenbrier provided the Railcar Industry Segment Report:

Extra cars have been needed because of inefficiencies in the rail system (primarily from weather related flood damage and rail system interruptions).

Freight Car Activity

Freight car orders remained strong in 2018 with a drop off in orders but with an increase in deliveries in 2019. Backlog has been reduced significantly since 2015.

Tank Car Activity

Strong tank car orders commencing in 2018 resulted in both increased deliveries and backlog of cars to be delivered.

Railcar Delivery Outlook Expected to Contract

- Forecasted delivery reduction due to oversupply of certain car types and PSR implementations.
- Tank cars and >5,500cf covered hoppers for plastics are expected to support future deliveries.
- Non-energy tank cars will drive new tank car demand.

Energy Related Cars Returning to Storage

- Coal carloads are down 7.1% year-to-date in 2019.
- 21% of gondolas and 23% of open hoppers in the North American fleet are in storage as of November 2019.

- Despite declining coal carloads, the railcar fleet servicing coal will see continued attrition in the coming years.
- Over 40,000 coal railcars are over 35 years old.

Percent of coal cars in storage has stabilized in recent months.

- Retirements are expected to outpace car replacements due to lower demand.
- The coal fleet consists of 110k hoppers and 112k gondolas.

Energy Related Cars Returning to Storage

- About 37,000 Sand/Cement Cars in Storage.
- About 47,000 Crude Oil / Ethanol Cars in Storage.

Liquified Natural Gas by Rail

- USDOT NPRM, October 24, 2019.
- The current HMRs do not authorize the bulk transport of LNG in rail tank cars.
- LNG production and consumption trends are related to international fuel prices, mainly crude oil, diesel, and coal.
- Between 2010 and 2018, in the United States:
 - The number of facilities increased by 28.7%, and the total storage and vaporization capacities increased by 21 and 23 percent, respectively; and
 - Total liquefaction capacity increased by 939% due to new LNG export terminals.

Presidential Executive Order

- The NPRM is consistent with Section 4(b) of the President's April 10, 2019, "Executive Order on Promoting Energy Infrastructure and Economic Growth," which directs the Secretary of Transportation to publish an NPRM that would propose to treat LNG the same as other cryogenic liquids and permit LNG to be transported in approved tank cars.

Crude Oil Fleet Size & Composition

| | Total Fleet | % DOT 111 | % CPC-1232 | % 117/120 |
|----------------|--------------------|------------------|-------------------|------------------|
| 2013 | 40,333 | 54% | 46% | 0% |
| 2014 | 50,803 | 33% | 67% | 0% |
| 2015 | 48,920 | 14% | 82% | 4% |
| 2016 | 24,865 | 3% | 81% | 16% |
| 2017 | 21,569 | 1% | 74% | 25% |
| 2018 | 25,470 | 0% | 54% | 46% |
| Q2 2019 | 29,240 | 0% | 32% | 68% |

Ethanol Fleet Size & Composition

| | Total Fleet | % DOT 111 | % CPC-1232 | % 117/120 |
|----------------|--------------------|------------------|-------------------|------------------|
| 2013 | 27,109 | 98% | 2% | 0% |
| 2014 | 30,734 | 93% | 7% | 0% |
| 2015 | 34,910 | 88% | 11% | 1% |
| 2016 | 36,069 | 81% | 10% | 10% |
| 2017 | 38,885 | 66% | 9% | 25% |
| 2018 | 37,676 | 50% | 8% | 42% |
| Q2 2019 | 35,885 | 37% | 5% | 58% |

Other Flammable Liquid Fleet Size & Composition

| | Total Fleet | % DOT 111 | % CPC-1232 | Pressure | % 117/120 |
|----------------|--------------------|------------------|-------------------|-----------------|------------------|
| 2013 | 40,205 | 71% | 8% | 21% | 0% |
| 2014 | 40,934 | 66% | 13% | 21% | 0% |
| 2015 | 41,893 | 66% | 15% | 19% | 0% |
| 2016 | 42,549 | 61% | 18% | 17% | 3% |
| 2017 | 42,844 | 54% | 22% | 16% | 7% |
| 2018 | 43,321 | 47% | 24% | 14% | 14% |
| Q2 2019 | 50,895 | 44% | 26% | 12% | 18% |

DOT 117J & DOT 120J Fleet Growth

September 2019 – Fleet size increased by 1,028 cars, or 3.3%, to 32,140.

DOT 117R Fleet Growth

September 2019 – Fleet size increased by 983 cars, or 3.6%, to 28,453.

