

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MISSOURI**

FEDERAL TRADE COMMISSION,

Plaintiff,

v.

PEABODY ENERGY CORPORATION

and

ARCH COAL, INC.,

Defendants.

Civil Action No. 4:20-cv-00317-SEP

FILED UNDER SEAL

**PLAINTIFF’S PROPOSED FINDINGS OF FACT
AND CONCLUSIONS OF LAW**

PROPOSED FINDINGS OF FACT – TABLE OF CONTENTS

I.	BACKGROUND	1
A.	The Proposed Joint Venture (JV) Would Combine The Two Largest Suppliers Of Southern Powder River Basin (SPRB) Coal	1
B.	SPRB Coal Remains An Important Fuel Despite Reduced Demand.....	2
II.	THE SALE OF SPRB COAL IS A RELEVANT PRODUCT MARKET.....	3
A.	<i>Brown Shoe</i> Factors Show SPRB Coal Is A Relevant Product Market.....	3
i.	Industry And Public Recognition Of The SPRB Market.....	3
ii.	SPRB Coal Has Distinct Prices From Other Fuels	5
iii.	SPRB Coal Has Unique Production Facilities And Specialized Vendors	7
iv.	SPRB Coal Has Distinct Characteristics And Uses Compared To Other Fuels	7
v.	SPRB Coal Is Bought By Customers With SPRB-Fueled Power Plants.....	11
vi.	SPRB Coal Demand Is Relatively Insensitive To Price Changes.....	12
B.	The Relevant Market Satisfies The Hypothetical Monopolist Test.....	13
C.	Dr. Israel’s “Aggregate Diversion” Analysis Is Not A Reliable Method Of Implementing The HMT And Is Invalid Because It Assumes Its Own Conclusion	18
D.	Dr. Hill’s Finding That SPRB Coal Exhibits Relatively Inelastic Demand Is Consistent With Basic Commercial Realities And Marketplace Attributes	22
III.	THE SPRB IS A RELEVANT GEOGRAPHIC MARKET	24
IV.	EXTRAORDINARILY HIGH MARKET CONCENTRATION LEVELS ESTABLISH A STRONG PRESUMPTION OF HARM TO COMPETITION IN THE RELEVANT MARKET.	25
A.	The JV Is Presumptively Illegal.....	25
B.	Documents From Defendants And Third Parties Confirm The High Post-JV Market Shares 26	
V.	THE JV WOULD SUBSTANTIALLY LESSEN COMPETITION FOR THE SALE OF SPRB COAL	26
A.	The JV Would Eliminate Competition Between The Two Largest And Most Important SPRB Coal Suppliers	26
B.	Peabody And Arch Are Aggressive Head-to-Head Competitors	28
C.	Competition between SPRB Coal Suppliers, And Head-To-head Competition Between Peabody and Arch, Leads To Lower Prices And Other Benefits for Customers	30

i.	Peabody And Arch Acknowledge Publicly And Testified At The PI Hearing that SPRB Coal Prices Are Determined By Negotiations With Customers.....	30
ii.	The FTC Called Customers At The PI Hearing Who Testified That SPRB Coal-on-SPRB Coal Competition Leads To Lower Prices, Regardless Of The Potential Impact Of Other Fuels	32
iii.	The Witnesses Defendants Called At The Hearing Confirm That SPRB Coal-On-SPRB Coal Competition Leads To Lower Prices	35
iv.	Further Record Evidence Confirms That SPRB Coal-On-SPRB Coal Competition Benefits Customers.....	36
D.	Customers Cannot Protect Themselves From An SPRB Coal Price Increase	38
i.	The FTC Called Customers At The Hearing Who Testified That They Could Not Protect Themselves Against An SPRB Coal Price Increase By Substituting Away From SPRB Coal And Who Are Concerned About Price Increases as a Result	38
ii.	The Witnesses Defendants Called At The Hearing Failed to Establish That Customers Could Protect Themselves Against An SPRB Coal Price Increase By Substituting Away From SPRB Coal	41
iii.	Defendants’ Experts Failed To Establish That A Small But Significant Price Increase Would Cause Substitution Away From SPRB Coal.....	43
E.	The JV’s Price Increases Would Be Consistent With Defendants’ Pre-JV Strategies ..	45
F.	Well-accepted Methods of Economic Analysis Show The JV Would Likely Result In Anticompetitive Harm.....	47
G.	Other SPRB Coal Suppliers Cannot Constrain The JV	48
i.	The JV Would Face Few Rivals With Comparable High-Quality Reserves	48
ii.	Other SPRB Coal Suppliers Operate At A Cost Disadvantage To Peabody And Arch	50
iii.	Other SPRB Coal Suppliers Have An Incentive [REDACTED] [REDACTED]	51
VI.	Neither Competition From Other Fuels Nor The Possibility Of SPRB Coal Plant Retirements Will Prevent Harm To Competition.....	51
A.	Despite Low Natural Gas Prices And The Possibility Of Plant Retirements, Peabody And Arch Passed Through Price Increases Related To The Black Lung Excise Tax (BLET) In 2020.....	51
B.	Customers Cannot Protect Themselves From A Price Increase On SPRB Coal By Switching To Non-SPRB Coal Power Generation Units	52
i.	Customers Are Not Protected From SPRB Coal Price Increases By Contracts Indexed To Natural Gas And Electricity, Because Customers Do Not Want Such Contracts.....	55

C.	Competition From Non-SPRB Coal Fuel Sources Within RTOs/ISOs Is Not A Substitute For Competition Between SPRB Coal Suppliers	57
i.	Power Producers Already Participate In Wholesale Electricity Markets Today, Yet SPRB Coal-on-Coal Competition Remains A Critical Factor In Their Ability To Achieve Lower SPRB Coal Prices.....	57
ii.	Defendants Have Not Shown That A Small Price Increase For SPRB Coal Would Impact RTO's/ISO's Complex Dispatch Decisions, Which Depend On Power Generators' Bids And Other Factors	58
D.	The Risk Of Coal Plant Retirements Will Not Prevent Harm To Competition.....	62
i.	SPRB Coal Plants Retire For Many Reasons Unrelated To The Price Of SPRB Coal .	63
i.	Peabody [REDACTED] When Determining SPRB Coal Prices	64
ii.	Dr. Hill's Retirement Analyses Show That The Mine Mouth Prices Of SPRB Coal Have Limited Impact On SPRB Coal Unit Retirements	65
iii.	Dr. Hill's Conclusions Are Corroborated Using [REDACTED]	66
iv.	SPRB Customers Plan To Purchase SPRB Coal and Operate SPRB Units for Many Years.....	66
v.	Dr. Israel Overstates The Amount That Retirement Of Some Smaller And Less Efficient Plants Will Reduce Demand For SPRB Coal	67
VII.	ENTRY AND EXPANSION ARE UNLIKELY TO BE TIMELY, LIKELY, AND SUFFICIENT TO OFFSET THE COMPETITIVE HARM.....	68
A.	Entry Or Expansion By Acquiring New Reserves Is Unlikely.....	68
B.	Output Expansion By Existing SPRB Suppliers Is Unlikely.....	68
VIII.	THE ANTICOMPETITIVE HARM SUBSTANTIALLY OUTWEIGHS ANY BENEFIT FROM COGNIZABLE EFFICIENCIES	70
A.	The Defendants' Claimed Efficiencies Cannot Be Independently Verified.....	71
i.	The Assumptions In The JV LOM Drives The Efficiency Claims.....	71
ii.	The JV LOM Is Not Verified.....	72
iii.	The Efficiencies Are Not Verifiable	73
iv.	Dr. Israel Does Not Provide The Information Or Evidence Necessary To Demonstrate Third Party Verification.....	74
B.	Claimed Efficiencies More Than Five Years In The Future Are Speculative	75
C.	Evidence From Past Acquisitions Does Not Substantiate The Claimed Efficiencies ...	76

D.	The JV's Claimed Efficiencies Are Not JV Specific	77
i.	The JV's Claimed Mining Cost Efficiencies Are Not JV Specific.....	77
ii.	The JV's Claimed [REDACTED] Are Not JV Specific.....	79
E.	The JV Has Not Demonstrated That It Will Share Efficiencies With Customers	79
F.	The Temporary Discount Defendants Offered On The Eve Of Litigation Was Rejected By Several Customers And Is Not Connected To Any Cognizable Efficiency Savings	80

PROPOSED CONCLUSIONS OF LAW – TABLE OF CONTENTS

I. THE COURT HAS JURISDICTION OVER THIS ACTION.....	82
II. THE STANDARD FOR A PRELIMINARY INJUNCTION IS MET.....	82
III. PLAINTIFF HAS SHOWN A LIKELIHOOD OF SUCCESS ON THE MERITS.....	84
A. The Proposed JV is Presumptively Unlawful	84
i. The Relevant Product Market is SPRB Coal.....	86
ii. The Relevant Geographic Market Is the SPRB.....	89
iii. The JV Is Presumptively Illegal Because It Would Lead to Undue Concentration in the Relevant Market	90
iv. Evidence of Anticompetitive Effects Corroborates the Presumption of Illegality	91
B. Defendants Failed to Rebut the Presumption of Illegality	93
i. The Existence of Non-SPRB Fuels Does Not Rebut the FTC’s Case.....	93
ii. The Existence of RTOs/ISOs Does Not Rebut the FTC’s Case.....	94
iii. Declining Demand for SPRB Coal Does Not Rebut the FTC’s Case	94
iv. Current Industry Margins do not Rebut the FTC’s Prima Facie Case	95
C. Defendants’ Belated “Powerful Buyer” Defense Fails.....	96
i. Entry and Expansion Are Not Likely	96
ii. Defendants’ Efficiencies Defense Fails	97
iii. Defendants Cannot Satisfy the Stringent Requirements of the Failing Firm or “Weakened Competitor” Defense	99
IV. THE EQUITIES FAVOR A PRELIMINARY INJUNCTION.....	99

TABLE OF AUTHORITIES

Cases

<i>Brown Shoe Co. v. United States</i> , 370 U.S. 294 (1962)	passim
<i>Chicago Bridge & Iron Co. N.V. v. FTC</i> , 534 F.3d 410 (5th Cir. 2008)	84
<i>FTC v. Advocate Health Care Network</i> , 841 F.3d 460 (7th Cir. 2016)	87
<i>FTC v. Advocate Health Care</i> , No. 15 C 11473, 2017 WL 1022015 (N.D. Ill. Mar. 16, 2017) ..	97
<i>FTC v. Arch Coal, Inc.</i> , 329 F. Supp. 2d 109 (D.D.C. 2004)	86, 87, 89
<i>FTC v. Bass Bros. Enterprises</i> , No. C84-1304, 1984 WL 355 (N.D. Ohio June 6, 1984)	95
<i>FTC v. Cardinal Health, Inc.</i> , 12 F. Supp. 2d 34 (D.D.C. 1998)	95
<i>FTC v. CCC Holdings Inc.</i> , 605 F. Supp. 2d 26 (D.D.C. 2009)	83, 84, 97, 98
<i>FTC v. Dean Foods Co.</i> , 384 U.S. 597 (1966)	100
<i>FTC v. Elders Grain, Inc.</i> , 868 F.2d 901 (7th Cir. 1989)	84
<i>FTC v. Exxon Corp.</i> , 636 F.2d 1336 (D.C. Cir. 1980)	82
<i>FTC v. Food Town Stores, Inc.</i> , 539 F.2d 1339 (4th Cir. 1976)	83
<i>FTC v. H.J. Heinz Co.</i> , 246 F.3d 708 (D.C. Cir. 2001)	82
<i>FTC v. Indiana Fed’n of Dentists</i> , 476 U.S. 447 (1986)	84
<i>FTC v. Nat’l Tea Co.</i> , 603 F.2d 694 (8th Cir. 1979)	85
<i>FTC v. Penn State Hershey Med. Ctr.</i> , 838 F.3d 327 (3d Cir. 2016)	90
<i>FTC v. Procter & Gamble Co.</i> , 386 U.S. 568 (1967)	97
<i>FTC v. ProMedica Health Sys.</i> , 3:11-cv-47, 2011 WL 1219281 (N.D. Ohio Mar. 29, 2011) ..	98, 99
<i>FTC v. Sanford Health</i> , 926 F.3d 959 (8th Cir. 2019)	passim
<i>FTC v. Sanford Health, Sanford Bismarck</i> , 2017 WL 10810016 (D.N.D. Dec. 15, 2017)	83, 98, 99, 100
<i>FTC v. Staples, Inc.</i> , 970 F. Supp. 1066 (D.D.C. 1997) (“ <i>Staples I</i> ”)	passim
<i>FTC v. Staples, Inc.</i> , 190 F. Supp. 3d 100 (D.D.C. 2016) (“ <i>Staples II</i> ”)	passim
<i>FTC v. Swedish Match</i> , 131 F. Supp. 2d 151 (D.D.C. 2000)	90, 91, 93, 99
<i>FTC v. Sysco Corp.</i> , 113 F. Supp. 3d 1 (D.D.C. 2015)	passim
<i>FTC v. Tenet Health Care Corp.</i> , 186 F.3d 1045 (8th Cir. 1999)	82, 83
<i>FTC v. Tronox Ltd.</i> , 332 F. Supp. 3d 187 (D.D.C. 2018)	passim
<i>FTC v. Weyerhaeuser Co.</i> , 665 F.2d 1072 (D.C. Cir. 1981)	100
<i>H.J., Inc. v. IT&T</i> , 867 F. 2d 1531 (8th Cir. 1989)	88

<i>Henry v. Chloride</i> , 809 F.2d 1334 (8th Cir. 1987)	89
<i>Rothery Storage & Van Co. v. Atlas Van Lines, Inc.</i> , 792 F.2d 210 (D.C. Cir. 1986)	89
<i>St. Alphonsus Med. Ctr. – Nampa, Inc. v. St. Luke’s Health Sys.</i> , 778 F.3d 775 (9th Cir. 2015). 90	
<i>SuperTurf, Inc. v. Monsanto Co.</i> , 660 F.2d 1275 (8th Cir. 1981).....	88, 89
<i>United States v. Aetna Inc.</i> , 240 F. Supp. 3d 1 (D.D.C. 2017)	92, 93
<i>United States v. Baker Hughes, Inc.</i> , 908 F.2d 981 (D.C. Cir. 1990).....	85, 91
<i>United States v. Continental Can Co.</i> , 378 U.S. 441 (1964)	86
<i>United States v. H&R Block, Inc.</i> , 833 F. Supp. 2d 36 (D.D.C. 2011)	passim
<i>United States v. Ivaco, Inc.</i> , 704 F. Supp. 1409 (W.D. Mich. 1989)	95, 96
<i>United States v. Marine Bancorp.</i> , 418 U.S. 602 (1974).....	84
<i>United States v. Phila. Nat’l Bank</i> , 374 U.S. 321 (1963)	84, 90, 99

Statutes

15 U.S.C. § 12.....	82
15 U.S.C. § 18.....	82, 84, 85
15 U.S.C. § 44.....	82
15 U.S.C. § 45.....	82
15 U.S.C. § 53.....	82
28 U.S.C. § 1391.....	82

Other Authorities

U.S. Dep’t of Justice and Federal Trade Commission Horizontal Merger Guidelines (2010)	
.....	passim

GLOSSARY OF ABBREVIATED TERMS, DEFINED TERMS, AND WITNESSES

1. Exhibits and Transcripts

Abbreviation	Meaning
Decl.	Declaration
Def. Expert	Defendants' Expert
Dep. Tr.	Deposition Transcript
DX	Defendants' Exhibit
FTC Expert	Plaintiff's Expert
Hrg. Tr.	Preliminary Injunction Hearing Transcript
IH Tr.	Investigational Hearing Transcript
PX	Plaintiff's Exhibit
Rpt.	Report

2. Documents and Filings

Document	Full Reference
Arch Answer	Defendant Arch Coal, Inc.'s Answer and Affirmative Defenses (ECF No. 57)
Failing Firm Brief	Plaintiff's Memorandum of Law Addressing Failing and Weakened Firm Arguments (ECF No. 384)
Joint Stip.	Joint Stipulation of Uncontested Facts (ECF No. 304-1)
Merger Guidelines	U.S. Department of Justice and Federal Trade Commission Horizontal Merger Guidelines (August 19, 2010)
Peabody Answer	Peabody Energy Corporation's Answer and Affirmative Defenses (ECF No. 54)

3. Names and Terms

Shortened Form	Full Form
AECI	Associated Electric Cooperative Inc.
AEP	American Electric Power Company
Alliant	Alliant Energy
Ameren	Union Electrical Company d/b/a Ameren Missouri

Antelope	Navajo Transitional Energy Company's Antelope mine
Arch	Arch Resources, Inc.
Black Hills	Black Hills Corporation
Black Thunder	Arch's Black Thunder mine
BLET	Black Lung Excise Tax
Btu	British Thermal Units
Clean Air Act	The Clean Air Act (CAA) (42 U.S.C. 7401 et seq.)
Consumers	CMS Energy
CU	City Utilities of Springfield, MO
Defendants	Peabody and Arch
DTE	DTE Energy Company
Eagle Specialty	Eagle Specialty Materials, LLC
EIA	United States Energy Information Administration
Entergy	Entergy Corporation
Evergy	Evergy, Inc.
FTC	Federal Trade Commission
FTC Act	Section 13(b) of the Federal Trade Commission Act
HHI	Herfindahl-Hirschman Index
HMT	Hypothetical Monopolist Test
IRP	Integrated Resource Plan
ISO	Independent System Operator
JV	Proposed Joint Venture of Peabody and Arch
Kiewit	Peter Kiewit Sons' Inc.
LCRA	Lower Colorado River Authority
MATS	Mercury Air Toxic Standards
MidAmerican	MidAmerican Energy Company
Minnesota Power	Minnesota Power (subsidiary of ALLETE, Inc.)
MISO	Midcontinent Independent System Operator, Inc.
MPC	Marketing and Pricing Committee
MSC	Marketing Steering Committee
NARM	North Antelope Rochelle mine

NIPSCO	Northern Indiana Public Service Company
NPPD	Nebraska Public Power District
NPRB	Northern Powder River Basin
NRG	NRG Energy Inc.
NTEC	Navajo Transitional Energy Company, LLC
OG&E	OGE Energy Corporation
OPPD	Omaha Public Power District
OTC	Over-The-Counter
Peabody	Peabody Energy Corporation
PRB	Powder River Basin
RFP	Request for Proposal
RTO	Regional Transmission Organizations
SPP	Southwest Power Pool, Inc.
SPRB	Southern Powder River Basin
SSNIP	Significant and Non-Transitory Increase in Price
TMPA	Texas Municipal Power Agency
TransAlta	TransAlta Corporation
TVA	Tennessee Valley Authority
Vistra	Vistra Energy Corporation
WEC	WEC Energy Group, Inc.
WFA	Western Fuels Association, Inc.
Xcel	Xcel Energy Inc.

4. Hearing Witnesses (in order of appearance)

Name	Affiliation
Andrew Meyer, Senior Director of Energy Management and Trading	Ameren
Jeffrey Jones, Director of Energy and Fuel Management	Ameren
Eric Peterson, Executive Director of Missouri Assets and Shared Services (Remote)	Eversource
Gary Ruhl, Manager of Programs (Remote)	OPPD
Craig Romer, Director of Fuel Supply Operations (Remote)	Xcel

Rowdy Smith, Senior Vice President of Domestic Thermal Coal Sales	Arch
David James, Director of Sales and Marketing	Peabody
Ryan Trushenski, Manager of Fossil Fuel Supply (Remote)	Entergy
Meri Sandlin, CEO and General Manager (Remote)	WFA
Nicholas Hill, Ph.D.	FTC Expert
Glenn Kellow, President and CEO	Peabody
Paul Lang, President and CEO	Arch
John Wagner, Manager of Fuel Supply and Waste Byproducts Group (Remote)	NIPSCO
Gary Stuchal, Director of Fuels (Remote)	NPPD
Julie Carey	Defendants' Expert
Bryan Galli, Former Group Executive and Chief Marketing Officer	Peabody
Roger Clark, Senior Vice President and Commercial Officer (Remote)	AECI
Elizabeth Bailey, Ph.D.	Defendants' Expert
Brian Fuller, Director of Coal Services (Remote)	Southern Company
David Hicks, Director of Corporate Fuel Supply (Remote)	DTE
Kathy Benham, Director of Fuel Strategy and Sourcing (Remote)	Minnesota Power
Brock Haas, Vice President of Mine Finance, Australia Operations (Remote)	Peabody
Mark Israel, Ph.D.	Defendants' Expert
Mark Zmijewski, Ph.D.	FTC Expert
Amy Jeffries, Manager of Coal Procurement (By Video Deposition)	AEP
Bette Whalen, Coal and Rail Specialist Principal (By Video Deposition)	LCRA
Darrell Wilson, Director of Deals, Market Operations and Regulatory Support (By Video Deposition)	OG&E

5. Deponents and Declarants (in alphabetical order)

Name and Position	Affiliation
Shaun Arnold (Vice President, Regional Sales)	Arch
Kathy Benham (Director - Fuel Strategy Sourcing)	Minnesota Power

Allen Capdeboscq (Senior Vice President, Corporate Development)	Peabody
Roger Clark (Senior VP & Chief Commercial Officer)	AECI
Kenneth Cochran (Senior Advisor)	Arch
John Eaves, Jr. (CEO, Former Chief Operating Officer)	Arch
Dana Echter (Manager, Fuel Supply Operation)	Xcel
Patrick Forkin (Senior Vice President, Corporate Development and Strategy)	Peabody
Brian Fuller (Director of Coal Services)	Southern Company
Brian Gallaway (Executive Director of Fossil Fuel Supply)	Consumers
Bryan Galli (Chief Marketing Officer)	Peabody
Hakan Gurgenli (Senior Managing Engineer)	Peabody
Brock Haas (Vice President, Mine Finance)	Peabody
Dean Heaney (Director of Sales, North America East)	ESCO
David Hicks (Director, Corporate Fuel Supply)	DTE
David James (Director, Sales and Marketing)	Peabody
Amy Jeffries (Manager, Coal Procurement)	AEP
Jeff Jones (Senior Manager - Energy and Fuel Trading)	Ameren
Bob Kahn (General Manager)	TMPA
Glenn Kellow (Chief Executive Officer)	Peabody
Dennis Kimm (Director, Market Operations, Trading, and Transaction Origination)	Mid-American
Michael Kirschner (Vice President, Markets and Analytics)	Vistra
Paul Lang (Chief Executive Officer)	Arch
Mark Lux (Vice President, Electric Utility Asset Optimization)	Black Hills
Andrew Meyer (Senior Director of Energy Management and Trading)	Ameren
Christopher Moser (Executive Vice President, Operations)	NRG
Amy Newton (Manager, Production Fuels)	City Utilities
John Oswald (Manager of Solid Fuel in Coal Procurement Group)	WEC
David Owens (Vice President of Coal and Gas Services)	TVA

Eric Peterson (Executive Director of Missouri Assets and Shared Services)	Evergy
Craig Romer (Director of Fuel Supply Operations)	Xcel
Gary Ruhl (Manager of Programs, Energy Production and Nuclear Decommissioning Business Unit)	OPPD
Meri Sandlin (Chief Executive Officer and General Manager)	WFA
Jeff Shaffer (Vice President of Supply) - Declaration; (Vice President of Marketing) - Deposition	Par Pacific
Michael Siebers (Senior Vice President of Sales and Marketing)	Peabody
Paul Sivertson (Operations Superintendent)	Equitable Oil
Rowdy Smith (Senior Vice President of Domestic Thermal Coal Sales)	Arch
Jim Starr (Director of Global Accounts, Mining Group)	Caterpillar
Gary Stuchal (Director of Fuels)	NPPD
Harry Tipton (Chief Marketing and Operating Officer)	NTEC
Ryan Trushenski (Manager, Fossil Fuel Supply)	Entergy
Benjamin Varner (Regional Sales Director)	Arch
Matt Vincent (Manager, Energy Supply and Trading)	Alliant
Darrell Wilson (Director of Deals, Market Operations and Regulatory Support)	OG&E
John Wagner (Manager of Fuel Supply)	NIPSCO
Doug Wetjen (Director of Special Projects)	WEC
Bette Whalen (Fuel Specialist Principal)	LCRA
Kemal Williamson (President of Americas)	Peabody

PLAINTIFF'S PROPOSED FINDINGS OF FACT

I. BACKGROUND

A. The Proposed Joint Venture (JV) Would Combine The Two Largest Suppliers Of Southern Powder River Basin (SPRB) Coal

1. Peabody Energy Corporation (Peabody) is the largest supplier of SPRB coal. PX8001 (Hill Rpt.) ¶ 30. Peabody operates the North Antelope Rochelle (NARM), Rawhide, and Caballo mines in the SPRB. *Id.*; ECF No. 304-1 (Joint Stip.) ¶ 20. In 2019, Peabody sold approximately 108 million tons of SPRB coal. PX9063 (Public) at 081. NARM is the largest coal mine in the world. PX9010 (Public) at 002.
2. Arch Resources, Inc. (Arch) is the second-largest supplier of SPRB coal. PX8001 (Hill Rpt.) ¶ 31; PX9041 (Public) at 035. Arch operates the Black Thunder and Coal Creek mines in the SPRB. ECF No. 304-1 (Joint Stip.) ¶ 19. In 2019, Arch sold approximately 75 million tons of SPRB coal. PX9055 (Public) at 015. Black Thunder is the second-highest producing mine in the United States. PX9041 (Public) at 034.
3. Arch has expanded its position in the SPRB through a history of acquisitions. In 2004, Arch acquired Triton's North Rochelle mine and the Little Thunder mine, both of which are adjacent to the Black Thunder Mine. PX9021 (Public) at 006. In 2009, Arch acquired Rio Tinto's Jacobs Ranch mine. PX8001 (Hill Rpt.) Appendix C.2.
4. The JV would control nearly 70% of all SPRB coal produced.¹ PX8001 (Hill Rpt.) Fig. 22. Once mined, SPRB coal is sold to electricity generating power producers in the United States. *Id.* at ¶ 26. The JV would combine the SPRB mines of Peabody and Arch. PX1564 (Peabody) at 001. Peabody would serve as the JV operator and handle coal marketing for the JV. *Id.* at 004.

¹ The SPRB accounts for nearly all of the coal sold in the Powder River Basin (PRB). PX8001 (Hill Rpt.) ¶ 28 (in 2018, 93% of coal shipped from the PRB came from the SPRB).

B. SPRB Coal Remains An Important Fuel Despite Reduced Demand

5. While coal provides a declining share of electricity generation based on national figures, SPRB coal continues to supply a large percentage of electric power in many states. *See, e.g.*, PX8001 (Hill Rpt.) ¶ 53, Fig. 6 (over 60% of Missouri net generation provided by SPRB coal). In recent years, SPRB coal demand has declined less so than demand for other types of coal. PX8001 (Hill Rpt.) ¶ 64 and Fig. 9; Hill (FTC Expert) Hrg. Tr. Vol. 4A 15:13-16:3. The U.S. Energy Information Administration (EIA) has predicted that demand for coal will continue to decrease somewhat through 2025, and then demand will stabilize and thus continue for some time. Hill (FTC Expert) Hrg. Tr. Vol. 4A 16:9-15; PX8006 (Hill Rebuttal Rpt.) ¶ 61. EIA projects that 197.3 million tons of SPRB coal will be consumed in 2030.²

6. Witnesses at the PI Hearing testified that they project burning SPRB coal for many years. For example, Minnesota Power testified that in a recent AFR (annual forecast report) filing with the Minnesota Public Utilities Commission, Minnesota Power forecasted that SPRB coal will be a significant part of its electricity generation through 2034, including at the Boswell Energy Center through 2029. Benham (Minnesota Power) Hrg. Tr. Vol. 8A 90:11-19, 92:5-10.

7. OPPD recently projected that SPRB coal would account for about fifty percent of OPPD's generation mix through the year 2036. Ruhl (OPPD) Hrg. Tr. Vol. 2B 40:13-41:7; *see also* Meyer (Ameren) Hrg. Tr. Vol. 1B (Ameren has coal units that are projected to run from the "mid 2030s through mid 2040s.").

8. Entergy testified that it intends to retire "most of" Entergy's coal units "by the end of 2030," and that until that time, [REDACTED] [REDACTED]. Trushenski (Entergy) Hrg. Tr. Vol. 3B 44:13-17 ("by the end of 2030, most of our coal units will be retired."); *id.* at 67:21-69:7 (discussing PX4255-003, [REDACTED]).

² "EIA Annual Energy Outlook 2020," at Table 66, *available at* https://www.eia.gov/outlooks/aeo/tables_ref.php.

[REDACTED]; *id.* at 70:18-71:6 (discussing PX4256-003, [REDACTED]).

9. [REDACTED] projects an increase in energy from SPRB coal units and a decrease in energy generated from its natural gas units from 2020 to 2029. [REDACTED] ([REDACTED] projects it will burn more SPRB coal after 2023 than today because it projects natural gas prices to rise).

II. THE SALE OF SPRB COAL IS A RELEVANT PRODUCT MARKET

10. The sale of SPRB coal is the appropriate relevant product market in which to assess the JV's likely competitive effects. PX8001 (Hill Rpt.) ¶ 84. This market satisfies the criteria for a properly defined relevant product market: (1) the “practical indicia” identified by the Supreme Court in *Brown Shoe*, and (2) the Hypothetical Monopolist Test (HMT) outlined in the *Merger Guidelines* and widely accepted by courts and antitrust economists.

A. Brown Shoe Factors Show SPRB Coal Is A Relevant Product Market

i. Industry And Public Recognition Of The SPRB Market

11. Peabody routinely undertakes internal market analyses specific to SPRB coal, including projecting SPRB supply and demand. For example, Peabody's Markets and Pricing Committee (MPC) is responsible for assessing high-level information relevant to Peabody's projections for SPRB coal prices,³ [REDACTED]

[REDACTED]. *See, e.g.*, PX1208 (Peabody) at 036 ([REDACTED] [REDACTED]); PX1055 (Peabody) at 066 ([REDACTED]

[REDACTED]); PX1024 (Peabody) at 029 ([REDACTED]

[REDACTED]); *see also* PX1065 (Peabody) at 123 ([REDACTED]

³ As discussed below, Peabody's MPC [REDACTED]

[REDACTED]. *See infra* ¶ 80.

[REDACTED]).

12. Peabody and Arch analyze SPRB competitors and track SPRB sales opportunities separately from other non-coal fuels and coal basins. For example, [REDACTED]
[REDACTED]. *See, e.g.*, PX2710 (Arch) at 009 ([REDACTED])
[REDACTED]; PX2062 (Arch) at 003, 008-10 ([REDACTED])
[REDACTED]; PX2024 (Arch) at 009-10 ([REDACTED])
[REDACTED]; *see also* Smith (Arch) Hrg. Tr. Vol. 3A 31:21-32:11 ([REDACTED]). [REDACTED]
[REDACTED]. *See* Smith (Arch) Hrg. Tr. Vol. 3A 32:12-15.

13. Peabody also tracks its SPRB-related RFPs separately from RFPs from other basins, recording wins, losses, and outstanding opportunities. *Compare* PX1679 (Peabody) at 002 ([REDACTED])
[REDACTED] *with id.* at 013, 041 ([REDACTED]). [REDACTED]
[REDACTED]
[REDACTED] *See* James (Peabody) Hrg. Tr. Vol. 3A at 131:22-132:2 ([REDACTED])
[REDACTED]; PX1701 (Peabody) at 011 ([REDACTED])
[REDACTED]; *see also* Galli (Peabody) Hrg. Tr. Vol. 6B at 60:16-61:18 (discussing PX1701-011).

14. Industry analysts likewise discuss SPRB-specific supply and demand dynamics and make price predictions for SPRB coal separate from predictions of other coals, natural gas, and other fuels. *See, e.g.*, PX1055 (Peabody) at 069 ([REDACTED])
[REDACTED]. Defendants as well as power producers monitor industry analysts'

SPRB-specific price projections in the ordinary course of business. [REDACTED]
(analysis referencing third-party supply forecasts for SPRB coal and third-party price forecasts for SPRB coal); [REDACTED] ([REDACTED] monitors Argus Coal Daily's SPRB coal benchmark price forecasts; [REDACTED] ([REDACTED] uses Argus' published coal prices, including to 8400 and 8800 coal to set pricing in its coal contracts).

15. Government bodies also recognize the differences between SPRB coal and other fuels; EIA tracks prices for PRB 8800 Btu/lb coal, which is a standard heat content found in SPRB coal, separately from price data regarding other coals or other fuels, such as natural gas. *See generally* PX9026 (Public).

ii. SPRB Coal Has Distinct Prices From Other Fuels

16. Distinct SPRB coal prices are tracked and monitored separately by SPRB producers, industry analysts, and the government. *See supra* II.A.i. SPRB prices are distinct from (and more affordable than) prices for other types of coal. The spot price of SPRB coal in early 2020 was about half as expensive in dollars per energy output as coal from the next-lowest-cost coal production basin. *See* PX9026 (Public) at 002; *see also* PX4775 (NIPSCO) at 130-31, Fig. 8-11 (study projecting SPRB coal pricing less than half of other coals as far out as 2040). SPRB coal has long enjoyed this cost advantage. PX8001 (Hill Rpt.) ¶ 91. SPRB coal prices are distinct from prices of non-coal fuels, which have entirely different production costs and distinct supply and demand influences. For example, the price of natural gas is driven by factors largely unrelated to coal pricing: natural gas is a byproduct of crude oil extraction, so oil market dynamics impact significant amounts of supply. [REDACTED]

[REDACTED] Natural gas prices are also influenced by demand for natural gas used to heat homes in winter. *See generally* PX9188 (Public); PX9189 (Public).

17. Actual SPRB prices are set through SPRB-specific competitive interactions among SPRB suppliers. *See infra* ¶¶ 20-22. Peabody's President of Americas, Kemal Williamson, testified that

[REDACTED] and that [REDACTED]

[REDACTED] PX6002 Williamson (Peabody) IH Tr. 97:17-22; *see also* Galli (Peabody) Hrg. Tr. Vol. 6B 50:7-51:4 ([REDACTED]); James (Peabody) Hrg. Tr. Vol. 3A 107:21-108:2 ([REDACTED] the equation that Peabody evaluates when proposing a sales price). Similarly, Arch's Senior Vice President of Domestic Thermal Coal, Rowdy Smith, testified that [REDACTED] [REDACTED]. Smith (Arch) Hrg. Tr. Vol. 3A 46:19-47:9.

18. Customers typically procure SPRB coal through an RFP process. *See, e.g.,* Peterson (Evergy) Hrg. Tr. Vol. 2A 48:3-9; Ruhl (OPPD) Hrg. Tr. Vol. 2B 45:15-19; PX6011 Newton (CU) Dep. Tr. 103:21-105:5; Hicks (DTE) Hrg. Tr. Vol. 8A 21:25-22:8; [REDACTED]; [REDACTED].

19. In 2018, 89 percent of SPRB coal was purchased via contracts, which typically involve an RFP process. PX8001 (Hill Rpt.) ¶ 47; *see also* [REDACTED]. Customers generally issue RFPs to SPRB coal suppliers specifying desired coal quantities, desired coal properties (*e.g.,* Btu, sulfur content, ash content), and the time period for which the coal will be supplied. [REDACTED]; Peterson (Evergy) Hrg. Tr. Vol. 2A 50:2-13; [REDACTED]; [REDACTED]; PX6038 Sandlin (WFA) Dep. Tr. 187:16-188:21.

20. Customers have consistently testified that they only invite SPRB suppliers to participate in RFPs for SPRB coal. [REDACTED] ([REDACTED] has never invited a natural gas supplier to respond to one of [REDACTED] RFPs for SPRB coal because "it's not relevant"); Peterson (Evergy) Hrg. Tr. Vol. 2A 52:18-53:2 (Evergy does not invite natural gas suppliers to respond to Evergy's RFPs "since [Evergy] cannot burn the natural gas as a substitute for the coal"). *See infra* Section VI.B.

21. Defendants recognize this commercial reality. In analyzing their competition for bids to SPRB customers, Arch routinely identifies its competitors as other SPRB suppliers without reference to natural gas suppliers or other non-coal suppliers. *See supra* ¶ 12; Smith (Arch) Hrg. Tr. Vol. 3A 31:21-32:11

([REDACTED]). Similarly, Peabody's [REDACTED]

[REDACTED] PX1701 (Peabody) at 008-11 ([REDACTED]); PX1324 (Peabody) at 039 ([REDACTED]); PX1688 (Peabody) at 007 ([REDACTED]); PX1702 (Peabody) at 014-20 ([REDACTED]); *see also* Galli (Peabody) Hrg. Tr. Vol. 6B at 60:16-61:18 (testifying that in an analysis of competitors in a bid approval package for [REDACTED], Peabody only tracked SPRB coal suppliers).

22. Likewise, other SPRB coal suppliers recognize that when they receive an RFP for SPRB coal, they are competing against other SPRB coal suppliers. [REDACTED] (in bidding process, customers are “comparing you against other coal suppliers”).

iii. SPRB Coal Has Unique Production Facilities And Specialized Vendors

23. Only coal suppliers operating in the SPRB produce SPRB coal. ECF No. 304-1 (Joint Stip.) ¶¶ 17-21. SPRB coal suppliers' production facilities—i.e., coal mines and related processing facilities—are entirely different from facilities related to the production of natural gas or other fuels. *Compare* [REDACTED] (describing surface coal mining); *and* PX9168 (Public) at 001-03 (EIA article on mining and transportation of coal); *and* PX8001 (Hill Rpt.) ¶¶ 24-26, 29-36; *with* PX8001 (Hill Rpt.) ¶ 71 (describing production and transportation of natural gas).

iv. SPRB Coal Has Distinct Characteristics And Uses Compared To Other Fuels

24. SPRB coal has desirable properties compared with other coals. Because SPRB coal sits in thick beds close to the surface of the earth, SPRB mines are more cost effective than mines in other U.S. coal basins. PX2758 (Arch) at 013; PX9168 (Public) at 001; *see also supra* ¶ 16.

25. SPRB coal also has low sulfur content relative to other coals, which is desirable to power producers for environmental and regulatory reasons. PX9038 (Public) at 001; [REDACTED] [REDACTED] ([REDACTED] solicits bids for what it calls "ultra low sulfur" coals, in order to remain environmentally compliant with emissions); *see also* Ruhl (OPPD) Hearing Tr. Vol. 2B 20:9-21:11 (SPRB coal provides a low sulfur content, which helps mitigate the environmental emissions impact, and ash content). Coal that has higher sulfur incurs "higher costs just inherent to additional chemicals [you] have to use to put on it to beat down that sulfur." PX6011 Newton (CU) Dep. Tr. 111:22-112:15); *see also* [REDACTED]; Peterson (Evergy) Hrg. Tr. Vol. 2A 34:19-22.

26. SPRB coal also has low sodium content. [REDACTED] A buildup of sodium in a boiler can cause operational difficulty and take a coal unit offline. PX6011 Newton (CU) Dep. Tr. 113:5-15; [REDACTED]; [REDACTED] [REDACTED].

27. SPRB coal has lower ash content than coal from other basins. PX8001 (Hill Rpt.) ¶ 94 n.227. Coal with higher ash content can cause operational issues. [REDACTED] ("...your maintenance costs will go up with a higher ash coal."); [REDACTED] [REDACTED] ("So the ash really impacts the boiler...mainly around like slagging units...so it makes it not operate as well"). Additionally, higher ash coal produces less energy than lower ash coal (holding Btu content constant). PX6011 Newton (CU) Dep. Tr. 114:2-18.

28. Customers consistently testified that they value SPRB coal because of its low sulfur, sodium, and ash contents, which their units are designed to burn. *See* [REDACTED] [REDACTED] ([REDACTED] values ultra low sulfur coal, and has even rejected the lowest-price bid from Eagle Butte in favor of higher priced offerings that met its sulfur needs); [REDACTED] [REDACTED] ([REDACTED] sources SPRB coal to generate power because "our boilers were designed for [SPRB coal]");

[REDACTED] ([REDACTED] plants burn only SPRB coal, because SPRB coal “has the characteristics that the units were designed for.”); [REDACTED] [REDACTED] ([REDACTED] coal-fired units are designed to burn low sulfur PRB coal). For example, Evergy testified that SPRB coal works best in its coal-fired generating units because of its sulfur dioxide, sodium and ash content. Peterson (Evergy) Hrg. Tr. Vol. 2A 34:10-35:6; *see also id.* at 59:10-16 (Evergy does not purchase coal from the Illinois basin because of higher sulfur and sodium); [REDACTED] [REDACTED] ([REDACTED]). Failure to use SPRB coal can result in operational issues and harm to boilers. Benham (Minnesota Power) Hrg. Tr. Vol. 8B 72:19-73:8 (SPRB coal is important to Minnesota Power’s generation because higher sodium in NPRB coal can plug boilers); PX6011 Newton (CU) Dep. Tr. 112:16-113:15 (noting the higher sodium in NPRB coal can lead to slagging of “big old crystallized chunks that sometimes you have to blow up with a shotgun”); [REDACTED] (SPRB coal is preferred because it doesn’t lead to slagging issues).

29. SPRB coal has specific heat content that typically ranges from 8,400 to 8,800 Btu. PX8001 (Hill Rpt.) ¶ 96. SPRB coal customers seek to purchase coal within this range, including when they issue SPRB coal RFPs. [REDACTED] (testifying that [REDACTED] issues RFPs for coal between 8,400 to 8,800 Btu, and that [REDACTED] boilers are configured to burn coal within a specific range); Ruhl (OPPD) Hrg. Tr. Vol. 2B 20:3-11 (SPRB coal is typically in the range from 8,300 to 8,900 Btus, which OPPD can burn in its coal-fired units).