Over 59,000 Tank Cars Required to Replace/Retrofit by 2029

| Commodity/Car Type | 2020 | 2023 | 2025 | 2029 | Total |
|--|-------------|---------------|--------------|---------------|---------------|
| Crude Oil Non-Jacketed CPR-1232 | 498 | | | | 498 |
| Ethanol All DOT-111 | | 13,156 | | | 13,156 |
| Non-Jacketed CPC-1232 | | 1,551 | | | 1,551 |
| Crude Oil, Ethanol Jacketed CPC-1232 | | | 9,796 | | 9,796 |
| Other Flammable Liquids Packing Group I, II, & III | | | | 35,025 | 35,025 |
| Total | 498 | 14,707 | 9,796 | 35,025 | 59,248 |

Cars per Month Required vs. Last Month Actual Production

| Production | Cars/Month |
|--|-------------------|
| Cars/Month to Meet Deadlines | 863-1,081 |
| DOT-117 Production Avg. Last 3 Months | 625 |
| DOT-117R Production Avg. Last 3 Months | 762 |
| Total Production Last 3 Months Average | 1,387 |
| Surplus Production | 402-587 |

Ethanol/Biofuels Segment Update

Brad Hildebrand of Cargill provided the Ethanol/Biofuels Segment Update:

The presentation began with a US map indicating that 14 of the 43 corn growing states had production lower in 2019 than in 2018. Nearly all those states were in the upper Midwest, including South Dakota, Nebraska, Minnesota, Wisconsin, Illinois, Indiana, Michigan and Ohio. Production increased in corn states of Iowa, Kansas, Missouri and North Dakota.

US Corn Supply and Demand charts for years 2017-2019:

| | 2017 | 2018 | 2019 |
|---------------------|-------------|-------------|-------------|
| Total Supply | 16,938 | 16,588 | 15,943 |
| Total Use | 14,798 | 14,474 | 14,015 |
| Carry Out | 2,140 | 2,114 | 1,929 |

In Billions of bushels

With US grain exports down, it has caused a crisis in the farm belt. China is taking some soybeans, but the US has suffered a market share loss. South American production has increased and now Ukraine and Russia are increasing their production.

US Ethanol Production vs. Milling Margin

October 2019 Weekly Ethanol Production 15.209 billion gallons with margins down 11.5 cents per gallon to 29.9 cents per gallon. US has consumed 147 billion gallons of gasoline annually with 10% going to ethanol. Blending is increasing to 15%, but there remains some engine damage liability blamed on 15% ethanol blends. There are also many waivers provided to refiners that reduces the consumption of ethanol.

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. There was some discussion on the validity of the rail performance measurements which do not include first-mile, last-mile concerns of shippers. Cars may have arrived at the terminal, but until they are delivered to the destination customer, or if cars are not picked up at the origin customer, these factors are not considered under the rail performance measurements.

Monthly Biodiesel Production

Production volumes YTD through July 2019 are running close to 2018 volumes and higher than 2017 volumes. Biodiesel production is currently from 50-60% soybean oil, 20% corn oil and the rest from grease and tallow. Blenders credits are needed to remain viable. There are countervailing duties on biofuels.

No service issues with rail on biofuels.

Mines Segment Update

Scott Yeager of Peabody Energy presented the Mines Segment Update:

United States Electricity Demand and Coal Generation Mix

- Coal's share of the U.S. generation mix declined from 39% in 2013 to 24% YTD July 2019.
- Natural gas continues to gain, increasing from 28% in 2013 to 36% YTD July 2019.
- Renewables continue to increase largely driven by increased wind generation.

United States Generation Mix by State-Coal and Gas

- In 2008, 23 states generated more than half of their energy from coal, and 4 states generated more than half of their energy from gas.
- In 2018, only 8 states generated more than half of their energy from coal, and 10 states generated more than half of their energy from gas.

United States Generation Mix by State-Wind and Solar

- In 2008, 20 states generated some energy from wind, and no states generated any energy from solar.
- In 2018, 36 states generated some energy from wind, and 26 states generated some energy from solar.

United States Natural Gas and Production

- Despite strong demand growth, record gas production keeping prices down.
- 2016 production 72 Bcf/d – price in \$2.00 - \$2.50 range
- 2017 production 73 Bcf/d – price in \$2.50 - \$3.00 range
- 2018 production 82 Bcf/d – price in \$2.50 - \$3.00 range
- 2019 production YTD 88.4 Bcf/d – price in \$2.25 - \$3.50 range except for major strike over \$4.50 in January with severe weather and logistics issues.