30. Power producers can stockpile sufficient SPRB coal on-site to power a plant for an extended period, and they value the reliability this provides. [REDACTED] (SPRB coal is more reliable “because coal is less vulnerable to transportation and delivery issues as substantial volumes of coal can and typically are stockpiled on site”); Sandlin (WFA) Hrg. Tr. Vol. 3B

125:9-126:4 (the ability to stockpile and “survive off [] inventory piles for a while” is an advantage of coal); *see also* [REDACTED] (describing ready availability as a reason why [REDACTED] sources SPRB coal to generate power).

31. Natural gas cannot be stockpiled in this way, and gas pipelines can freeze in cold temperatures or become capacity constrained when demand is high. Clark (AECI) Hrg. Tr. Vol. 6B 99:23-100:17 (the ability to stockpile is an advantage of coal over natural gas); [REDACTED] [REDACTED] (natural gas pipelines have a certain capacity that impacts [REDACTED] ability to get natural gas, and gas units have problems operating below freezing). NPPD’s Gary Stuchal testified that “[n]atural gas has restrictions on delivery in winter, capacity restrictions in winter months, like the recent polar vortex, and therefore, the natural gas could not get delivered to our -- our combined-cycle gas plants. With coal, we store coal on the ground, so we always know we’re reliable. That’s the backbone of our reliability to our customers and to the market because we already have the energy on-site, ready to be used.” Stuchal (NPPD) Hrg. Tr. Vol. 5B 108:7-14.

32. Renewable energy sources are subject to natural fluctuations in sunlight, wind, or precipitation. Sandlin (WFA) Hrg. Tr. Vol. 3B 93:23-94:18 (power plants fueled by wind were unable to run during the polar vortex while coal plants were able to run and supply electricity); Ruhl (OPPD) Hearing Tr. Vol. 2B 27:25-28:22 (wind, a renewable energy source, receives twelve to fifteen percent accreditation from SPP for its generating capacity, while SPRB coal receives full accreditation, because renewables are less reliable than SPRB coal). Thus, SPRB coal is more reliable than renewable energy sources. *See, e.g.,* [REDACTED] (SPRB coal-fired capacity is more valuable than the same amount of wind capacity, because the coal is reliable and wind is intermittent). Further, transmission constraints affect the availability of wind energy. Peterson (Everbgy) Hrg. Tr. Vol. 2A 43:13-44:6 (testifying that wind is not a reliable source of energy for Evergy because the wind does not always blow, and transmission is constrained).

33. Power producers that operate SPRB generating units often rely on them for “base load capacity.” Benham (Minnesota Power) Hrg. Tr. Vol. 8A 68:24-69:7; Peterson (Evergy) Hrg. Tr. Vol. 2A 41:22-42:8; PX7003 (WFA Decl.) ¶ 10; [REDACTED]; PX6010 Newton (CU) Dep. Tr. 196:23-197:20 (“[I]n my opinion, we’re always going to need base load generation, and coal is the baseload generation . . . You can’t always have natural gas. You could be curtailed . . . The wind is not always blowing. The sun’s not always shining. Coal is the base load commodity that you can have a stockpile of and you are assured to have for generation needs.”).

34. EIA defines “base load capacity” as “generating equipment normally operated to serve loads on an around-the-clock basis.” PX9028 (Public) at 001. Base load units are designed to be most efficient when they are continuously running. Jones (Ameren) Hrg. Tr. Vol. 1B 79:16-80:4 (Ameren’s base load coal units are not designed to cycle on and off frequently); [REDACTED] [REDACTED] (SPRB coal is baseload for [REDACTED] “[b]ecause the units are running routinely unless they’re down for a maintenance outage”). However, base load generation does not mean that a unit is running at 100 percent all the time. Peterson (Evergy) Hrg. Tr. Vol. 2A 41:22-42:12.

v. SPRB Coal Is Bought By Customers With SPRB-Fueled Power Plants

35. Nearly all SPRB coal is purchased by power producers. *See* ECF No. 54 (Peabody Answer) ¶ 2; ECF No. 57 (Arch Answer) ¶ 2; ECF No. 304-1 (Joint Stip.) ¶ 13. Power producers rely on expensive, long-lived generation units to combust SPRB coal; for example, AEP’s Turk power plant, which was designed to burn SPRB coal and opened in 2012, cost over \$1 billion to construct and is expected to operate for decades. PX6047 Jeffries (AEP) Dep. Tr. 96:25-98:20. SPRB coal units have typically been configured for the distinct characteristics—including sulfur, sodium, ash, and heat content (Btu)—of SPRB coal. *See supra* ¶¶ 25-28. They cannot easily switch to using other coals without costly modifications, added cost, or inefficiency. [REDACTED] [REDACTED] has explored the use of coals from basins outside the PRB, such as Illinois Basin coal, but the

operational and environmental compliance risks, the major permit amendment requirements, and the potentially higher cost of coal and railroad transportation make the use of Illinois Basin coal uneconomic.”); PX7003 (WFA Decl.) ¶ 5 (altering units to permit use of non-SPRB coal “would require significant capital investment and would take substantial time to implement (assuming such changes are possible)”); moreover, “the distances from our members’ facilities to other coal basins make that coal cost-prohibitive on a delivered-cost basis”). Most SPRB coal units also cannot be converted to using non-coal fuel sources without expensive alterations to their existing infrastructure. *See, e.g.*, Peterson (Evergy) Hrg. Tr. Vol. 2A 42:25-43:10 (Evergy estimated that it would cost over \$100 million and require up to four years to convert one of its generating stations from coal to natural gas); [REDACTED]; [REDACTED]; PX7003 (WFA Decl.) ¶ 9.

vi. SPRB Coal Demand Is Relatively Insensitive To Price Changes

36. Testimony from power producers at the PI Hearing—including witnesses called by Defendants—underscored that a small change in the relative price of SPRB coal and other fuels will not cause substantial switching away from SPRB coal. *See infra* Section V.D.i-V.D.ii.

37. Further, as discussed in detail in Section II.B *infra*, economic analysis of the SPRB market in aggregate also confirms that demand for SPRB coal is relatively “inelastic,” meaning that SPRB coal-reliant power producers are relatively insensitive to price changes, and thus unlikely to switch to other fuel sources in response to a small but significant increase in SPRB coal prices in sufficient magnitude to prevent the price increase. Hill (FTC Expert) Hrg. Tr. Vol. 4A 47:21-49:14. The FTC’s expert, Dr. Hill, is the only expert in this case who quantified the price elasticity of demand for SPRB coal. Hill (FTC Expert) Hrg. Tr. Vol. 9B 52:3-11 (Defendants’ experts did not attempt to calculate the price elasticity of demand for SPRB coal); Israel (Def. Expert) Hrg. Tr. Vol. 9B 6:16-8:7 (Dr. Israel did not calculate own-price elasticity or cross-price elasticity for SPRB coal); [REDACTED]; [REDACTED]; [REDACTED] (

[REDACTED]). Dr. Hill's analysis shows that SPRB coal demand is relatively insensitive to price changes and that SPRB coal is a properly defined relevant antitrust market. *See infra* ¶¶ 39-52.

B. The Relevant Market Satisfies The Hypothetical Monopolist Test

38. Dr. Hill is an experienced antitrust economist who has testified for both the FTC and private parties. Hill (FTC Expert) Hrg. Tr. Vol. 4A 6:4-13.

39. Dr. Hill is the *only* economist in this matter who attempted to define a market by implementing the HMT using a method that is well accepted in the field of economics. *See infra* 40-52; *see also* Hill (FTC Expert) Hrg. Tr. Vol. 9B, 86:3-87:13 (Dr. Israel's purported implementation of the "aggregate diversion" method to define a market is unreliable).

40. Dr. Hill implemented the HMT to assess whether the proposed relevant market of the sale of SPRB coal is properly defined. PX8001 (Hill Rpt.) ¶¶ 80-84; *see also* Hill (FTC Expert) Hrg. Tr. Vol. 4A 22:3-23:11.

41. The HMT asks whether a hypothetical, profit-maximizing monopolist over the supply of products in a candidate market could profitably impose at least a small but significant and non-transitory increase in price (SSNIP) compared to prices that would otherwise prevail. If so, the relevant antitrust market is properly defined. *Guidelines* § 4.1.1. The SSNIP is normally assumed to be 5%. *Guidelines* § 4.1.2; Hill (FTC Expert) Hrg. Tr. Vol. 4A 23:14-24:2; PX8001 (Hill Rpt.) ¶ 80.

42. To implement the HMT, Dr. Hill used the critical elasticity method, Hill (FTC Expert) Hrg. Tr. Vol. 4A 25:10-13, which is a long-established and well-accepted method for implementing the test. Hill (FTC Expert) Hrg. Tr. Vol. 9B 82:21-83:10. Economists at the FTC and the Antitrust Division of the U.S. Department of Justice regularly employ the critical elasticity method. *See id.* (critical elasticity method used frequently by economists). For example, Dr. Hill applied this method in implementing the HMT in *Tronox* in 2018. *Id.* The FTC's market definition was accepted by both the federal court and the

administrative court. *In re Tronox Ltd.*, 2018 FTC LEXIS 190 at *78-*82 (F.T.C. December 14, 2018); *FTC v. Tronox Ltd.*, 332 F. Supp. 3d 187, 204 (D.D.C. 2018).

43. The critical elasticity method depends upon a margin and the price. Hill (FTC Expert) Hrg. Tr. Vol. 4A 29:15-18. To apply the method, one first calculates the *critical elasticity*, which is based on industry margins and a 5% SSNIP. PX8001 (Hill Rpt.) ¶ 114; Hill (FTC Expert) Hrg. Tr. Vol. 4A 26:6-17, 27:2-28:13. Next, one calculates the *actual price elasticity of demand* for SPRB coal, which is derived from real-world data sources using standard econometric techniques. PX8001 (Hill Rpt.) ¶ 114; Hill (FTC Expert) Hrg. Tr. Vol. 4A 26:18-23, 28:14-25. Finally, one compares the *critical* elasticity to the *actual* elasticity – if the actual price elasticity of demand is less elastic than the critical elasticity, the HMT is satisfied and the group of products is a properly defined relevant product market for antitrust purposes. PX8001 (Hill Rpt.) ¶ 113; Hill (FTC Expert) Hrg. Tr. Vol. 4A 29:3-9.

44. The average industry variable cost margin for SPRB coal is the category of margin that is most relevant to determine the critical elasticity. PX8001 (Hill Rpt.) ¶ 115 n.275. Dr. Hill calculated this margin from Defendants’ own accounting data, *id.* at ¶ 250, in a reasonable and reliable manner consistent with Dr. Hill’s calculation of such margins from accounting data throughout his career as an economist. Hill (FTC Expert) Hrg. Tr. Vol. 9B 52:12-53:2. Because Dr. Hill estimated the average industry variable cost margin from the accounting data of Peabody and Arch, the two largest SPRB suppliers, his margin estimate is conservative; using a lower margin estimate to calculate the critical elasticity would make the HMT easier to satisfy. PX8001 (Hill Rpt.) ¶ 115 n.275.

45. Dr. Israel has presented margin calculations that have changed over time, because he changed the costs categories he treated as variable over time. Israel (Def. Expert) Hrg. Tr. Vol. 9B Tr. 29:25-30:16; [REDACTED]. Dr. Israel’s ultimate margin for Peabody includes “salaries and benefits associated with certain salaried employees” as *variable* costs, thus decreasing the margin. Israel (Def. Expert) Hrg. Tr. Vol. 9B Tr. 29:16-20. Dr. Israel also treated “all hourly” as a

variable cost in his margin calculations, but he did not treat hourly labor as variable in the Peabody margin he presented to the FTC in December 2019. *Id.* at 29:21-30:16. Dr. Hill explained that typically, some hourly labor is a variable costs and some is a fixed cost. Dr. Hill (FTC Expert) Hrg. Tr. Vol. 4A 132:15-133:6. Dr. Israel did not account for the fixed costs associated with hourly labor. Israel (Def. Expert) Hrg. Tr. Vol. 9B Tr. 30:17-24. Dr. Hill's margin calculations, on the other hand, made an effort to apply a consistent methodology between Arch and Peabody's financial data, because the Arch data did not break out what costs were hourly workers vs. salaries, while being conservative in order to make the HMT as stringent as he could. Hill (FTC Expert) Hrg. Tr. Vol. 4A 132:15-133:6. Hill's decision to treat hourly labor as a fixed cost was conservative with respect to the HMT. *Id.*

46. The actual price elasticity of demand is the standard way economists represent how many sales a product (here, SPRB coal) would lose in response to a small change in price. PX8001 (Hill Rpt.) ¶ 107. The actual price elasticity of demand expresses how closely other potential substitutes, such as natural gas or other fuels, compete with SPRB coal. *See id.* at ¶ 149. In all of Dr. Hill's elasticity estimates the actual price elasticity of demand for SPRB coal was relatively low. *Id.* at ¶ 117. This finding—which, again, incorporates the competitive pressures from other potential substitutes like natural gas—means that customers of SPRB coal, viewed in aggregate, are likely to continue purchasing SPRB coal in the face of a small increase in price. *Id.* at ¶¶ 149-150; Hill (FTC Expert) Hrg. Tr. Vol. 4A 47:21-49:14. Not one of Defendants' three hired economists calculated a value for the price elasticity of demand for SPRB coal. Hill (FTC Expert) Hrg. Tr. Vol. 9B 52:3-11.

47. Dr. Hill estimated the actual price elasticity of demand for SPRB coal using five different data sets drawn from real-world market sources to ensure that his results are robust and reliable. Hill (FTC Expert) Hrg. Tr. Vol. 4A 30:19-31:5. Dr. Hill determined that the sale of SPRB coal was a relevant antitrust market using all five datasets, *id.* at 47:21-48:8, which included: shipment data, *id.* at 33:5-8, 34:19-35:8, the railroad study data, *id.* at 36:11-14, 37:2-6, PROMOD data, *id.* at 40:15-18, 41:10-16,

dispatch data, *id.* at 45:6-10, 45:24-46:3, and plant retirements data, *id.* at 46:22-25, 47:14-20.

48. The shipment data refers to monthly EIA data on shipments of SPRB coal. Hill (FTC Expert) Hrg. Tr. Vol. 4A 31:6-18. Dr. Hill used these data to create a dataset that includes total shipments of SPRB coal and the average industry-wide mine-mouth price. PX8001 (Hill Rpt.) ¶ 126. He also included in the data set information on other factors that may affect demand for SPRB coal, such as the price of natural gas and the variation in temperature, so that he could control for them in his analysis. *Id.*; Hill (FTC Expert) Hrg. Tr. Vol. 4A 31:6-18. Based on the actual price elasticity of demand derived from the shipment data, Dr. Hill concluded that SPRB coal satisfied the HMT and was a properly defined relevant antitrust market. PX8001 (Hill Rpt.) ¶ 128; Hill (FTC Expert) Hrg. Tr. Vol. 4A 33:5-8, 34:19-35:8.

49. The railroad study data refers to the results of a study performed by a consultant that Peabody hired to assess how SPRB coal purchasing would be affected by changes in railroad prices. PX8001 (Hill Rpt.) ¶ 122; Hill (FTC Expert) Hrg. Tr. Vol. 4A 35:9-17. Because the delivered cost of SPRB coal is the mine-mouth price plus transportation cost, a study estimating how an SPRB customer would respond to a change in railroad rates is informative to how an SPRB customer would respond to a change in the SPRB coal price; an extra \$1 in the delivered price is an extra \$1, whether it comes from the SPRB coal component or the railroad component. Hill (FTC Expert) Hrg. Tr. Vol. 4A 35:18-36:10; PX8001 (Hill Rpt.) ¶ 123. Based on the actual price elasticity of demand derived from the railroad study data, Dr. Hill concluded that SPRB coal satisfied the HMT and was a properly defined relevant antitrust market. PX8001 (Hill Rpt.) ¶ 125; Hill (FTC Expert) Hrg. Tr. Vol. 4A 36:11-14, 37:2-6.

50. The PROMOD data is drawn from an industry-standard electricity market simulation software that power producers and Regional Transmission Organization (RTOs)/Independent System Operators (ISOs) rely upon to make decisions in the ordinary course of business. PX8001 (Hill Rpt.) ¶ 129; Hill (FTC Expert) Hrg. Tr. Vol. 4A 37:7-38:5. ABB is an electricity industry consulting firm that models electricity demand and supply using a highly sophisticated and proprietary market simulation model

known as PROMOD. PX8001 (Hill Rpt.) ¶ 129. PROMOD has also been relied upon by economists, courts, and federal agencies. *Id.* PROMOD includes all sources of electricity generation, not just SPRB coal units, and includes detailed data on electricity-generation costs, operating constraints, transmission constraints, predictions about future prices of various inputs, and expected plant additions and retirements. *Id.* at ¶ 130. Power producers use PROMOD for coal burn forecasting, among other things. Hill (FTC Expert) Hrg. Tr. Vol. 4A 38:20-39:1; Peterson (Evergy) Hrg. Tr. Vol. 2A 46:2-19; [REDACTED] [REDACTED]; [REDACTED]. Despite the prominence of arguments about RTO/ISO dispatch in their advocacy before this Court, not one of Defendants' experts presented any analysis from PROMOD or any comparable tool with wide acceptance in the electricity industry. Indeed, Ms. Carey's energy consulting practice touts familiarity with PROMOD on its website, but [REDACTED]. [REDACTED]. In contrast, Dr. Hill asked ABB to use PROMOD to simulate the effect of a 5 percent mine-mouth price increase for SPRB coal on the dispatch of SPRB coal units. PX8001 (Hill Rpt.) ¶¶ 131-132; Hill (FTC Expert) Hrg. Tr. Vol. 4A 39:2-6. Dr. Hill instructed ABB to use PROMOD to perform these simulations using (1) ABB's own default forecasts for SPRB coal, natural gas, and other inputs; and (2) Peabody's March 2020 forecasts for SPRB coal and natural gas prices, along with ABB's forecasts for other input prices. PX8001 (Hill Rpt.) ¶ 131; Hill (FTC Expert) Hrg. Tr. Vol. 4A 39:2-40:5. Based on the actual price elasticity of demand derived from the resulting PROMOD data, Dr. Hill concluded that SPRB coal satisfied the HMT and was a properly defined relevant antitrust market. PX8001 (Hill Rpt.) ¶ 136; Hill (FTC Expert) Hrg. Tr. Vol. 4A 40:15-18, 41:10-16.

51. The dispatch data refers to publicly available industry data on the past dispatch of SPRB coal generating units. Hill (FTC Expert) Hrg. Tr. Vol. 4A 41:17-43:2; PX8001 (Hill Rpt.) ¶ 137. Using conservative assumptions, Dr. Hill used this data to show that a 5 percent increase in the price of SPRB

coal would result in only a very minor decrease in the dispatch of SPRB coal units. PX8001 (Hill Rpt.) ¶¶ 137, 143. Based on the actual price elasticity of demand derived from the dispatch data, Dr. Hill concluded that SPRB coal satisfied the HMT and was a properly defined relevant antitrust market. PX8001 (Hill Rpt.) ¶ 144; Hill (FTC Expert) Hrg. Tr. Vol. 4A 45:6-10, 45:24-46:3. Not one of Defendants' three hired economists presented *any* alternative analysis to quantify the effects of a SSNIP in SPRB coal on the dispatch of SPRB coal generating units in electricity markets, such as calculating the price elasticity of demand. Hill (FTC Expert) Hrg. Tr. Vol. 9B 52:3-11 (none of the Defendants' experts estimated the price elasticity of demand).

52. The plant retirement data come from prior SPRB coal unit closures, which Dr. Hill used to analyze factors that drove closures and to estimate the price elasticity of demand for SPRB coal. Hill (FTC Expert) Hrg. Tr. Vol. 4A 46:4-9; PX8006 (Hill Rebuttal Rpt.) ¶¶ 164, 169. Dr. Hill concluded that SPRB prices have only a modest impact on plant closure, and thus SPRB demand. PX8006 (Hill Rebuttal Rpt.) ¶¶ 93-94, Fig. 19, ¶ 174, Fig. 73. Dr. Israel asserted that Dr. Hill's plant closure elasticities should be multiplied by 10 to account to for the long-run effect of plant closures. Israel (Def. Expert) Hrg. Tr. Vol. 9A 51:15-52:5. However, Dr. Hill concluded that if there is a price increase in year one, plants that are on the margin because they are older and smaller may close, and if that price increase continues for multiple years, the plants that survived in the first year are relatively unlikely to close in the following years. Hill (FTC Expert) Hrg. Tr. Vol. 9B 50:22-51:13. Based on the actual price elasticity of demand derived from the plant retirement data, Dr. Hill concluded that SPRB coal satisfied the HMT and was a properly defined relevant antitrust market. Hill (FTC Expert) Hrg. Tr. Vol. 4A 46:22-25, 47:14-20.

C. Dr. Israel's "Aggregate Diversion" Analysis Is Not A Reliable Method Of Implementing The HMT And Is Invalid Because It Assumes Its Own Conclusion

53. Dr. Israel did not implement the HMT in his affirmative expert report. *See* Israel (Def. Expert) Hrg. Tr. Vol. 9B 5:15-19 (Dr. Israel did not report a relevant product market in his report). [REDACTED]

[REDACTED]

[REDACTED] PX6052 Israel (Def. Expert) Dep. Tr. 14:6-12. This analysis is wholly circular and is neither a standard nor a reliable implementation of the actual aggregate diversion method for implementing the HMT that the FTC and Dr. Israel himself have used on prior occasions. *See* Hill (FTC Expert) Hrg. Tr. Vol. 9B, 83:11-84:11, 84:25-88:1.

54. The aggregate diversion methodology has been applied in prior cases where the necessary factual data about diversion (switching in response to price increases) exists to apply the methodology, Dr. Israel did not use this type of data to implement an aggregate diversion analysis. Hill (FTC Expert) Hrg. Tr. Vol. 9B 85:22-88:1. Another of Defendants' own experts, Dr. Bailey, admits that the data necessary to calculate diversion ratios reliably *do not exist* in this case. Bailey (Def. Expert) Hrg. Tr. Vol. 7A 112:7-113:6; *see also* Israel (Def. Expert) Hrg. Tr. Vol. 9B 12:25-13:2 (Dr. Israel aware that Dr. Bailey testified she could not find the data she'd need to calculate a diversion ratio).

55. Without the necessary data to actually perform aggregate diversion, Dr. Israel instead simply assumed that, in response to a small price increase, SPRB coal buyers would directly switch from using SPRB coal to using other generation sources in proportion to the overall usage of those other generation sources within broad, regional electricity markets. *See* Israel (Def. Expert) Hrg. Tr. Vol. 9B 15:25-16:9 (“[T]he assumption of this method is that they will pick it up in proportion to the share they’ve been picking it up historically.”). By assuming seamless diversion to other generation sources in a broader electricity market in response to a small price increase, Dr. Israel assumed the outcome of the test itself—(what he was trying to prove)—*i.e.*, that the relevant market consists of all these other generation sources. *See* Hill (FTC Expert) Hrg. Tr. Vol. 9B 87:4-13. Moreover, this assumption simply contradicts reality. For example, Dr. Israel’s analyses “assum[es]” that a small SPRB coal price increase will cause renewable generation to immediately increase its share of generation “in proportion to the share” of generation represented by renewables. Israel (Def. Expert) Hrg. Tr. Vol. 9B 15:25-16:22. But, Dr. Israel

agreed that a small increase in SPRB coal prices will not cause the wind to blow harder. *See id.* at 15:19-24. Likewise, Dr. Israel simply assumed that nuclear power units and natural gas units could cost-effectively increase their generation in the event of a small SPRB coal price increase. Israel (Def. Expert) Hrg. Tr. Vol. 9B 15:2-12, 15:25-16:9, 17:19-18:4 (“[T]he assumption of this method is that they will pick it up in proportion to the share they’ve been picking it up historically.”).

56. Dr. Israel’s circular “aggregate diversion” also relies on bizarre, counter-factual premises. For example, if Peabody alone imposed a 5% increase in the price for SPRB coal (but Arch and the smaller SPRB suppliers did not increase their prices at all), Dr. Israel assumes that more of Peabody’s SPRB customers would switch to other generation sources (natural gas, wind, solar, and so on) than would continue buying SPRB coal from the other SPRB suppliers *who did not raise their prices at all*. Israel (Def. Expert) Hrg. Tr. Vol. 9B 15:2-12, 17:19-18:4; Hill (FTC Expert) Hrg. Tr. Vol. 9B 87:19-88:1. This assumption cannot be reconciled with the basic market facts attested to by the SPRB customers called by both the FTC and Defendants at the PI Hearing. *See, e.g., infra* V.D.i-V.D.ii.. Dr. Israel doubled down on this position when he testified that he did not agree that “a chunk of 8800 Btu coal from Arch is a closer substitute for a chunk of 8800 Btu coal from Peabody than natural gas.” *Id.* at 11:13-19. Not a single power producer in this case provided any evidence that would support Dr. Israel’s notion that natural gas is a closer substitute for a chunk of 8800 Btu SPRB coal from Peabody than is identical coal sold by Arch.

57. Moreover, Dr. Israel’s assumption entirely ignores clear evidence that when power producers suffer interruptions to their supply of SPRB coal, they take steps to procure more SPRB coal to replace it. For example, when customers faced SPRB coal supply disruption during Blackjewel’s bankruptcy, rather than switching to other fuels, they sourced coal from other SPRB suppliers, sometimes at higher cost. *See, e.g.,* [REDACTED] (testifying that [REDACTED] made up lost volume during Blackjewel’s bankruptcy ton-for-ton even though the replacement coal was 10-15

percent more expensive); Stuchal (NPPD) Hrg. Tr. Vol. 5B 111:6-12, 116:3-9 (after Blackjewel closed its mines, NPPD procured additional SPRB coal on a ton-for-ton basis to make up for the supply from Blackjewel that was interrupted); [REDACTED] (after Blackjewel closed mines, [REDACTED] procured additional SPRB coal that “filled all the position that Belle Ayr was unable to fill” and did not fill any gaps with other fuel sources); [REDACTED] [REDACTED] took steps and conducted RFPs to replace the coal it couldn’t purchase from Blackjewel after its bankruptcy and supply disruption).

58. Likewise, when Arch’s competitors have suffered interruptions to their operations, Arch has shipped more coal because customers met their need for SPRB coal by securing more SPRB coal, not by securing power from other generation sources. For example, [REDACTED]

[REDACTED]. Lang (Arch) Hrg. Tr. Vol. 5B 24:10-25:10; PX2649 (Arch) at 003. Similarly, [REDACTED]

[REDACTED] Lang (Arch) Hrg. Tr. Vol. 5B 24:5-9; PX2645 (Arch) at 003. Dr. Bailey acknowledged that [REDACTED]

[REDACTED]. Bailey (Def. Expert) Hrg. Tr. Vol. 7A 83:23-84:12 ([REDACTED]); *id.* at 84:13-85:18 ([REDACTED])

[REDACTED]. (As Mr. Lang testified that [REDACTED]

[REDACTED]. *See id.* at 86:21-

89:13; *see generally* DDX0008-0021.⁴)

D. Dr. Hill's Finding That SPRB Coal Exhibits Relatively Inelastic Demand Is Consistent With Basic Commercial Realities And Marketplace Attributes

59. First, because the price of SPRB coal is only one portion of an SPRB generating unit's costs, an SPRB price increase has a diluted effect on power producers' downstream competition involving other fuels in the electricity market. PX8001 (Hill Rpt.) ¶¶ 52, 118-121. On average, a five percent increase in the price of SPRB coal translates to only a [REDACTED] in an SPRB generation unit's marginal cost. *Id.* at ¶ 121, Fig. 14; *see also* [REDACTED] (for [REDACTED], SPRB coal costs paid directly to coal suppliers are only about 20 to 30 percent of the total delivered cost of coal); Wagner (NIPSCO) Hrg. Tr. Vol. 5B 72:12-18 (for NIPSCO, the commodity costs of SPRB coal that NIPSCO pays to SPRB coal suppliers are about 35 percent of the total delivered cost). Defendants' own expert, Ms. Carey, [REDACTED]

[REDACTED] DX4006 (Carey Response Rpt.) ¶ 122 n.305. [REDACTED]

[REDACTED] *See, e.g.*, DDX0008-012 ([REDACTED])

[REDACTED]); *id.* ([REDACTED])

[REDACTED]); *see also* [REDACTED]

(describing a \$26/MWh electricity sale price from units fueled by coal at a \$16 cost).

60. Dr. Hill's analysis shows that small variations in SPRB coal prices will not affect SPRB coal units' electricity dispatch or overall SPRB coal consumption. *See* PX8001 (Hill Rpt.) ¶¶ 137-144 (using

⁴ As Dr. Hill explained, even ignoring [REDACTED] and assuming that [REDACTED], Dr. Hill reversed [REDACTED] by using appropriate control periods. Hill (FTC Expert) Hrg. Tr. Vol. 9B 53:19-61:3.

past dispatch behavior of SPRB coal units, Dr. Hill showed that a 5 percent increase in the mine-mouth price of SPRB coal would result in only a very minor decrease in the dispatch of SPRB coal units); *see also id.* at ¶¶ 132-134 (results from PROMOD software used to show inelastic demand for SPRB coal, and in turn that consumption of SPRB coal by SPRB coal units is not very sensitive to change in SPRB coal price); [REDACTED] (if the commodity cost of SPRB coal increased by five percent, [REDACTED] would not stop running its coal units because SPRB coal would still be competitive to other fossil fuels); *see infra* PPF ¶¶ 102-116. This result is unsurprising, given customer testimony that they are able to generate electricity using SPRB coal units at costs that are considerably below the price at which they can sell power into the electricity market. [REDACTED] [REDACTED] (describing a \$26/MWh electricity sale price from units fueled by coal at a \$16 cost), [REDACTED] (at \$26 electricity price, [REDACTED] coal plants keep running).

61. Third, most SPRB coal purchases (approximately 75-78 percent) are made by regulated utilities. PX8001 (Hill Rpt.) ¶ 56. Regulated utilities exhibit more inelastic demand, consistent with structural factors related to how they operate. Hill (FTC Expert) Hrg. Tr. Vol. 4A: 57:16-58:12; *see also* PX8001 (Hill Rpt.) ¶ 235, Figs. 49 and 50. Among other factors, Load Responsible Entities, such as [REDACTED], are required to generate enough power to cover their demand plus a reserve margin, in order to meet obligations to RTOs/ISOs, which requires them to operate SPRB coal-fired units to meet those obligations. [REDACTED] [REDACTED].

Additionally, regulated utilities pass through fuel cost increases (and decreases) to their ratepayers (i.e., individuals, families, and businesses who purchase electricity in their service area). [REDACTED]

[REDACTED] (an increase in SPRB coal prices would not impact [REDACTED] “bottom line,” but would instead “impact our fuel costs to our customers” because “it’s a direct pass-through to our customers”); Meyer (Ameren) Hrg. Tr. Vol. 1B 41:20-42:7 (Ameren has a fuel adjustment clause under which it can recover at least 95 percent of fuel expense increases from higher

consumer rates); Hicks (DTE) Hrg. Tr. Vol. 8A 29:2-30:1 (explaining DTE can recover increased SPRB coal costs from ratepayers); PX6047 Jeffries (AEP) Dep. Tr. at 100:25-101:19; PX6011 Newton (CU) Dep. Tr. at 210:20-211:7.

62. Contrary to the assertion of Defendants' economists, nothing about Peabody's and Arch's profit margins undermine any of Dr. Hill's findings. Hill (FTC Expert) Hrg. Tr. Vol. 9B 73:7-74:10. The profit margins that SPRB coal suppliers earn are affected by numerous factors. Hill (FTC Expert) Hrg. Tr. Vol. 9B 61:4:62:25 (for example, overburden and environmental regulations). Dr. Israel admits that SPRB coal margins over time have been affected by, among other factors, operational costs increasing over time, Israel (Def. Expert) Hrg. Tr. Vol. 9A 15:12-16:2 ("marginal cost is going up" because "you mine from cheaper to more expensively generally"), and fierce competition among SPRB suppliers. *See* PX1201 (Peabody) at 001 ([REDACTED]

[REDACTED]; PX2162 (Arch) at 001 ([REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

III. THE SPRB IS A RELEVANT GEOGRAPHIC MARKET

63. All SPRB coal supplier mines are located within the SPRB. PX8001 (Hill Rpt.) Fig. 2. SPRB coal cannot be mined outside the SPRB, *id.* at ¶ 87, and customers cannot purchase SPRB coal from any mines outside of the SPRB. [REDACTED]; Ruhl (OPPD) Hrg. Tr. Vol. 2B 10:14-17.

64. The geographic market's scope is implied by the product market for SPRB coal. PX8001 (Hill Rpt.) ¶ 87. Therefore, the HMT for an SPRB coal market need ask only whether a monopolist of SPRB coal would impose a SSNIP to define both the product and geographic markets. *Id.*; *see supra* ¶ 41.

IV. EXTRAORDINARILY HIGH MARKET CONCENTRATION LEVELS ESTABLISH A STRONG PRESUMPTION OF HARM TO COMPETITION IN THE RELEVANT MARKET.

A. The JV Is Presumptively Illegal

65. Peabody and Arch are the two largest SPRB coal suppliers by far. Together, Peabody and Arch have a combined market share of 68% when measured by production volumes. PX8001 (Hill Rpt.) Fig. 22; *see also* PX8001 (Hill Rpt.) Fig. 3 (showing production volume by coal mine). Dr. Hill calculated market shares and the Herfindahl-Hirschman Index (HHI) of market concentration using mine production data. Hill (FTC Expert) Hrg. Tr. Vol. 4A 60:14-19; PX8001 (Hill Rpt.) Fig. 22. Based on 2019 figures, a combination of the Peabody and Arch SPRB mines will increase the relevant market's HHI by more than 200 points to a level that substantially exceeds 2,500, the metric threshold for a highly concentrated market and a presumption of competitive harm. PX8001 (Hill Rpt.) ¶¶ 155, 158, and Fig. 22 (resulting in an HHI of 4,965 and an increase in the HHI by 2,258 points). Defendants' experts do not contest the accuracy of Dr. Hill's calculation of shares and concentration, and Dr. Hill's calculations do not change significantly based on the time period: the combination of Peabody and Arch's mines would be presumptively illegal based on HHI figures in all years from 2008 to the present. PX8001 (Hill Rpt.) ¶ 160 and Fig. 24.

66. Dr. Hill preferred to calculate SPRB coal market shares based on production data rather than reserves data because the former is more reliable for several reasons. PX8001 (Hill Rpt.) ¶ 268; Hill (FTC Expert) Hrg. Tr. Vol. 4A 64:17-65:7. First, the various sources that generate coal mine reserve data do not use the same or a consistent method for measuring coal mine reserve data. PX8001 (Hill Rpt.) ¶ 268. Second, generally, production data are a more objective measure than reserve data, which

depend on geological estimates and mining accessibility constraints. *Id.* Finally, the parties' ordinary course documents [REDACTED]

[REDACTED]. *Id.*; see also PX1681(Peabody) at 007. However, Dr. Hill also analyzed market shares based on reserve data, and that "the big picture remains the same." Hill (FTC Expert) Hrg. Tr. Vol. 4A 64:6-16.

67. Dr. Hill also looked at shipment data by mine, using data reported by customers to the EIA (also known as EIA-923 data). PX8001 (Hill Rpt.) Fig. 36. There is not a material difference between the production data and shipment data by mine. Hill (FTC Expert) Hrg. Tr. Vol. 4A 13:20-14:4, 60:25-61:6. However, production data offers a more complete dataset, as not all customers have submitted EIA-923 data for 2019. Hill (FTC Expert) Hrg. Tr. Vol. 4A 14:5-12.

B. Documents From Defendants And Third Parties Confirm The High Post-JV Market Shares

68. Defendants' own documents confirm that the combined market shares of Peabody and Arch for SPRB coal are [REDACTED]. See, e.g., PX1681 (Peabody) at 007 ([REDACTED]); PX1141 (Peabody) at 004 ([REDACTED]); PX1848 (Peabody) at 003-04 ([REDACTED]); PX1056 at 040 ([REDACTED]).

69. Documents from third parties confirm that the market shares of Peabody and Arch for SPRB coal are [REDACTED]. See, e.g., PX5536 (Xcel) at 001 ([REDACTED]); PX3021 (Kiewit) at 001 ([REDACTED]); PX5535 (AEP) at 001 ([REDACTED]).

V. THE JV WOULD SUBSTANTIALLY LESSEN COMPETITION FOR THE SALE OF SPRB COAL

A. The JV Would Eliminate Competition Between The Two Largest And Most Important SPRB Coal Suppliers

70. Peabody and Arch are the two largest and most important SPRB coal suppliers. Peabody and Arch combined control two-thirds of the SPRB coal market and together control the two most

productive mines in the United States, NARM and Black Thunder. *See supra* I.A., ¶ 65. Market shares for Peabody and Arch in the SPRB have been stable and increasing. *See supra* ¶ 65. Peabody recognizes its status as a “leader” in the SPRB. PX9035 (Public) at 029. [REDACTED] PX2644 (Arch) at 005. Black Thunder and NARM are “enormous complexes” and much larger than even the next largest mine in the SPRB. [REDACTED]; *see also infra* ¶ 1346;. Peabody’s NARM and Arch’s Black Thunder mines have a highly desirable combination of low sulfur content and high heat content relative to other SPRB mines. PX8001 (Hill Rpt.) ¶¶ 38-39, Fig. 4; [REDACTED] (when he first heard about the JV, [REDACTED] was concerned that the JV would combine the two biggest SPRB mines and give them control of around 80 percent of the ultra low sulfur coal [REDACTED] needs); Ruhl (OPPD) Hrg. Tr. Vol. 2B 18:14-18 (“Peabody and Arch, they are about two-thirds of the supply from our coal supply vicinity It definitely would limit competition”); [REDACTED] (“Q. The only two mines that are valuable suppliers for the [REDACTED] fleet without significant capital investment or coal blending are Peabody’s mine and Black Thunder mine; is that correct? A. Yes. Q. Other than Arch or Peabody, [REDACTED] does not analyze or negotiate with other SPRB coal suppliers; correct? A. Not in my tenure, that’s correct.”); [REDACTED] (an official at [REDACTED] testified to concern that the JV would impact certain [REDACTED] coal generating facilities by combining mines “under one particular corporate flag, that it would obviously reduce competition in the market place.”).

71. SPRB coal customers—called by both the FTC and Defendants—testified at the PI Hearing that Peabody and Arch are important SPRB coal suppliers, and for some customers, Peabody and Arch are the only suppliers that meet customer needs for quality, pricing, and contractual requirements. [REDACTED] (“[Peabody and Arch] are very important suppliers of [REDACTED] coal needs . . . greater than 80 percent.”); [REDACTED] (Peabody’s NARM and Arch’s Black Thunder are [REDACTED] primary suppliers due to their pricing and their ability to meet [REDACTED]

contractual requirements and provisions around quality); [REDACTED]
[REDACTED] ([REDACTED] benefits from competition between Peabody, Arch, NTEC, and FM Coal (a/k/a Bluegrass)); Benham (Minnesota Power) Hrg. Tr. Vol. 8B 73:12-25 (Minnesota Power issues an RFP specific to SPRB coal and invites Peabody, Arch, and NTEC to participate); [REDACTED]
[REDACTED] (Coal from the Antelope (NTEC) and Belle Ayr (FM Coal) mines do not meet [REDACTED] specifications, making Peabody and Arch [REDACTED] only SPRB coal suppliers); [REDACTED]
[REDACTED] (only NARM and Black Thunder can supply [REDACTED] fleet without significant capital investment or coal blending; [REDACTED] has not purchased any SPRB coal from a mine other than NARM since 2014); Stuchal (NPPD) Hrg. Tr. Vol. 5B 108:22-24 (NPPD only sends RFPs for SPRB coal to Peabody, Arch, NTEC and ESM (a/k/a FM Coal)); Ruhl (OPPD) Hrg. Tr. Vol. 2B 10:1-7 (in the last 10 years, only Peabody, Arch, FM Coal and NTEC have supplied OPPD); [REDACTED], [REDACTED] (only Peabody, Arch, and Cloud Peak can provide coal consistent with [REDACTED] environmental commitments for its [REDACTED] SPRB coal plant); *see also* PX7006 (Xcel Decl.) ¶ 14 (most of Xcel's coal units require coal from Peabody's NARM, Arch's Black Thunder, NTEC's Antelope, or FM Coal's Belle Ayr mines).

B. Peabody And Arch Are Aggressive Head-to-Head Competitors

72. As Peabody recognizes, [REDACTED]
[REDACTED] PX1766 (Peabody) at 008.
73. Bidding databases maintained by Arch and Peabody show that these two rivals lose more business to each other than to any other competitor. PX8001 (Hill Rpt.) ¶¶ 169-173, Figs. 25 and 26.
74. EIA shipment data show that Peabody and Arch most often lose business to one another. PX8001 (Hill Rpt.) ¶¶ 174-178, Figs. 27 and 28.
75. Peabody and Arch recognize each other as aggressive competitors. PX1201 (Peabody) at 001
[REDACTED]

[REDACTED]

[REDACTED]; PX2162 (Arch) at 001 ([REDACTED])

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]; PX2376 (Arch) at 001 ([REDACTED])

[REDACTED]).

76. Arch ordinary course documents also detail customer negotiations in response to competing bids from Peabody. PX2358 (Arch) at 001 ([REDACTED])

[REDACTED]

[REDACTED]

[REDACTED]; PX2046 (Arch) at 001 ([REDACTED])

[REDACTED]

[REDACTED]

[REDACTED]).