United States Coal vs. Natural Gas

Limited Load Growth and Increasing Renewables, Intensifies Coal vs. Gas Competition.

| | 1990 | 2000 | 2010 | 2018 | 2019 Aug YTD |
|---------------------------|-------------|-------------|-------------|-------------|---------------------|
| Coal | 52% | 52% | 45% | 27% | 24% |
| Gas | <u>12%</u> | <u>16%</u> | <u>24%</u> | <u>35%</u> | <u>37%</u> |
| Total Coal and Gas | 64% | 68% | 69% | 62% | 61% |

The gap between gas and coal generation continues to widen, with gas at 35% of mix and coal at 27% of mix in 2018, compared to 33% for both in 2015.

U.S. Coal Demand by Sector

Annual Coal Demand (Mt)

| <u>Sector</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> <u>YTD Jul</u> |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------------------------|
| Electric Power | 858 | 852 | 738 | 679 | 818 | 810 | 319 |
| Industrial/Other | 66 | 66 | 60 | 53 | 52 | 51 | 28 |
| Exports | <u>125</u> | <u>105</u> | <u>80</u> | <u>65</u> | <u>103</u> | <u>123</u> | <u>61</u> |
| Total | 1,050 | 1,022 | 878 | 797 | 818 | 810 | 408 |

2019 YTD July down 12% YOY

Annual Coal Production (Mt)

| <u>Sector</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> <u>YTD Sep</u> |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------------------------|
| SPRB | 374 | 382 | 363 | 287 | 305 | 293 | 201 |
| CAPP | 128 | 117 | 91 | 67 | 79 | 80 | 57 |
| NAPP | 125 | 135 | 118 | 104 | 107 | 106 | 81 |
| ILB | 132 | 137 | 124 | 98 | 103 | 107 | 78 |
| Other | <u>225</u> | <u>229</u> | <u>201</u> | <u>172</u> | <u>180</u> | <u>170</u> | <u>125</u> |
| Total | 984 | 1,000 | 897 | 729 | 774 | 755 | 541 |

2019 YTD September down% YOY

U.S. Stockpiles

U.S. Stockpiles rebounding from lows hit in 1Q2019 (Mt)

| <u>Begin Quarter</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> |
|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| January | 135 | 150 | 195 | 155 | 120 | 95 |
| April | 119 | 170 | 192 | 162 | 128 | 112 |
| July | 136 | 165 | 165 | 143 | 103 | 110 |
| October | 125 | 180 | 158 | 141 | 105 | N/A |

Tons estimated from graph provided in presentation

U. S. Coal Exports

U.S. Seaborne Exports Increased Driven by Global Prices

- 2018 exports +20% YOY at 123 million metric tons; Thermal +23% at 64 Mt and Met + 16% at 59%
- Met Coal is more stable vs. thermal coal.
- Future trajectory of exports is highly dependent on pricing of US coal vs. other origins and demand for seaborne coal.

U.S. Total Exports (Mt)

| <u>Sector</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019 YTD</u> <u>Aug</u> |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------------------------|
| CAPP | 56 | 46 | 31 | 26 | 37 | 42 | 22 |
| NAPP | 16 | 14 | 15 | 15 | 22 | 24 | 16 |
| ILB | 17 | 10 | 10 | 7 | 14 | 21 | 10 |
| CO | 7 | 5 | 3 | 2 | 4 | 6 | 2 |
| SAPP | 11 | 13 | 9 | 8 | 12 | 13 | 9 |
| Other West | <u>18</u> | <u>17</u> | <u>12</u> | <u>7</u> | <u>14</u> | <u>17</u> | <u>10</u> |
| Total | 125 | 105 | 80 | 65 | 103 | 123 | 69 |

2019 YTD August down 17% YOY

2018 Exports as % of Total Production

| <u>SPRB</u> | <u>CAPP</u> | <u>NAPP</u> | <u>ILB</u> | <u>CO</u> | <u>SW</u> | <u>OTHER E</u> | <u>OTHER W</u> |
|-------------|-------------|-------------|------------|-----------|-----------|----------------|----------------|
| 0% | 52% | 23% | 20% | 41% | 0% | 85% | 14% |

There are no export terminals on the West Coast except Vancouver, BC, so exporting western U.S. coal is too expensive. U.S. Ports are mainly via Norfolk and Gulf of Mexico points, but the growing demand is shifting toward Asia Pacific.

Total seaborne coal from all origins is 1 Billion tons.