77. Peabody ordinary course documents detail customer negotiations in response to competing bids from Arch. [REDACTED] ([REDACTED])

[REDACTED]

[REDACTED]; PX1701 (Peabody) at 011 ([REDACTED])

[REDACTED]

[REDACTED]; PX1252 (Peabody) at 001 ([REDACTED])

[REDACTED]

[REDACTED]; PX1145 (Peabody) at 003 ([REDACTED])

[REDACTED]

[REDACTED]

[REDACTED]; PX1212 (Peabody) at 001 ([REDACTED])

[REDACTED]).

C. Competition between SPRB Coal Suppliers, And Head-To-head Competition Between Peabody and Arch, Leads To Lower Prices And Other Benefits for Customers

i. Peabody And Arch Acknowledge Publicly And Testified At The PI Hearing that SPRB Coal Prices Are Determined By Negotiations With Customers

78. Peabody and Arch acknowledged in their recent SEC 10-K filings that the terms on which they sell SPRB coal “result from competitive bidding and extensive negotiations with customers.” PX9063 (Public) at 012; PX9062 (Public) at 009 (Peabody’s 2018 and 2019 10-Ks); *see also* PX9055 (Public) at 018; PX9054 (Public) at 017 (Arch’s 2017 and 2019 10-Ks). Testimony of Peabody and Arch executives in this matter confirm this obvious reality. *See supra* ¶ 17. Peabody’s President of Americas, Kemal Williamson, testified that [REDACTED]

[REDACTED]. PX6002 Williamson (Peabody) IH Tr. 97:17-22. Arch’s CEO, Mr. Lang, likewise testified that the price Arch receives is typically determined by “negotiations between Arch and its customers,” and that these negotiations are impacted by “the price at which customers can obtain SPRB coal from one of Arch’s competitors.” Lang (Arch) Hrg. Tr. Vol. 5B 16:17-17:16.

79. David James, a Peabody Director of Sales & Marketing, confirmed that [REDACTED]

[REDACTED]

[REDACTED]. Among the specific examples Mr. James discussed at the hearing:

- [REDACTED]

[REDACTED]
James (Peabody) Hrg. Tr. Vol. 3A 113:22-115:5.

[REDACTED]
Id. at 114:18-115:5 ([REDACTED]); id. at 116:12-15 ([REDACTED]);
id. at 113:22-114:16 ([REDACTED]).

- [REDACTED]
See James (Peabody) Hrg. Tr. Vol. 3A 97:23-103:18 (discussing PX1684, PX1683).
[REDACTED] PX1683 (Peabody) at 001.

- [REDACTED]
See PX1731 (Peabody) at 003 [REDACTED]); PX1680 (Peabody) at 001 [REDACTED]
[REDACTED]); James (Peabody) Hrg. Tr. Vol. 3A 119:24-123:2 (discussing PX1731); id. at 123:10-124:4, 126:8-127:6 (discussing PX1680); PX6018 James (Peabody) Dep. Tr. at 89:6-19; 98:8-99:21. [REDACTED]
[REDACTED] PX1680 (Peabody) at 001.

80. Mr. James testified that [REDACTED]

[REDACTED] James (Peabody) Hrg. Tr. Vol. 3A 106:15-108:2; see also Galli (Peabody) Hrg. Tr. Vol. 6B 50:7-51:4 ([REDACTED])

[REDACTED]). Mr. James confirmed that [REDACTED] . PX1324 (Peabody) at 032

([REDACTED]); PX1324 (Peabody) at 042 ([REDACTED])

[REDACTED]); James (Peabody) Hrg. Tr. Vol. 3A 117:16-118:2, PX1281 (Peabody) at 007

([REDACTED])

[REDACTED]); James (Peabody) Hrg. Tr. Vol. 3A 118:5-119:23, PX1732 (Peabody) at 001⁵ ([REDACTED])
[REDACTED]
[REDACTED]); *see also* PX1702 (Peabody) at 001-02 ([REDACTED])
[REDACTED]
[REDACTED]), 010, 013 [REDACTED]
[REDACTED]), 001 ([REDACTED])
[REDACTED]).

81. Arch's Rowdy Smith testified that [REDACTED]
[REDACTED]
[REDACTED]. Smith (Arch) Hrg. Tr. Vol. 3A 46:19-47:9. Indeed, [REDACTED]
[REDACTED] was lower than the revised offer that Arch
internally proposed. *Id.* at 45:8-46:18; *see also* PX2723 (Arch) at 008 ([REDACTED])
[REDACTED]); PX2399 (Arch) at 001 ([REDACTED])
[REDACTED]). Similarly, [REDACTED]
[REDACTED]
[REDACTED] PX2390 (Arch) at 001; *see also* PX6033 Smith (Arch) Dep. Tr. at 135:18-138:2.

ii. The FTC Called Customers At The PI Hearing Who Testified That SPRB Coal-on-SPRB Coal Competition Leads To Lower Prices, Regardless Of The Potential Impact Of Other Fuels

82. Ameren's Jeffrey Jones testified to [REDACTED]
[REDACTED]. *See* Jones (Ameren) Hrg. Tr. Vol. 1B 83:9-18, 86:21-87:20 ([REDACTED])
[REDACTED]); *id.* at 98:21-99:10 ([REDACTED])
[REDACTED]

⁵ At times during the PI Hearing, this exhibit was inadvertently referred to as PX1372.

[REDACTED]); *id.* at 86:17-20 ([REDACTED]);
[REDACTED]; *see also* Jones (Ameren) Hrg. Tr. Vol. 2A 8:20-9:4, 10:7-21.

83. **Evergy**'s Eric Peterson testified that Evergy has benefitted from competition between Peabody and Arch. Peterson (Evergy) Hrg. Tr. Vo. 2A 60:21-61:1. Mr. Peterson testified about [REDACTED]
[REDACTED]
[REDACTED]. Peterson (Evergy) Hrg. Tr. Vol. 2A 61:2-17, 62:22-63:13, 65:8-66:2. Mr. Peterson also testified to [REDACTED]
[REDACTED]. *See id.* at 65:8-66:22.

84. **OPPD**'s Gary Ruhl testified that OPPD utilizes the RFP process to obtain nearly all of its SPRB coal because "it allows for competition and getting the most affordable best price that [OPPD] can get for [its] supply." Ruhl (OPPD) Hrg. Tr. Vol. 2B 45:15-23. In the last five years, Peabody and Arch have been the top two bidders to supply SPRB coal to OPPD and have supplied at least 90 percent of OPPD's needs during that time. *Id.* at 90:24-91:4. OPPD testified that, nine times out of ten, Peabody and Arch are the lowest bidders on their RFPs for SPRB coal. *Id.* at 50:9-51:6; *see also* PX1323 (Peabody) at 001 ([REDACTED])
[REDACTED]
[REDACTED]; PX1322 (Peabody) at 001 ([REDACTED])
[REDACTED]).

85. **Xcel**'s Craig Romer testified [REDACTED]
[REDACTED]. Romer (Xcel) Hrg. Tr. Vol. 2B 100:9-101:5. "Xcel has benefitted from head-to-head competition between Peabody and Arch in the form of lower pricing on SPRB coal." PX7006 (Xcel Decl.) ¶ 21.

86. **LCRA**'s Bette Whalen testified that [REDACTED]
[REDACTED] and that LCRA has benefited from the RFP process.

PX6048 Whalen (LCRA) Dep. Tr. 195:16-196:11, 198:2-11; *see also* PX7002 (LCRA Decl.) ¶ 9.

87. **Minnesota Power**'s Kathy Benham testified [REDACTED]. Benham

(Minnesota Power) Hrg. Tr. Vol. 8B 82:23-84:4 (reviewing PX4787-007); *id.* at 88:10-89:10 ([REDACTED])

88. **AEP**'s Amy Jeffries testified [REDACTED]. PX6047 Jeffries (AEP) Dep. at 134:10-135:3 ([REDACTED])

[REDACTED] *Id.* at 120:2-5, 121:21-122:12, 123:22-15, 125:24-126:4, 129:20-130:17, 132:24-133:11 (reviewing PX4018 at 002-04, 009; PX4117 at 009, 012, 015).

89. **WFA**'s Meri Sandlin testified that WFA members have benefited from lower bids as a result of dealing with multiple SPRB suppliers. *See* Sandlin (WFA) Vol. 3B 96:4-18 (WFA sees proof of these benefits upon review of its historical bid database where “oftentimes [WFA] will see a company bid lower on a subsequent bid if they lost a prior bid”); *see also* PX6038 Sandlin (WFA) Dep. Tr. 213:15-214:15 (competition among SPRB suppliers affects the price WFA pays for coal and during the RFP process and in bid responses “the next time [a supplier submits] a bid, they offer it at a lower price to try to get the next bid.”).

90. The FTC's testifying witnesses alone—Ameren, Evergy, Xcel, OPPD, Minnesota Power, AEP, LCRA, and WFA—represent a significant and diverse customer base for SPRB coal. These customers combined purchased approximately 33 percent of SPRB coal purchased from 2015 through 2019. PX8006 (Hill Rebuttal Rpt.) Fig. 65.

iii. The Witnesses Defendants Called At The Hearing Confirm That SPRB Coal-On-SPRB Coal Competition Leads To Lower Prices

91. **DTE**'s David Hicks confirmed that "the RFP process for SPRB coal has resulted in pricing benefits for DTE." Hicks (DTE) Hrg. Tr. Vol. 8A 22:6-8. [REDACTED]

[REDACTED]. *Id.* at 24:8-25:13.

92. **Southern Co.**'s Brian Fuller testified that the competitive RFP process leads to lower prices from SPRB coal suppliers, including Peabody and Arch. Fuller (Southern Co.) Hrg. Tr. Vol. 7B 39:10-21. Usually, SPRB coal suppliers, including Peabody and Arch, give a price reduction as a result of Southern Co.'s RFP process. *Id.* at 39:22-40:13. Therefore, the price Southern Co. pays is "ultimately a function of negotiation" with suppliers after issuing an RFP. *Id.* at 40:6-40:13.

93. **NPPD**'s Gary Stuchal testified that NPPD sends RFPs to multiple SPRB coal suppliers in order to make sure that NPPD is getting the best possible pricing on SPRB coal. Stuchal (NPPD) Vol. 5B 109:15-20, 110:17-19.

94. **NIPSCO**'s John Wagner testified that NIPSCO's SPRB coal comes exclusively from Peabody and Arch. Wagner (NIPSCO) Hrg. Tr. Vol. 5B 74:2-4). Mr. Wagner also testified [REDACTED]

[REDACTED]. *Id.* at 77:1-13.

95. **OG&E**'s Darrell Wilson testified that [REDACTED]
[REDACTED]. PX6040 Wilson (OG&E) Dep. Tr. 100:5-16. [REDACTED]

[REDACTED]. *Id.* at 190:19-191:9.

96. **AECI**'s Roger Clark testified that [REDACTED]
[REDACTED], Clark (AECI) Hrg. Tr. Vol. 6B 103:14-18, and Mr. Clark believes that Peabody could command better terms for SPRB coal (including price)

without “adequate competition.” *Id.* at 97:5-9. [REDACTED]

[REDACTED], *id.* at 103:19-24, but the last bid to supply SPRB coal to AECI came from Arch. *Id.* at 103:6-9.

iv. Further Record Evidence Confirms That SPRB Coal-On-SPRB Coal Competition Benefits Customers

97. Mr. Kimm of MidAmerican testified in his deposition that [REDACTED]

[REDACTED]
[REDACTED] PX6029 Kimm (MidAmerican) Dep. Tr. 142:20-144:9, 158:23-161:17. Further, [REDACTED]

[REDACTED] *Id.* at 101:25-103:9. Mr. Kimm explained that [REDACTED]

[REDACTED] *Id.* at 101:25-104:2.

98. Customers also receive better non-price terms as a result of strong head-to-head competition between Peabody and Arch. Fuller (Southern Co.) Hrg. Tr. Vol. 7B 39:16-21; [REDACTED] (“we have been able to enhance our contracts with all these different requirements that we have that our units need to operate, and it's also in the best interest of our customers to keep the costs down for them”); PX6024 Vincent (Alliant) Dep. Tr. 135:5-14 (competitive RFP process has been a useful tool in achieving volume flexibility for Alliant).

99. Another way that customers have benefitted from competition between SPRB coal suppliers is that SPRB coal suppliers have offered contract flexibility regarding total SPRB delivery volumes as a dimension of non-price competition that customers evaluate when comparing offers from different SPRB suppliers. *See* PX1145 (Peabody) at 003 [REDACTED]

217:19-218:20; PX6027 Fuller (Southern Co.) Dep. Tr. 146:16-148:6. For example, in July 2019 [REDACTED] exercised two existing options to purchase more SPRB coal for the fourth quarter of 2019, in addition to issuing an RFP to purchase additional SPRB coal for that quarter. [REDACTED]

[REDACTED] also exercised an option to purchase additional SPRB coal in 2018. [REDACTED] Similarly, [REDACTED] requested an additional 1.6 million tons of coal in the fall of 2018 due to higher coal burns than expected in summer and fall of 2018. [REDACTED]

[REDACTED] Further, during the Blackjewel supply disruption, NPPD exercised optionality to pre-ship approximately 200,000 tons under an existing Peabody contract. Stuchal (NPPD) Hrg. Tr. Vol. 5B 119:14-120:3; *see also* [REDACTED] ([REDACTED] utilized contract flexibility to backfill the tonnage that Blackjewel wasn't providing during their bankruptcy).

D. Customers Cannot Protect Themselves From An SPRB Coal Price Increase

i. The FTC Called Customers At The Hearing Who Testified That They Could Not Protect Themselves Against An SPRB Coal Price Increase By Substituting Away From SPRB Coal And Who Are Concerned About Price Increases as a Result

102. Ameren's Andrew Meyer testified that [REDACTED] [REDACTED]. Meyer (Ameren) Hrg. Tr.

Vol. 1B 35:10-36:5. [REDACTED]

[REDACTED] *Id.* at 35:10-36:5. [REDACTED]

[REDACTED] *Id.* at 37:2-38:3. [REDACTED]

[REDACTED], Jones (Ameren) Hrg. Tr. Vol. 1B 97:19-98:20; *see also id.* at 118:17-119:9, [REDACTED]

[REDACTED] *Id.* 97:19-98:20; *see also id.* at 107:2-107:9 ([REDACTED]

103. Evergy's Eric Peterson testified that it would not stop purchasing SPRB coal if prices increased by five percent. Peterson (Evergy) Hrg. Tr. Vol. 2A Tr. 70:20-71:9. SPRB coal is Evergy's primary fuel

source and represents forty percent of its generating capacity. *Id.* at 35:24-36:7. [REDACTED]

[REDACTED] *Id.* at 38:18-39:2; *see also id.* at 42:13-43:10 (conversion from coal to natural gas would cost a minimum of \$100 million and between two to four years); *id.* at 43:22-44:19 (transmission upgrades for wind projects would take “well beyond five years from now”). Mr. Peterson testified that [REDACTED]

[REDACTED] *Id.* at 107:2-8.

104. **OPPD’s** Gary Ruhl testified that, [REDACTED]

[REDACTED]. Ruhl (OPPD) Hrg. Tr. Vol. 2B 58:12-60:10. OPPD has concerns that the JV would control two-thirds of the SPRB coal supply and “would limit competition” by reducing the suppliers for OPPD to consider and limiting OPPD’s ability to negotiate “different pricing and different options.” *Id.* at 18:10-25.

105. **Minnesota Power’s** Kathy Benham testified that [REDACTED]

[REDACTED] Benham (Minnesota Power) Hrg. Tr. Vol. 8B 100:14-23

[REDACTED]). Ms. Benham testified that she is concerned the JV will lead to “less competition,” which in her experience has led to higher prices. *Id.* at 100:4-13. [REDACTED]

[REDACTED] *Id.* at 76:13-77:4.

106. **LCRA’s** Bette Whalen testified that [REDACTED]

[REDACTED]. PX6048 (LCRA) Dep. Tr. 201:17-203:2 ([REDACTED])

[REDACTED]). [REDACTED]
[REDACTED]. *Id.* at 205:25-206:6. [REDACTED]

[REDACTED] PX7002 (Whalen Decl.) ¶ 7.

107. **WFA**'s Meri Sandlin testified that if SPRB coal prices increased by 60 cents, WFA would not attempt to source coal from another basin. Sandlin (WFA) Hrg. Tr. Vol. 3B 88:6-12. Most of WFA's members' plants are designed to burn SPRB coal. *Id.* at 86:14-17. Ms. Sandlin testified that WFA is concerned the JV will raise prices. *Id.* at 90:20-91:4.

108. **Xcel**'s Craig Romer testified that [REDACTED]

[REDACTED]

[REDACTED]. Romer (Xcel) Hrg. Tr. Vol. 2B 99:15-23 ([REDACTED])

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]). Xcel's

boilers are "designed for [SPRB coal]." *Id.* at 96:4-7. [REDACTED]

[REDACTED] *Id.* at 101:17-102:8 ([REDACTED])

[REDACTED]).

109. **AEP**'s Amy Jeffries testified [REDACTED]

[REDACTED] PX6047 Jeffries (AEP) Dep. Tr.

143:21-144:3. AEP has not analyzed how high SPRB suppliers could raise their prices before other generation technologies would serve as a price cap. *Id.* at 167:18-168:3. [REDACTED]

[REDACTED] *Id.* at 120:2-5, 121:21:8-12, 122:22:8-15, 125:24-126:4, 129:22-17, 132:24-11 (reviewing PX4018-002-4, -9).

ii. The Witnesses Defendants Called At The Hearing Failed to Establish That Customers Could Protect Themselves Against An SPRB Coal Price Increase By Substituting Away From SPRB Coal

110. DTE's David Hicks testified that DTE anticipates purchasing SPRB coal through 2040 and [REDACTED]. Hicks (DTE) Hrg. Tr. Vol. 8A 31:24-32:2, 37:4-8.

[REDACTED]

[REDACTED] See *id.* at 28:2-28:22, 29:23-30:19. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *Id.* ([REDACTED])

[REDACTED]

[REDACTED]). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *Id.* at 36:4-37:3. [REDACTED]

[REDACTED]

[REDACTED], Hicks (DTE) Hrg. Tr. Vol 8A 35:4-12, [REDACTED]

[REDACTED] *Id.* at 35:4-17; 22:6-8; 24:23-

25:13 ([REDACTED]).

111. Southern Co.'s Brian Fuller testified [REDACTED]

[REDACTED]. Fuller

(Southern Co.) Hrg. Tr. Vol. 7B 40:14-41:5, 39:16-21; see also *id.* at 41:6-15, 42:20-44:13, 45:6-22;

PX4841 (Southern Co.) at 014 (chart depicting financial impact on Southern Co. from estimates of \$1 to \$2 per ton JV price increase due to “Market Dominance Impact”). [REDACTED]

[REDACTED]
[REDACTED] Fuller (Southern Co.) Hrg. Tr. Vol. 7B 45:23-46:7. Fuller testified that [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED] *Id.* at 43:25-44:13.

[REDACTED]
[REDACTED]
[REDACTED] *Id.* at 44:19-45:5.

112. **Entergy**’s Ryan Trushenski testified that [REDACTED]

[REDACTED]
[REDACTED] Trushenski (Entergy) Hrg Tr. Vol. 3B 60:10-61:11. Mr. Trushenski testified that [REDACTED]

[REDACTED]
[REDACTED] *id.*, [REDACTED]
[REDACTED]

[REDACTED] *Id.* at 61:25-62:4. Entergy has not come to a conclusion that it endorses the JV, nor that it will benefit from the JV. *Id.* at 72:17-22.

113. **NIPSCO**’s John Wagner testified that transportation represents 60-65% of NIPSCO’s delivered cost of SPRB coal, down from 75% two years ago. Wagner (NIPSCO) Hrg. Tr. Vol. 5B 72:12-14, 73:7-10. NIPSCO has performed no analysis of whether a less than 2 percent increase in NIPSCO’s delivered cost of SPRB coal would change the amount that NIPSCO’s coal-fired units dispatch into MISO, because “that analysis would be highly speculative.” *Id.* at 77:25-78:5. Mr. Wagner further testified that he could not speculate one way or the other as to whether the JV will lead to a reduction in SPRB coal

prices. *Id.* at 78:9-14.

114. AECI's Roger Clark testified that AECI believes a price increase resulting from the JV is plausible. Clark (AECI) Hrg. Tr. Vol. 6B 97:5-22, 73:12-18. [REDACTED]

[REDACTED] *Id.* at 98:1-12; *see also* PX4665 (AECI) at 001. [REDACTED]

[REDACTED] Clark (AECI) Hrg. Tr. Vol. 6B 105:9-14. Unlike other testifying customers, [REDACTED]

[REDACTED], *id.* at 103:19-24, but the last bid to supply SPRB coal to AECI came from Arch. *Id.* at 103:6-9. If the JV raised prices, Mr. Clark testified that he would not know the driving factor leading to the price increase. *Id.* at 97:18-22, 98:22-99:5.

115. OG&E's Darrell Wilson offered no testimony regarding [REDACTED]
[REDACTED]. PX6040 Wilson (OG&E) Dep. Tr. 50:16-51:16. Rather, Mr. Wilson testified that [REDACTED]
[REDACTED]. *Id.* at 50:21-51:16 ([REDACTED]).

116. NPPD's Gary Stuchal offered no testimony regarding how NPPD could protect itself from an SPRB price increase as a result of the JV, instead he offered only speculation that other types of fuel generally affect coal prices, including his "belief" that an unspecified and unquantified "natural lid" on coal prices exists because of the broader energy market. Stuchal (NPPD) Hrg. Tr. Vol. 5B 97:1-15.

iii. Defendants' Experts Failed To Establish That A Small But Significant Price Increase Would Cause Substitution Away From SPRB Coal

117. Ms. Carey did not establish that any coal units would dispatch less power if the JV increased SPRB coal prices. In order for a unit to move from "in the money" to "out of the money" due to an increase in the price of SPRB coal, the price of generating power from that coal would need to increase enough to push the unit's bid from under, to over, the market clearing price. Carey (Def. Expert) Hrg.

Tr. Vol. 6A 90:10-90:15; [REDACTED]. Ms. Carey determined that a 5 percent SPRB coal price increase translated to a [REDACTED] in the cost of generating power for an average SPRB coal plant. Carey (Def. Expert) Hrg. Tr. Vol. 6A 85:18-24. Despite the fact that the data was available to do so, Ms. Carey did not analyze the impact of a [REDACTED] on the ability of any unit supplied by Peabody or Arch to dispatch power at or below the market clearing price. *Id.* at 91:8-91:23; PX6051 Carey (Def. Expert) Dep. Tr. 78:11-78:20). Ms. Carey instead compared the generating costs of SPRB coal units supplied by Peabody/Arch to the costs of the next unit in the stack (so long as that unit was not also supplied by Peabody and Arch). *Id.* at 91:12-23. This provides no information regarding whether **both** units were “in the money” at all times, which would mean that such a switch in order would be irrelevant because **both** units would dispatch power. *Id.* at 89:18-90:15. There is no dispute that when units “in the money” change order but remain “in the money,” the order change has no impact on whether the unit is dispatched. *Id.* at 90:10-90:15. As a result, Ms. Carey’s analysis does not reveal anything about the frequency with which a price increase would cause a unit that was in the money to fall out of the money.

118. Ms. Carey’s analysis suggests that consumers would nonetheless be harmed by an SPRB coal price increase, even if it had no impact on the amount of SPRB power dispatched. While SPRB coal units would remain “in the money” and continue to dispatch, the additional costs incurred by the SPRB coal units would be passed through to consumers through the fuel adjustment clauses common to SPRB coal-purchasing power generators or would result in lower margins for power producers, which translates into higher prices for consumers since margins are often shared with consumers. *See, e.g.,* [REDACTED] (explaining that a price increase can be passed on through the fuel adjustment clause); [REDACTED] (explaining that when [REDACTED] makes profits, the revenue is “credited back to ... customers”); *id.* at 41:20-42:7 (explaining that fuel adjustment clauses permit fuel price increases to be passed on to customers); Hicks (DTE) Hrg.

Tr. Vol. 8A 28:23-29:10 (explaining DTE can recover increased SPRB coal costs from ratepayers as long as DTE's actions are reasonable and prudent).

119. Like Ms. Carey, Dr. Bailey presented no analysis at all relating to how an increase in the price of SPRB coal would impact the ability of any SPRB coal unit to dispatch power at or below the market clearing price. *See* Bailey (Def. Expert) Hrg. Tr. Vol. 7A 37:18-38:15 (Dr. Bailey did not make “a claim that any particular unit would be displaced” and provided no estimate of any demand elasticity). Dr. Bailey provided no estimate of any demand elasticities that might indicate how a price increase might impact power generators' total SPRB coal consumption, and provided no economic model that might illuminate the competitive effects of the JV. *See id.* at 40:2-44:21.

120. Dr. Israel describes competition via RTO dispatch curves as facilitating competition between other fuel sources. DX4003 (Israel Rpt.) ¶ 80. He further acknowledges that a properly computed own-price elasticity for SPRB coal would reflect the competition SPRB coal faces from other fuel sources; that is, it would quantify the substitution from SPRB coal to all other fuels in the event of a price increase of SPRB coal. Israel (Def. Expert) Hrg. Tr. Vol. 9B at 7:11-15; *see also* Hill (FTC Expert) Hrg. Tr. Vol. 9B 49:17-50:07. But Dr. Israel did not calculate an own-price elasticity for SPRB coal. Israel (Def. Expert) Hrg. Tr. Vol. 9B at 7:18-20. Instead, Dr. Israel points to his analysis of aggregate diversion as an analysis of “dispatch effects.” *Id.* at 15:2-12. This so-called aggregate diversion analysis does not actually analyze diversion and is unreliable for the reasons discussed *supra* II.C.

E. The JV's Price Increases Would Be Consistent With Defendants' Pre-JV Strategies

121. Peabody pursues a “value over volume” strategy. Peabody's President and CEO, stated that Peabody's “U.S. thermal operations” “continue to emphasize value over volume in the face of reduced coal demand” to generate higher margins for investors. PX9104 (Public) at 007. The “value over volume” strategy prioritizes higher prices over expanding production and optimizes margins. *See id.* Amy Schwetz, Peabody's CFO and Executive Vice President, stated in an August 2017 earnings call

that, “new Peabody isn’t about volumes but about margins and return.” PX9098 (Public) at 004.

Peabody’s 2019 10-K filing likewise vowed that its “focus” is on “continuing to emphasize value over volume, particularly in the U.S. thermal operations, and maintaining our commitment to returning cash to shareholders.” PX9062 (Public) at 005; *see also* PX1108 (Peabody) at 001 (“Even greater emphasis of U.S. thermal value over volume in release/remarks.”).

122. Pursuant to this strategy, Peabody has taken steps to cut production in pursuit of higher margins. In February 2019, Kellow stated “[a]cross our U.S. thermal operations, we’re targeting lower 2019 sales volume relative to 2018. In the PRB, we are reducing planned production from our flagship North Antelope Rochelle mine by 10 million tons. At current market levels, we are not generating margins we find acceptable for our investors.” PX9104 (Public) at 007.

123. Arch pursues a “harvest” strategy. According to a report from a February 2020 meeting with Arch management, “Arch’s strategy as it relates to thermal coal is to harvest the remaining cash flows [from its SPRB mines] and use the proceeds to invest in [non-SPRB] assets or return capital to shareholders.” PX2628 (Arch) at 002. According to an April 2018 report, and pursuant to this strategy, “Arch announced that it will reduce its Black Thunder Sales in 2018 to 62-68MT, from the original guidance of 70-80MT.” PX1220 (Peabody) at 002. Regarding Arch’s production cuts, market analysts wrote, “[w]hile declining production profiles are often a warning sign for the affected basins and producers, we believe that production discipline also supports prices and a modest cyclical recovery in domestic thermal coal. For Peabody itself, the decline in Arch’s production guidance is probably positive news.” *Id.*

124. When the JV was announced publicly, Peabody told investors the JV was part of its “U.S. strategy” to “optimize lowest-cost, highest-margin U.S. thermal assets in low-capital fashion to maximize cash generation.” PX9012 (Public) at 008. Peabody’s JV announcement also touted its “rapid payback period” and “continued commitment to shareholder returns.” *Id.*

F. Well-accepted Methods of Economic Analysis Show The JV Would Likely Result In Anticompetitive Harm

125. Dr. Hill implemented two versions of the Cournot model to analyze the likely effects of the JV, both of which predict that the JV will lead to significant harm to customers. PX8001 (Hill Rpt.) ¶ 179. The Cournot model is a longstanding, well-accepted model in economics. *Id.* at ¶ 180; Hill (FTC Expert) Hrg. Tr. Vol. 4A 71:2-13. In both models, Dr. Hill assumed that (1) the Defendants will achieve and pass through the [REDACTED] marginal cost efficiencies that they claim will result from the JV, and (2) Defendants implement the 15-cent discount pledge, making conservative assumptions that are favorable to Defendants. PX8001 (Hill Rpt.) ¶ 179; Hill (FTC Expert) Hrg. Tr. Vol. 4A 75:17-76:5, 77:14-21. Dr. Hill also included the price elasticity of demand in both models, which captures competition with other fuels. Hill (FTC Expert) Hrg. Tr. Vol. 4A 75:17-76:5, 77:14-21.

126. In his “baseline” Cournot model, Dr. Hill assumes that demand for SPRB coal remains constant over time. PX8001 (Hill Rpt.) ¶ 191. This model predicts that the JV will lead to significantly higher prices for SPRB coal in every year from 2021 to 2030. *Id.* at ¶ 195, Fig. 31; Hill (FTC Expert) Hrg. Tr. Vol. 4A 76:7-77:3. This model predicts total harm from the JV from 2021 to 2030 with a net present value of almost \$1.7 billion, or \$170 million per year. PX8001 (Hill Rpt.) ¶¶ 196-197, Fig. 32.

127. Dr. Hill’s “declining demand” Cournot model includes an annual decline in demand for SPRB coal of [REDACTED]. PX8001 (Hill Rpt.) ¶198. This decline in demand is consistent with Peabody’s projections. *Id.*; Hill (FTC Expert) Hrg. Tr. Vol. 4A 77:4-13; *see also* PX1621 (Peabody) at 034. This model predicts that the JV will lead to significantly higher prices for SPRB coal in every year from 2021 to 2030. PX8001 (Hill Rpt.) ¶ 199, Fig. 33; Hill (FTC Expert) Hrg. Tr. Vol. 4A 77:22-73:3. This model predicts total harm from the JV for 2021 to 2030 at more than \$1 billion, or more than \$100 million per year. PX8001 (Hill Rpt.) ¶ 200, Fig. 34.

128. From these models of the effect of the JV, Dr. Hill concluded that when one models competition between SPRB coal suppliers, including competition with other fuels, the JV will significantly reduce

competition between Peabody and Arch and result in harm to customers. Hill (FTC Expert) Hrg. Tr. Vol. 4A 78:4-14.

G. Other SPRB Coal Suppliers Cannot Constrain The JV

i. The JV Would Face Few Rivals With Comparable High-Quality Reserves

129. Other than Peabody and Arch, there are only five firms that operate SPRB mines. Hill (FTC Expert) Hrg. Tr. Vol. 4A 60:5-10; PX8001 (Hill Rpt.) ¶ 37, Fig. 3 (2019 SPRB production by mine).

130. Two SPRB suppliers, WFA and Black Hills, are single-mine operators that produce coal with high sulfur content and a heat content so low (around 8000 Btu/lb), that it cannot be used by many power producers. PX7003 (WFA Decl.) ¶ 8 (“[M]ost of the boilers at our members’ coal-fired power generation units cannot use Dry Fork coal due to its low heat content and higher sulfur levels.”); PX7012 (Black Hills Decl.) ¶¶ 3, 6; PX7009 (WFA Decl.) ¶¶ 5-6, 8.

131. Approximately 4.4 million of the 6.1 million tons of coal produced at WFA’s Dry Fork Mine in 2019 went to supply the coal-fired units at two plants owned by WFA member Basin Electric Power Cooperative: the Dry Fork Station and the Laramie River Station. PX7009 (WFA Decl.) ¶ 6.

132. Black Hills’ Wyodak mine has never supplied any coal to any power producer other than the adjacent Neil Simpson complex. [REDACTED]; *see also* PX7012 (Black Hills Decl.) ¶¶ 4-8. Black Hills faces significant constraints that limit its ability to increase coal sales to external customers. *See id.* ¶¶ 7-8. The Wyodak mine lacks the infrastructure to ship coal via rail, and Black Hills does not currently employ a sales staff. *Id.* Black Hills has testified that it has no current business need or purpose to invest in the necessary infrastructure to allow for increased sales to external customers. *Id.*

133. NTEC operates the Antelope and Cordero Rojo mines in the SPRB. ECF No. 304-1 (Joint Stip.) ¶ 22. In 2019, NTEC produced 23 million tons of coal at Antelope and 12 million tons of coal at Cordero Rojo. PX8001 (Hill Rpt.) ¶ 32. [REDACTED]

[REDACTED] PX6009 Tipton (NTEC) Dep. Tr. 176:11–17.

134. NTEC’s Antelope mine, [REDACTED],⁶ [REDACTED]
[REDACTED]. PX6009 Tipton (NTEC) Dep.
[REDACTED] ([REDACTED]).

See also infra ¶ 186; Fuller (Southern Co.) Hrg. Tr. Vol. 7B 45:23-46:7 ([REDACTED])

[REDACTED]; PX7006 Romer (Xcel) Decl. ¶ 14 ([REDACTED])

[REDACTED]); *see also* Romer (Xcel) Hrg. Tr. Vol. 2B 101:17-
102:17 ([REDACTED])
[REDACTED]).

135. FM Coal (also referred to as Eagle Specialty Materials or ESM) operates Belle Ayr and Eagle Butte.⁷ *See* PX8001 (Hill Rpt.) ¶ 37, Fig. 3 (explaining that these mines were closed for a portion of 2019). In 2019, FM Coal produced 12 million tons of coal at Eagle Butte and 10 million tons at Belle Ayr. *Id.* ¶ 33. Belle Ayr and Eagle Butte are unable to replace the close competition that the JV would eliminate, as both produce lower-heat and higher-sulfur coal that is a poor substitute for coal from the NARM and Black Thunder mines. *See id.* ¶ 38, Fig. 4; *see also supra* II.A.iv; [REDACTED]
[REDACTED] (the Belle Ayr mine is smaller than NARM and Black Thunder, offers a lower Btu product, and is unable to bid at times because it is sold out); [REDACTED].

136. Kiewit’s Buckskin mine [REDACTED], PX3022 (Kiewit) at 009;

⁶ [REDACTED]
[REDACTED]
PX6008 Tipton (NTEC) IH Tr. 51:7-52:15.

⁷ Coal from these mines is occasionally traded under the name Blue Grass. [REDACTED]
[REDACTED]; [REDACTED].

PX8001 (Hill Rpt.) ¶ 37, Fig. 3, [REDACTED]

[REDACTED]. PX3022 (Kiewit) at 009. Kiewit [REDACTED]

PX3021(Kiewit) at 001.

ii. Other SPRB Coal Suppliers Operate At A Cost Disadvantage To Peabody And Arch

137. Peabody and Arch have access to large deposits of high-quality coal that can be mined at relatively low costs. Peabody recognizes the superior cost position of its mines. According to its internal [REDACTED]

[REDACTED] PX1057 (Peabody) at 009.

138. Multiple customers testified that mines that are not located on the “joint line” railroad served by both the BNSF and Union Pacific railroads are less attractive because customers are less able to negotiate for attractive transportation rates. *See, e.g.*, [REDACTED];

[REDACTED]; Stuchal (NPPD) Hrg. Tr. Vol. 5B 93:7-12; [REDACTED]

[REDACTED]; *see also* Hill (FTC Expert) Hrg. Tr. Vol 4A at 12:7-13; PX2763 (Arch) at 008

[REDACTED]; PX1832 (Peabody) at 037 ([REDACTED])

[REDACTED]). Thus, FM Coal’s Eagle Butte mine, Kiewit’s Buckskin mine, and the Dry Fork and Wyodak mines are unattractive alternatives to Peabody and Arch, for reasons that are above and beyond the relatively lower quality of the coal produced by these mines. *See* PX8001 (Hill Rpt.) ¶¶ 38-40, Fig. 4.

139. The two mines with the most attractive coal – Antelope and Belle Ayr – are high-cost mines. Belle Ayr mine has the [REDACTED]

[REDACTED] PX1057 (Peabody) at 005. NTEC’s Antelope mine faces [REDACTED]

[REDACTED] *Id.* Moreover, NTEC's mines also face royalty costs imposed as a condition of its purchase of the former Cloud Peak mines out of bankruptcy: for the next five years, NTEC must pay a 15-cent per ton royalty on all coal produced at its Antelope and Spring Creek mines. PX9032 (Public) at 003; [REDACTED]; PX1219 (Peabody) at 006. A 15-cent per ton royalty applies for all coal produced beyond 10 million [tons] at its Cordero Rojo mine. [REDACTED]; PX1219 (Peabody) at 006. [REDACTED] PX6009 Tipton (NTEC) Dep. Tr. 165:17–23.

iii. Other SPRB Coal Suppliers Have An Incentive To [REDACTED]

140. NTEC's Harry Tipton, testified that [REDACTED] [REDACTED] PX6009 Tipton (NTEC) Dep. Tr. 166:12–167:3. If the price of SPRB coal increased, NTEC [REDACTED] [REDACTED] *Id.* at 127:15–128:6; *see also* PX6008 Tipton (NTEC) IH Tr. 52:23–53:5 ([REDACTED]). Moreover, Mr. Tipton testified that, [REDACTED] [REDACTED] PX6009 Tipton (NTEC) Dep. Tr. 165:24–166:11.

VI. Neither Competition From Other Fuels Nor The Possibility Of SPRB Coal Plant Retirements Will Prevent Harm To Competition

A. Despite Low Natural Gas Prices And The Possibility Of Plant Retirements, Peabody And Arch Passed Through Price Increases Related To The Black Lung Excise Tax (BLET) In 2020

141. The BLET, which is paid by coal suppliers but not suppliers of other fuels such as natural gas, increased at the beginning of 2020. *See, e.g.*, [REDACTED]. [REDACTED] [REDACTED] Smith (Arch) Hrg. Tr.

Vol. 3A 16:16-18:1; PX6046 Galli (Peabody) Dep. Tr. 132:23-136:21. Customers subject to the increase testified that they did not reduce coal burn or consider reducing the amount of coal they will buy in 2020. *See* [REDACTED] (Peabody and Arch imposed a 3.1-3.2% SPRB coal price increase (38 cents per ton) on [REDACTED] in January 2020 to offset the BLET that coal suppliers pay; the January 2020 price increase did not directly result in [REDACTED] reducing its coal burn at its SPRB burning units); [REDACTED] (Peabody passed through \$.38 price increase to [REDACTED] for BLET, and [REDACTED] volume of purchases from Peabody remained the same); [REDACTED] (Peabody passed on the increase in the BLET, which raised the price of SPRB coal under its contracts from the “low 20s to 35 cents a ton,” yet [REDACTED] did not shut down any coal-fired units or decrease its coal-fired utilization based on the tax); [REDACTED] (despite the fact that [REDACTED] operates natural gas plants, Peabody passed on a 3.1% price increase for SPRB coal on [REDACTED] in January 2020 to offset the BLET on coal suppliers); [REDACTED] ([REDACTED] is paying an additional \$4-5 million in 2020 due to the price increase, but [REDACTED] did not consider reducing its purchases of coal in 2020 because [REDACTED] “still need[s] the coal to fuel [its] power generating units to supply electricity for [its] customers.”).

B. Customers Cannot Protect Themselves From A Price Increase On SPRB Coal By Switching To Non-SPRB Coal Power Generation Units

142. Customers have testified that they are unable to protect themselves from SPRB price increases by substituting away from SPRB coal. *See supra* V.D.i-V.D.ii. This testimony is confirmed by the fact that power producers rely on coal to meet their obligations to RTOs/ISOs. For example, although [REDACTED] can and does produce power from natural gas and wind, it relies on SPRB coal to meet its obligations to [REDACTED]. [REDACTED]

143. Power generators cannot easily turn to wind or solar units as an alternative to SPRB coal generation, because such renewables are not dispatchable baseload units. PX6011 Newton (CU) Dep. Tr. 197:10-20. As discussed *supra* in ¶¶ 32-33, wind and solar units are less reliable than SPRB coal

because they are intermittent sources and they are difficult to store. Wind is not always available to generate electricity and solar energy is only available during daytime hours. Customers cannot replace their baseload coal units with renewable energy generation because renewable fuels are intermittent.

[REDACTED]; [REDACTED]. Ameren's

Mr. Meyer testified that doing so may even be irresponsible from a resource planning perspective.

Meyer (Ameren) Hrg. Tr. Vol. 1B 30:24-31:22; *see also* Peterson (Evergy) Hrg. Tr. Vol. 2A 43:13-44:6 (testifying that wind is not a reliable source of energy for Evergy because the wind does not always blow and transmission is curtailed). Customers do not ask SPRB suppliers to lower their prices during coal supply negotiations to meet wind pricing or solar pricing. [REDACTED]

144. EIA has referred to generation technologies such as wind and solar as “non-dispatchable technologies” because they do not have the ability to match production with demand. PX9044 (Public) at 002, 007. Customers also recognize this. Stuchal (NPPD) Hrg. Tr. Vol. 5B 107:3-108:14 (NPPD refers to renewables as “not dispatchable” because there are times when they are not available); [REDACTED] [REDACTED] (“Dispatchable resources are very important” because you cannot make the wind blow or the sun shine at the most critical demand hours); Fuller (Southern Co.) Hrg. Tr. Vol. 7B 18:22-19:19 (“Solar and wind are not what we call dispatchable resources.”).