2018 Supply and Demand Thermal Seaborne Coal FlowsPrincipal Countries by Demand and Supply Worldwide

| <u>Demand</u> | <u>Mmt</u> | <u>Supply</u> | <u>Mmt</u> |
|---------------|------------|---------------|------------|
| China | 212 | Indonesia | 429 |
| India | 167 | Australia | 207 |
| Total Europe | 144 | Russia | 132 |
| Japan | 127 | Columbia | 80 |
| S. Korea | 113 | S. Africa | 80 |
| Taiwan | 58 | United States | 55 |

Non-Railroad Industry Segment presentations concluded at 10:52 AM.

Railroad Segment Update

George Duggan from BNSF provided the Railroad Segment Update:

Industry Statement for the November 14, 2019 RETAC Meeting

Chairman Begeman, Vice Chairman Fuchs, Commissioner Oberman, and fellow members of RETAC, good morning. First off, I would like to thank the Paducah and Louisville Railway for hosting us here in Paducah. I hope everyone enjoys and learns on this trip.

America's freight rail industry is one of the safest, most cost-effective, and efficient transportation network in the world. Fueled by billions of dollars in annual private investment railroads maintain and modernize the nation's nearly 140,000-mile private rail network to deliver for America.

I am happy to report today that freight railroads operating in the United States continue to move vast amounts of just about everything, connecting businesses with each other across the continent and with markets overseas. I am also happy to report that due to a strong safety culture, employee commitment, and massive investments in capital expenditures, maintenance, and new technologies the freight railroads continue to operate in a highly safe manner.

As far as rail traffic volumes, a weak domestic manufacturing sector, feeble economic growth abroad that's limiting exports, continued trade spats that are disrupting global supply chains, and general economic uncertainty the freight railroads are seeing strong headwinds for U.S. rail volumes.

Through October of this year, total U.S. carloads were down 4.3 percent, or 497,000 carloads, from the same period last year. Year-to-date carloads were slightly lower in 2016, but other than that, 2019's year-to-date total is the lowest since sometime prior to 1988, when our data begin. There were some gains in 2019 within five of the 20 carload categories the AAR tracks, led by petroleum products (up 14.8 percent, thanks to resurgent crude oil shipments) and nonmetallic minerals.

Most rail commodities, though, are down so far in 2019. Coal is leading the way, with carloads down 7.8 percent, or nearly 291,000 carloads, over the same period in 2018, thanks to extremely low natural gas prices and increasingly stringent environmental regulations. Carloads of crushed stone, sand, and gravel were also down 8 percent through October, due mainly to lower frac sand shipments. Grain carloads were also down 6.0 percent largely because of reduced exports.

As we have pointed out previously, railroads are a derived demand industry, meaning that the demand for rail traffic is a function of demand further down the economic chain. For some commodities, such as coal and grain, the level of rail traffic tends to rise or fall for reasons that have little to do with the state of the overall economy. As discussed earlier, sluggish growth

abroad and disturbing trade-related developments have created enormous uncertainty, weighing on business investment, exports, and manufacturing. Unfortunately, those are precisely what drive much of the freight carried by U.S. railroads.

Finally, I would like to report that the railroads and their employees initiated a new round of collective bargaining under the Railway Labor Act. Both sides exchanged Section 6 Notices on Friday, November 1st. This triggers a lengthy process, often occurring over multiple years, that may include direct negotiations, mediation, arbitration, multiple cooling off periods, and in some cases, presidential appointment of an emergency board to recommend terms for settlement. This process works. As a result, there have been zero service disruptions arising from rail bargaining since 1992.

This concludes my comments on behalf of the rail sector. I would now invite the individual railroads to offer any observations they may have about their respective elements of the energy supply chain.

Additional comments:

The economy growth is slowing, and the railroads have the lowest volume in carloads since 1988.

There was considerable discussion about rail service measurements and performance forecasting vs. execution. The first mile-last mile issue came up again. The railroads are providing EP 724 data as per the STB requirement. Other information could be developed if required by the STB.

Summary of Written Public Comments from Kristen Nunnally

There were none.

Roundtable Discussion

Kent Avery asked to discuss a specific rail rate matter, but the Board cautioned that it could not discuss a specific matter if it were likely to come later to the Board as a complaint case.

There was concern expressed that there is no commitment or consequence of a railroad failure to meet service plans. There was a request that the railroads furnish monthly and annualized performance statistics to RETAC.

The next meeting date needs to be determined.

The meeting concluded at approximately 11:25AM.

Daniel R. Sabin, Secretary and Treasurer for RETAC