145. Customers also cannot protect themselves from increases in SPRB coal prices by relying on their natural gas power generation assets. Peabody and Dr. Israel both predict that [REDACTED] [REDACTED], and even if current historically low natural gas prices make natural gas an alternative to SPRB coal generation, natural gas prices in the future will be a less effective constraint on SPRB prices. Hill (FTC Expert) Hrg. Tr. Vol. 4A 59:4-12; *see also* PX8006 (Hill Rebuttal Rpt.) ¶ 46, Fig. 8. This is consistent EIA data predicting that demand for natural gas generating electricity will decrease from 2021 through 2030. Hill (FTC Expert) Hrg. Tr. Vol. 4A 59:13-21.

146. Moreover, even at today's historically low prices, for many customers, natural gas generation is

still more expensive than SPRB coal. *See, e.g.,* Ruhl (OPPD) Hrg. Tr. Vol. 2B 26:5-27:10 (“our SPRB coal is cheaper than the natural gas, so it sits just ahead of the natural gas generation on the way the SPP does their dispatching, you know, on the variable costs basis”); [REDACTED]

[REDACTED] (“it's cheaper for us to get the coal than it is to get the natural gas to our plants”); PX8006 (Hill Rebuttal Rpt.) Figs. 48-50. Ameren testified that, despite the decrease in natural gas prices, it has not increased its use of natural gas because its coal-fired units are more efficient to operate as baseload generation than its natural gas units. Meyer (Ameren) Hrg. Tr. Vol. 1B 27:8-29:14.

147. Ameren has no plans for new investment in combined-cycle natural gas generation, even though its IRPs contemplate the company’s potential generation mix as far as 20 years into the future. Meyer (Ameren) Hrg. Tr. Vol. 1B 28:17-29:25. Continued investment in Ameren’s coal units is preferable to investing in a new combined-cycle natural gas plant and other alternatives, because base load coal is dispatchable, more reliable and the fuel is cheaper. *Id.* at 30:24-31:22; [REDACTED]

[REDACTED]. Further, [REDACTED] is not evaluating any scenarios in which it will rely only on fuels other than coal. [REDACTED] [REDACTED] has no plans to build new natural gas plants because it is long on capacity. [REDACTED]

148. Customers also cannot use natural gas prices to protect themselves within the RFP process that determines SPRB coal pricing, because they do not do not invite natural gas and renewable energy suppliers to participate in the RFP processes to fuel their SPRB plants, or consider the price of natural gas when evaluating bids they receive for SPRB coal. *See supra* ¶ 20; *see also* [REDACTED]

[REDACTED]; [REDACTED] ([REDACTED] has never asked an SPRB coal supplier to sharpen its pencil to meet natural gas prices); [REDACTED]

[REDACTED] ([REDACTED] has never asked a natural gas supplier to respond to one of [REDACTED] SPRB coal RFPs); Hicks (DTE) Hrg. Tr. Vol. 8A 23:1-7 (DTE does not invite natural gas, wind or solar suppliers to participate in RFPs); Ruhl (OPPD) Hrg. Tr. Vol. 2B 48:24-49:2 (OPPD does not ‘invite providers of

natural gas to respond to the RFP for SPRB coal”); [REDACTED] (in the last 10 years, only SPRB coal suppliers have participated in [REDACTED] RFPs); [REDACTED] [REDACTED] invites SPRB coal suppliers to participate in RFPs, not natural gas or renewables suppliers); [REDACTED] [REDACTED] solicits only the four SPRB coal suppliers for SPRB coal RFPs); [REDACTED] [REDACTED] does not invite natural gas suppliers to bid on RFP’s to supply its coal units); PX6011 Newton (CU) Dep. Tr. 134:11-16 (CU does not invite natural gas suppliers to bid on the same RFPs sent to coal suppliers); [REDACTED] [REDACTED] does not invite natural gas or renewables suppliers to respond to RFPs for coal); [REDACTED] (natural gas suppliers not invited to participate in SPRB coal RFPs); [REDACTED] [REDACTED] does not invite natural gas, wind or solar energy suppliers to the same RFPs as coal suppliers).

i. Customers Are Not Protected From SPRB Coal Price Increases By Contracts Indexed To Natural Gas And Electricity, Because Customers Do Not Want Such Contracts

149. Peabody and Arch have [REDACTED]
[REDACTED]
[REDACTED].
PX0065 (Arch) at 006; PX0061 (Peabody) at 008. Peabody has [REDACTED]
[REDACTED]. See Galli (Peabody)
Hrg. Tr. Vol. 6B 47:25-48:8; PX6004 Capdeboscq (Peabody) IH Tr. 45:2-16; PX0060 (Peabody) at 004;
PX0061 (Peabody) at 008 ([REDACTED]
[REDACTED]). Arch has [REDACTED]
[REDACTED]. PX2279
(Arch) at 002; Smith (Arch) Hrg. Tr. Vol. 3A 83:13-15; PX0065 (Arch) at 006 ([REDACTED]
[REDACTED]

[REDACTED]; PX2023 (Arch) at 027. [REDACTED]

maintains a fixed-price SPRB coal contract with Peabody that is not indexed to power prices. [REDACTED]

[REDACTED] Defendants have provided no evidence that any other supplier of SPRB coal has any SPRB coal supply contracts indexed to either natural gas or electricity prices.

150. Power producers are generally not interested in offers from SPRB coal suppliers to index SPRB coal contract prices to natural gas or electricity prices. [REDACTED];

Peterson (Evergy) Hrg. Tr. Vol. 2A 51:2-12 (Evergy has been asked to index but declined); [REDACTED]

[REDACTED] ([REDACTED] has no SPRB coal contracts indexed to the price of natural gas or electricity and has not sought to obtain such contracts); [REDACTED]

(“preference is to provide price certainty for our customers”); Ruhl (OPPD) Hrg. Tr. Vol. 2B 41:8-42:1

(OPPD did not believe that pursuing SPRB coal pricing indexed to natural gas or electricity pricing made sense because the RFP process provided “a better economic path for [OPPD].”); [REDACTED]

[REDACTED].

151. SPRB coal customers desire stability in SPRB coal pricing, and they do not want the volatility from tying SPRB coal prices to the prices of natural gas. [REDACTED];

[REDACTED] (“the index pricing would be tied to potentially market prices, could be tied to natural gas prices. And both of those things have a lot of volatility.... I want less volatility and more stability and more price certainty.”); [REDACTED]

[REDACTED]. Natural gas prices are highly volatile compared to SPRB coal prices, a fact that

[REDACTED]. [REDACTED] (agreeing that natural gas prices are more volatile than SPRB coal prices); PX9120 (Public) at 004 (“Natural gas was, and still is, more expensive and much more volatile in terms of fuel price than coal.”); PX2085 (Arch) at 001 ([REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]; [REDACTED]; *see also* [REDACTED]
[REDACTED]; [REDACTED]. Factors unrelated to coal could cause SPRB coal prices to increase when they are indexed to prices of commodities. [REDACTED]
[REDACTED] (“So there is also things that happen in the natural gas industry that have nothing to do with coal. For instance, the Middle East could pick up and cause prices to spike or there could be a pipeline explosion that causes pipelines to go out that have nothing to do with coal, and so it doesn’t make sense to us to tie coal pricing to a commodity.”).

C. Competition From Non-SPRB Coal Fuel Sources Within RTOs/ISOs Is Not A Substitute For Competition Between SPRB Coal Suppliers

i. Power Producers Already Participate In Wholesale Electricity Markets Today, Yet SPRB Coal-on-Coal Competition Remains A Critical Factor In Their Ability To Achieve Lower SPRB Coal Prices

152. Many power producers that purchase SPRB coal participate in RTOs or ISOs, which are multi-state power transmission system operators that coordinate a region’s electric grid. PX9171 (Public) at 027-28. These entities operate wholesale electricity markets in which power producers compete to sell electricity. *See* PX6029 Kimm (MidAmerican) Dep. Tr. 29:13-32:19 (explaining how the RTO/ISO market function); [REDACTED] (explaining an RTO).

153. RTO/ISO electricity markets already operate today, and any competitive pressure on SPRB coal suppliers due to the existence of non-coal generation sources in these markets already exists today in the pre-JV marketplace. *See* Wagner (NIPSCO) Hrg. Tr. Vol. 5B 44:21-46:3 (explaining that MISO aggregates power from different generating sources, including “coal or gas and oil and nuclear and hydro [and] renewables as well.”); PX6029 Kimm (MidAmerican) Dep. Tr. 29:13-30:2, 31:2-6 (explaining that RTO/ISO markets include energy generated from “any generation resource,” including “coal, gas, renewables, and nuclear.”). To the extent power producers can leverage the dynamics of electricity markets to obtain better prices for SPRB coal, power producers already have the incentive to do so as much as they possibly can in today’s pre-JV marketplace. PX6029 Kimm (MidAmerican) Dep.

Tr. 30:11-17, 31:7-32:19 (explaining that RTOs/ISO match up consumer demand with power unit offers while taking account of many different factors, including transmission reliability); Benham (Minnesota Power) Hrg. Tr. Vol. 8B 10:20-11:1 (describing using RTO dynamics to discuss “the importance of competitive pricing” with coal suppliers); Meyer (Ameren) Hrg. Tr. Vol. 1B 39:5-41:6 (explaining how Ameren’s natural gas and coal-fired units typically dispatch into MISO).

154. Defendants’ own experts concede that pre-JV prices for SPRB coal *already* reflect the competitive constraints that result from RTO/ISO electricity markets. DX4003 (Israel Rpt.) ¶ 80 (stating “coal, natural gas, and other fuels compete via the dispatch curve. . . . [and] relative prices today affect demand for each fuel source (and the substitution across fuel sources) today.”). Yet, as demonstrated above, SPRB coal-on-coal competition, and competition between Peabody and Arch, remains critical to the SPRB coal prices that power producers are able to negotiate. *See supra* Section V.B-C.

ii. Defendants Have Not Shown That A Small Price Increase For SPRB Coal Would Impact RTO’s/ISO’s Complex Dispatch Decisions, Which Depend On Power Generators’ Bids And Other Factors

155. Defendants have not shown that a small price increase in SPRB coal prices would cause a significant reduction in SPRB coal consumption, either due to power producers’ decisions or to RTO/ISO actions to reduce the dispatch of SPRB coal units and increase the dispatch of non-SPRB-coal resources. *See supra* Section V.D., VI.-B.-C. The dispatch of generation units in wholesale electricity markets is extremely complex and involves numerous factors and constraints. *See* PX6029 Kimm (MidAmerican) Dep. Tr. 31:7-33:9 (the RTO/ISO market is “complicated.”); Wagner (NIPSCO) Hrg. Tr. 83:5-17 (agreeing that NIPSCO cannot say whether or not increasing the cost of coal will decrease the likelihood of a coal unit dispatching into MISO, because there are a lot of assumptions that go into that statement); Carey (Def. Expert) Hrg. Tr. Vol. 6A 73:25-74:5 (“In the real world, the sale of electricity and the competition that exists is highly complicated.”).

156. RTOs/ISOs accept bids in both a day-ahead and a real-time market, with the day-ahead market

controlling most decisions. *See* PX9173 (Public) at 020. Participant power producers submit bids specifying the minimum price at which they are willing to supply power to the regional electric grid. *See* PX9171 (Public) at 030; PX9011 (Public) at 017-18.

157. Units are permitted to bid at a level that differs from their costs—in fact, as Mr. Meyer of Ameren explained, bids into MISO account for a “whole host of other parameters” beyond cost to operate generating units. Meyer (Ameren) Hrg. Tr. Vol. 1B 42:11-43:2; *see also* Carey (Def. Expert) Hrg. Tr. Vol. 6A, 76:11-20 (generating units are permitted to bid something different from their costs); *id.* at 79:6-19 (generating units with ISOs employ multiple bidding strategies). Although RTO/ISO dispatch is called “least cost dispatch,” RTOs/ISOs make dispatch decisions based on *bids* that power producers submit rather than their costs. PX6029 Kimm (MidAmerican) Dep. Tr. 30:18-25 (units dispatch “based on their offer ... not necessarily their cost”); Meyer (Ameren) Hrg. Tr. Vol. 1B 43:9-25 (“[A]ll the market participants who own generation will submit offers for each and every generating unit that will dictate, you know, the capacity they can operate, the cost to operate those units, and a whole host of other parameters related to how they run, at which point all the demand and all the resource offers will be submitted by 9:30 in the morning the day prior of the operating day.”); DX4006 (Carey Response Rpt.) ¶ 111 (“Uncertainty exists due to bidding strategies of other generating units in the ISO market which are not discernable when market offers are made. As generator bids are routinely submitted, any particular strategy employed by generators can change over time.”).

158. In addition to submitting a bid with a price that is different from costs, power producers can submit a bid with the designation of “self-commit,” meaning the unit will dispatch regardless of its costs. Carey (Def. Expert) Hrg. Tr. Vol. 6A, 80:1-5; PX4983 (Ameren) at 002. The choice to self-commit a resource essentially guarantees that the unit will dispatch at least a specified level of power regardless of the market-clearing price determined by the day-ahead market. *Id.*

159. Self-commitment bids are common. In SPP, for example, “[t]he volume of self-commitment

megawatts has declined over time but remains nearly *half* the total megawatt volume generated from March 2014 to August 2019.” PX9011 (Public) at 007. In other words, half the electricity generated in this time period in SPP was submitted under a bid designation that required it to be dispatched *regardless* of any relationship between the units variable costs and the market clearing price.

160. Coal units, in particular, often self-commit within MISO and SPP. *See* PX9191 (Public) at 001 (88% of cleared coal energy within MISO self-committed); PX9011(Public) at 024 (in 2019, coal units accounted for over 60% of self-committed megawatts within SPP). However, the fact that a unit designates itself as self-committed, however, does not mean that the unit will operate non-economically—meaning that the cost of generating electricity is greater than the market clearing price. Carey (Def. Expert) Hrg. Tr. Vol. 6A 81:17-82:8; DX4005 (Carey Rpt.) Ex. No. 4 (Table 2); PX9191 (Public) at 001 (“88% of the region’s coal-fired energy in the last three years was economically dispatched in some manner.”). In fact, of the 12 trillion coal-generated watt hours that were dispatched “economically” in March 2020 of MISO alone, 10 trillion were dispatched under a self-committed as opposed to “economic” bid. Carey (Def. Expert) Hrg. Tr. Vol. 6A 81:17-82:8; DX4005 (Carey Rpt.) Ex. 4 (Table 2); *see also* Hill (FTC Expert) Hrg. Tr. Vol. 4A 146:11-149:2 (“So roughly 15 percent of the time, both coal and natural gas are being dispatched when they might not necessarily be economic, but the remaining 85 percent of the time, they are economic.”).

161. Coal units may self-commit because the RTO day-ahead market does not capture the costs associated with starting and stopping a coal-fired generating unit. Meyer (Ameren) Hrg. Tr. Vol. 1B 41:7-42:2. Viewed over a broader time horizon than that of the RTO’s day-ahead market, utilities report that coal-generation is economic and in the best interest of utility customers. Meyer (Ameren) Hrg. Tr. Vol. 1B 42:3-17; *see also* Hill (FTC Expert) Hrg. Tr. Vol. 4A 147:17-149:2 (testifying “sometimes if you look at hourly you get a misleading picture because you may want to run a plant even though its hourly profitability number is bad if it's hard to shut up or -- sorry -- hard to start up or shut down.”).

Indeed, within MISO and SPP self-committing units “were largely dispatching economically.” Carey (Def. Expert) Hrg. Tr. Vol. 6A, 32:22-33:2; *see also* PX9191 (Public) at 001 (88% of coal generation within MISO either economically committed or self-committed but economically dispatched); Benham (Minnesota Power) Hrg. Tr. Vol. 8B 93:18-95:9 (describing “value of 32 million” to customers from self-committing coal units over a three year period). Regulators have reviewed these decisions and found them prudent. Meyer (Ameren) Hrg. Tr. Vol. 1B 42:3-17; Benham (Minnesota Power) Hrg. Tr. Vol. 8B 93:18-95:9.

162. Even when one unit has a lower bid than another, that is not the sole determinant of whether that unit generates electricity. *See* Carey (Def. Expert) Hrg. Tr. Vol. 6A 75:21-24. RTOs/ISOs may pick a higher cost generating unit over a lower cost generating unit if the higher cost unit provides another benefit such as reliability. Wagner (NIPSCO) Hrg. Tr. Vol. 5B 83:12-17; Trushenski (Entergy) Hrg. Tr. Vol. 3B 64:6-13; [REDACTED]. Infrastructure constraints within RTOs/ISOs can lead to higher cost units dispatching over lower cost units when looking at the RTO/ISO as a whole. Carey (Def. Expert) Hrg. Tr. Vol. 6A 75:16-20. Transmission constraints, for example, are physical bottlenecks in an electricity grid that prevent electricity from being moved from where it is generated to where it is needed. *See id.* at 75:7-15; [REDACTED] (“[Transmission constraint] means when there is limited import or export capability into a geographic location where the amount of megawatts that are required to meet the load would exceed the amount of megawatts that could be imported into that particular geographical location.”).

163. Power producers have described transmission constraints as limiting the transmission of power across geographic areas much smaller than the footprint of the RTO/ISO as a whole. *See* Wagner (NIPSCO) Hrg. Tr. Vol. 5B 84:2-8 (describing MISO price variance within Northwest Indiana and transmission constraints associated with moving electricity through area as small as Northwest Indiana).

164. Given the complex nature of RTO/ISO markets, electricity market participants often use

sophisticated modeling software that draws on detailed data about plant capabilities, transmission constraints, and other factors to model decisions related to participation in these markets. Hill (FTC Expert) Hrg. Tr. Vol. 4A 38:20-39:1; PX6029 Kimm (MidAmerican) Dep. Tr. 76:22-78:6; PX6015 Peterson (Evergy) Dep. Tr. 150:22-152:17; [REDACTED]; *see also* Trushenski (Entergy) Hrg. Tr. Vol. 3B 75:3-15 (“Aurora is a model that our planning organization with our long-term planning and our market operations and planning organization, they used to help forecast how different units are going to run in the MISO market given, you know, varying parameters that are entered into the model.”). The FTC’s expert, Dr. Hill, is the only expert who consulted an industry-standard electricity market model (PROMOD) in this case. *See supra* ¶ 50. Dr. Hill is also the only expert who presented any quantitative analysis of dispatch profitability for SPRB-burning power plants in the event of a SSNIP.

165. RTOs/ISOs identify the market-clearing price⁸ at which a sufficient amount of power will “dispatch” to satisfy overall projected demand. Carey (Def. Expert) Hrg. Tr. Vol. 6A 30:5-19. But, because not all bids are based on cost, and because of the infrastructure constraints and reliability concerns discussed above, a generating unit’s variable cost (calculated on a daily basis) is not the sole determinant of whether that unit generates electricity. Carey (Def. Expert) Hrg. Tr. Vol. 6A 74:19-75:24. Therefore, not all generating units will be rank ordered by cost along an RTO/ISO’s dispatch curve. *See id.* at 74:19-75:4.

D. The Risk Of Coal Plant Retirements Will Not Prevent Harm To Competition

166. Coal plants retire for a host of reasons other than the cost of fuel, including the age and size of the unit, costs associated with upgrading equipment to achieve regulatory compliance, power producers’ public commitments to reduce carbon dioxide emissions, and the increasing use of renewable energy.

⁸ The market clearing price is the price term of the highest (worst) offer accepted by the RTO or ISO, and all units that generate get paid this same price. Carey (Def. Expert) Hrg. Tr. Vol. 6A 30:5-19.

[REDACTED]; PX8006 (Hill Rebuttal Rpt.) ¶¶ 92-99; *see also* Israel (Def. Expert) Hrg. Tr. Vol. 9B 28:3-6 ([REDACTED] [REDACTED]). The price of SPRB coal is only one of many reasons why customers might decide to retire an SPRB coal plant, and it has not been shown to be a major driver of retirement decisions in recent years. *See infra* VI.D.i-ii.

i. SPRB Coal Plants Retire For Many Reasons Unrelated To The Price Of SPRB Coal

167. Some coal units retire when it becomes too costly and technically infeasible to upgrade them to comply with environmental standards. [REDACTED]; Sandlin (WFA) Vol. 3B at 94:21-96:3; *see also* PX8006 (Hill Rebuttal Rpt.) ¶ 92. The Mercury and Air Toxics Standards (MATS) establish performance standards under the 1990 Clean Air Act amendments. 77 Fed. Reg. 9304 (Feb. 16, 2012). The original compliance deadline under the MATS rules was April 16, 2015.⁹ Some coal-fired units were retired (or converted to natural gas) because they were not able to comply with MATS rules. PX6027 Fuller (Southern Co.) Dep. Tr. 37:15-38:4; [REDACTED] [REDACTED]; [REDACTED]; *see also* PX8006 (Hill Rebuttal Rpt.) ¶ 67.

168. Peabody [REDACTED]
[REDACTED]
[REDACTED] PX1195 (Peabody) at 001, 005.
According to a [REDACTED]
[REDACTED]
[REDACTED] PX1762 (Peabody) at 028.

⁹ 77 Fed. Reg. 9304 at 9465 (Feb. 16, 2012); *see also* US Environmental Protection Agency, “Basic Information about Mercury and Air Toxics Standards.” <https://www.epa.gov/mats/basic-information-about-mercury-and-air-toxics-standards>.

169. A coal plant's age is one factor that impacts a decision to retire a plant. [REDACTED]
[REDACTED]; *see also* [REDACTED] ("Age of the plant would impact potentially the efficiency of the plant, as well as the likelihood of the need for future expenditures to keep the plant reliable.").

170. "[O]lder plants are -- generally, cost more money. They have more failures, and they require more maintenance. So an older plant, you will typically see, are the ones that are retired before a younger plant." [REDACTED] Of all the plant retirements [REDACTED] has had in the past five years, only one burned SPRB coal. [REDACTED] That plant was a small, inefficient unit that was the furthest in rail transportation from the PRB, requiring contracting with two separate railroads to bring coal from the SPRB to the plant. *Id.*

ii. Peabody [REDACTED] When Determining SPRB Coal Prices

171. [REDACTED] *See generally* PX1845 (Peabody). [REDACTED]
[REDACTED] PX0023 (Akin Gump) at 003 ([REDACTED]
[REDACTED]
[REDACTED]) ([REDACTED]). [REDACTED]
[REDACTED] PX1001 (Peabody) at 005. [REDACTED]
[REDACTED]
Id. [REDACTED]
[REDACTED] *Id.*; *see generally* PX1845 (Peabody). Moreover, [REDACTED]
[REDACTED] Israel (Def. Expert) Hrg. Tr. Vol. 9B 28:7-13; DX4003 (Israel Rpt.) ¶ 107 ([REDACTED]
[REDACTED]); PX8006 (Hill Rebuttal Rpt.) ¶ 96; PX6052 Israel (Def.

Expert) Dep. Tr. 141:24-142:8. [REDACTED], Israel

(Defendants' Expert) Hrg. Tr. Vol. 9B 28:7-13; PX6052 Israel (Def. Expert) Dep. Tr. 141:24-142:8); *see generally* PX1183 (Peabody).

172. [REDACTED] *See generally* PX2767 (Arch). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

PX8006 (Hill Rebuttal Rpt.) ¶ 98.

iii. Dr. Hill's Retirement Analyses Show That The Mine Mouth Prices Of SPRB Coal Have Limited Impact On SPRB Coal Unit Retirements

173. Dr. Hill estimated the impact of the mine-mouth price of SPRB coal on SPRB coal unit retirements. PX8006 (Hill Rebuttal Rpt.) ¶¶ 92-99; *see also* Hill (FTC Expert) Hrg. Tr. Vol. 4A 46:4-21.

174. Dr. Hill presented two retirement models, each of which controlled for the effect of changes in the price of SPRB coal, the age and size of the unit, changes in the price of natural gas, changes in environmental regulation, increasing use of renewable energy, and the effect of monthly variation. PX8006 (Hill Rebuttal Rpt.) ¶ 93. Dr. Hill's "Baseline" model contained no additional control variables, while the "Lagged SPRB prices" model used SPRB coal prices from the previous year. *Id.* Each model predicts a one percent increase in the price of SPRB coal today will result in a smaller than one percent decrease in SPRB demand due to coal unit retirements. *Id.* ¶ 94 and Fig. 19.

175. Dr. Israel argued that Dr. Hill's elasticities from this analysis should be multiplied by ten. Israel (Def. Expert) Hrg. Tr. Vol. 9A 51:15-52:5. However, Dr. Israel's argument rests on an inappropriate assumption, because if a plant survives the first year of a price increase, that suggests it is economic to operate the plant at the elevated SPRB price level: the plant does not somehow become likely to close in each subsequent year, even if it continues to pay the elevated price level. Hill (FTC Expert) Hrg. Tr. Vol. 9B 50:22-51:13.

iv. Dr. Hill's Conclusions Are Corroborated Using [REDACTED]

176. Dr. Hill used [REDACTED] to calculate the impact of a 5 percent increase in the SPRB coal mine-mouth price on [REDACTED] retirement risk scores for SPRB units. PX8006 (Hill Rebuttal Rpt.) ¶ 97. Using the [REDACTED], Dr. Hill concluded that for [REDACTED], a 5 percent SPRB mine-mouth price increase does not change their retirement risk score. *Id.* For the [REDACTED], Dr. Hill concluded, the changes in the retirement risk score are small. *Id.* Thus, [REDACTED] therefore corroborates Dr. Hill's model's findings that a small change in the mine-mouth price of SPRB coal has little impact on SPRB coal retirements. *Id.*

177. Similarly, Dr. Hill used [REDACTED] to evaluate the impact on the likelihood of SPRB coal unit retirements of an increase in the price of SPRB coal by 5 percent. *Id.* ¶ 99. Using the [REDACTED], Dr. Hill concluded that an increase in SPRB coal price of 5 percent has a minimal impact; the retirement likelihood changed for only [REDACTED]. *Id.* [REDACTED] corroborates Dr. Hill's findings—and the findings of [REDACTED]—that a small change in the mine-mouth price of SPRB coal has little impact on SPRB coal unit retirements. *Id.*

v. SPRB Customers Plan To Purchase SPRB Coal and Operate SPRB Units for Many Years

178. [REDACTED] expects to burn approximately 16 to 17 million tons of SPRB coal per year for the next ten years. [REDACTED] Despite retiring [REDACTED] SPRB coal unit in 2022, [REDACTED] SPRB coal burn forecast stays in line with prior years in 2023. [REDACTED] [REDACTED] has no plans to retire [REDACTED] and projects it will buy approximately 10 million tons annually from the SPRB in the long term. [REDACTED] [REDACTED] also has no plans to retire its portion of [REDACTED]. [REDACTED] [REDACTED] None of the plants that the WFA supplies with SPRB coal have announced

retirement dates, except Sherco 3 whose date is 2030. Sandlin (WFA) Vol. 3B 85:15-86:13. [REDACTED]

[REDACTED] has no current plans to retire or convert any of its remaining coal-fired units. [REDACTED]

[REDACTED] testified that he knew of no plans to retire its coal units for at least the next five years. [REDACTED] *see also*

[REDACTED] ([REDACTED] expects to be buying SPRB coal in significant amounts for at least the next 19 years).

vi. Dr. Israel Overstates The Amount That Retirement Of Some Smaller And Less Efficient Plants Will Reduce Demand For SPRB Coal

179. Dr. Israel's opinions rely on the assumption that, once a coal plant retires, overall demand will be reduced forever. [REDACTED] ([REDACTED]

[REDACTED]);

DX4003 (Israel Rpt.) ¶13. However, ordinary course documents indicate that [REDACTED]

[REDACTED] PX1863 (Peabody) at 001; *see also* PX1084 (Peabody) at 010 ([REDACTED]

[REDACTED]); PX1852 (Peabody) at 003 (2017 news article quoting Peabody CEO Glenn

Kellow: "Based on the current trajectory, we would see a gradual decline in coal consumption due to expected lower natural gas prices and coal plant retirements that are projected to be partially offset by higher capacity utilization within the remaining fleet.").

180. Further, most of the coal unit retirements listed in Dr. Israel's report as anecdotal evidence of coal plant retirements were of plants that did *not* burn SPRB coal. PX8006 (Hill Rebuttal Rpt.) Figs. 17, 18, ¶¶ 90-91 (discussing DX4003 (Israel Rpt.) ¶¶ 96, 98); *see also* Israel (Def. Expert) Hrg. Tr. Vol. 9B 26:24-27:11 ("I made a conscious decision to focus on all retirements" rather than just retirements of SPRB coal-burning units.").

VII. ENTRY AND EXPANSION ARE UNLIKELY TO BE TIMELY, LIKELY, AND SUFFICIENT TO OFFSET THE COMPETITIVE HARM

A. Entry Or Expansion By Acquiring New Reserves Is Unlikely

181. Peabody and Arch admit that greenfield entry is “unlikely.” ECF No. 54 (Peabody Answer) ¶ 5; ECF No. 57 (Arch Answer) ¶ 5.

182. Firms have historically entered or expanded in the SPRB by winning auctions for leasing rights to tracts of federal land, known as a lease by application (LBA). *See* PX9033 (Public); [REDACTED]

[REDACTED].

183. No successful LBA bid has been completed in the SPRB since 2012. [REDACTED]

[REDACTED]; PX1225 (Peabody) at 061. The LBA bid process creates extraordinarily high barriers to entry that would require [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] PX0006 (Peabody) at 084-85.

184. Dr. Hill testified that regulatory barriers would mean it would take “a very long time” to enter or expand in response to a reduction in competition caused by the JV. Hill (FTC Expert) Hrg. Tr. Vol. 4A 84:16-20; PX8001 (Hill Rpt.) ¶ 207.

B. Output Expansion By Existing SPRB Suppliers Is Unlikely

185. **No Rival Firm Has Plans to Expand.** While existing utility customers will require SPRB coal for decades, the demand for SPRB coal is in decline. *See supra* ¶ 5. Given declining demand, existing firms are unlikely to invest capital in increasing output in hopes of capturing share from a massive JV with a dominant position. *See, e.g.,* [REDACTED] ([REDACTED] [REDACTED]).

186. NTEC—which would be about [REDACTED] the size of the JV—has limited ability and incentive to

[REDACTED]. *See supra* ¶ 134. [REDACTED]

[REDACTED] *Id.*

[REDACTED] *See supra*

¶ 133. NTEC's Chief Marketing and Operating Officer, Harry Tipton, testified that [REDACTED]

[REDACTED] PX6009 Tipton (NTEC) Dep. Tr. 126:10-22. [REDACTED]

[REDACTED] *Id.* at 126:23-127:6; *see also* PX6008

Tipton (NTEC) IH Tr. 52:23-53:5 ([REDACTED]

[REDACTED]). Mr. Tipton, testified that [REDACTED]

See supra ¶ 140; PX6009 Tipton (NTEC) Dep. Tr. 127:15-128:6.

187. **FM Coal's** two mines, Belle Ayr and Eagle Butte, are each smaller than NTEC's Antelope and produce lower-heat (below 8600 Btu/lb) and higher-sulfur coal that is a poor substitute for coal from the NARM and Black Thunder mines. *See supra* ¶ 135.

188. **Kiewit's** Buckskin mine [REDACTED]

[REDACTED] *See supra* ¶ 136.

189. It is unlikely that the two small, captive mines, **Black Hills' Wyodak** or **WFA's Dry Fork**, could replace any meaningful portion of the competition the JV will destroy. *See supra* ¶¶ 130-132.

Both Wyodak and Dry Fork produce coal with high sulfur content and a heat content so low (around 8000 Btu/lb.), that it cannot be used by many power producers. *Id.*

190. **Rival Mines Face Quality and Cost Disadvantages.** Dr. Hill testified that repositioning is not likely to offset the anticompetitive harm of the JV because NARM and Black Thunder are set apart by their size, their efficiency, and the quality of their coal. Hill (FTC Expert) Hrg. Tr. Vol. 4A 84:23-85:17.

191. Some customers run plants that prefer the higher Btu coal from Peabody's NARM mine and Arch's Black Thunder mine, do not have lower Btu rival SPRB mines on their qualified mine list, and would be unlikely to add lower Btu mines to their qualified mine list without going through a test burn process, especially in response to such a small change in delivered cost. *See, e.g.*, [REDACTED]; [REDACTED]; PX6027 Fuller (Southern Co.) Dep. Tr. 93:19-94:3 (Southern Co.'s Plant Miller prefers 8800 Btu coal). [REDACTED] are aware of these plant preferences when deciding how to price their coal supply offers. *See, e.g.*, [REDACTED]; [REDACTED] ([REDACTED]).

192. Some SPRB coal customers have expressed concern that Antelope and Belle Ayr, the two Btu SPRB mines apart from Black Thunder and NARM, would be unable to combat higher prices by significantly increasing output. [REDACTED], for example, described supply issues with both the Antelope and Belle Ayr mines. *See* [REDACTED] (“Antelope mine came back that they had no tons available for sale” and Belle Ayr “did not have coal available in the back half of [2019].”); *see also* [REDACTED] (“Both Antelope and Belle Ayr are smaller mines compared to Black Thunder and NARM, and it is not uncommon for Belle Ayr and Antelope to be sold out when Xcel Energy requests bids for coal supply.”). A WFA executive testified that she “is concerned that the other two major suppliers in the SPRB, Eagle Specialty Materials [FM Coal] and NTEC, are both small compared to Peabody and Arch.” PX7003 (WFA Decl.) ¶ 12.

VIII. THE ANTICOMPETITIVE HARM SUBSTANTIALLY OUTWEIGHS ANY BENEFIT FROM COGNIZABLE EFFICIENCIES

193. “Cognizable efficiencies” are merger-specific efficiencies that have been verified and do not arise from anticompetitive reductions in output or service.” *Guidelines* §10. Cognizable efficiencies have the potential to reverse competitive harm only if they are likely to be “passed through to customers.” *Id.* It “is incumbent upon the merging firms to substantiate efficiency claims.” *Id.*;

Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 172:8-14. The Defendants' claimed efficiencies fail to meet this standard. *See infra* VIII.A. Dr. Zmijewski identified the specific deficiencies in the information provided for verifiability and merger specificity in his opening report, and Dr. Israel and Defendants did not provide the missing information in their rebuttal report. *Compare* PX8002 (Zmijewski Rpt.) ¶¶ D.1-D.124 & Exhibits D-1 - D-21) *with* DX4004 (Israel Reply Rpt.) ¶¶ 79-144.

194. Even ignoring all flaws in Defendants' efficiencies claims and accepting them at face value, the claimed efficiencies would not outweigh the harm from the JV. Hill (FTC Expert) Hrg. Tr. Vol. 4A, 77:14-18:3; *see also* PX8001 (Hill Rpt.) ¶¶ 197, 200, Figs. 32 and 34 (assuming all claimed efficiencies are passed through to consumers, [REDACTED], the JV will result in annual harm from 2021 to 2030 of at least \$100 million).

A. The Defendants' Claimed Efficiencies Cannot Be Independently Verified

195. A "clean team" composed of Arch and Peabody business people calculated the claimed efficiencies. Haas (Peabody) Hrg. Tr. Vol. 8B 31:7-10. The clean team first generated a JV life of mine plan ("LOM"). *Id.* at 34:13-18. The clean team then subtracted the JV LOM from Peabody and Arch's standalone LOMs for the relevant mines—and that difference equals the efficiencies. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 130:7-23.

196. [REDACTED]

[REDACTED] Israel (Def. Expert) Hrg. Tr. Vol. 9B 31:15-21. [REDACTED]

[REDACTED]

[REDACTED] Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 170:5-16.

i. The Assumptions In The JV LOM Drives The Efficiency Claims

197. [REDACTED] PX6031

Gurgenli (Peabody) Dep. Tr. 89:17-91:9, 126:5-127:10; PX6042 Cochran (Arch) Dep. Tr. 24:9-25:12;

PX6044 Forkin (Peabody) Dep. Tr. 26:25-27:24; PX1712 (Peabody) at 010-15. [REDACTED]

[REDACTED] PX1712 (Peabody) at 008. [REDACTED]

[REDACTED] *Id.* at 011. [REDACTED]

[REDACTED] *Id.*

198. Defendants changed some assumptions from the standalone LOMs to the JV's LOM, and these changes drive the claimed efficiencies. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 133:5-135:15.

ii. The JV LOM Is Not Verified

199. The LOMs are a "closed box." Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 136:9-13.

200. The JV LOM is not an ordinary course document.¹⁰ Defendants did not disclose the assumptions and factual foundations of the JV LOM so they can be verified by implementing a methodology consistent with the case law and the Merger Guidelines, Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 136:2-137:22, nor have Defendants provided their own verification analysis that meet these requirements. *See generally* DX4003 (Israel Rpt.) DX4004 (Israel Reply Rpt.).

201. Although Dr. Israel claims that the process used to create the JV LOM is "very ordinary course stuff," Israel (Def. Expert) Hrg. Tr. Vol. 9A 86:14-23, he admits that it was not subjected to Peabody's ordinary course verification process. Israel (Def. Expert) Hrg. Tr. Vol. 9B 34:25-35:14. [REDACTED]

[REDACTED]

PX1712 (Peabody) at 008-011. Defendants do not provide that documentation here, nor do they present analysis of each assumption in the JV LOM. *See generally* DX4003 (Israel Rpt.), DX4004 (Israel Reply Rpt.); Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 139:17-142:21.

¹⁰ Dr. Zmijewski assumed that the standalone LOMs were verifiable (for the ordinary demand case) because they were produced in the ordinary course of business, even though these LOMs are also a black box. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 136:14-17.

iii. The Efficiencies Are Not Verifiable

202. Defendants' efficiencies claims [REDACTED]
[REDACTED]. *See generally* PX1048 (Peabody);
PX1049 (Peabody). Dr. Zmijewski attempted to trace the numbers in these spreadsheets to their basis—
assumptions or factual foundations—but kept hitting dead ends in the form of hard-coded numbers taken
from the mine models. *See, e.g.*, Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 158:3-167:2 (showing
attempted verification of [REDACTED]). Consequently, Dr. Zmijewski could
verify almost none of the claimed efficiencies as result of the failure to disclose many of the
assumptions underlying the JV LOM PX8007 (Zmijewski Rebuttal Rpt.) Exhibit R-V.2; PX8002
(Xmijewski Rpt.) Appendix D.

203. [REDACTED] (*e.g.*, [REDACTED]) is one
example of a category of unverifiable assumptions. [REDACTED]

[REDACTED] PX6031 Gurglenli (Peabody) Dep. Tr. 165:14-173:17. Mr. Gurglenli, the primary
engineer, [REDACTED]

[REDACTED] *Id.* Mr. Gurglenli admitted [REDACTED]
[REDACTED]

[REDACTED] *Id.* at 169:10-170:2. [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 140:23-141:3; *see generally* DX4003
(Israel Rpt.); DX4004 (Israel Reply).

204. Defendants and Dr. Israel included unfounded assumptions into their calculations. For example,
[REDACTED]
[REDACTED]. *See*

generally PX1048 (Peabody) at 007. [REDACTED]

[REDACTED] *id.* at 004. But, Wyoming Refining informed Peabody that it “would not be able to supply all of the diesel fuel needs of the joint venture.” PX7013 (Par Pacific Decl.) ¶ 6. Even if Wyoming Refining wanted to sell to the JV at Peabody’s current price, it lacks the capacity to do so. *Id.* at ¶7.

205. Another example is Defendants’ assumption that increasing volume will lead to a [REDACTED] improvement in discount across suppliers. This assumption is not based on a systematic analysis of price quotes from a representative sample of suppliers. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 153:05-155:19. Rather, Defendants primarily base the [REDACTED] on whatever responses they received from a subset of suppliers who responded to a request for information to use in the JV’s testimony. Haas (Peabody) Hrg. Tr. Vol. 8B 55:21-57:17; PX1211 (Peabody). These unsystematic responses do not verify the [REDACTED], and suppliers do not view their responses as binding. [REDACTED]
[REDACTED]; [REDACTED]; Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 153:5-155:19.

iv. Dr. Israel Does Not Provide The Information Or Evidence Necessary To Demonstrate Third Party Verification

206. Dr. Israel did not verify the efficiencies because he failed to independently identify the assumptions, factual foundations, and calculations of the claimed efficiencies—in particular, those underpinning the JV LOM. *See generally* DX4003 (Israel Rpt.); DX4004 (Israel Reply Rpt.). Dr. Israel relies on the parties’ “business judgment” and private conversations. Israel (Def. Expert) Hrg. Tr. Vol. 9A 87:07-87:10; DX4003 (Israel Rpt.) ¶¶ 134-227 (relying heavily on private interviews for which no notes have been provided).

207. Dr. Israel’s process is incomplete and inconsistent with the Merger Guidelines. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 120:14-25, 148:16-149:11. Dr. Israel never identifies a “list of assumptions for the standalone,” LOM compared to joint LOM, or “an explanation of why they changed.” Zmijewski

(FTC Expert) Hrg. Tr. Vol. 9B 149:15-150:7. Dr. Israel simply relies on businesspeople without asking them for “the foundation so I can actually document and empirically calculate what you say.” *Id.* at 148:20-149:11.

208. Dr. Israel claims that he tested the efficiencies with a “sensitivities” analysis. *See* Israel (Def. Expert) Hrg. Tr. Vol. 9A 85:20-86:13, 87:07-21. But, Peabody’s ordinary course standards require a more systematic and thorough testing process than Dr. Israel’s. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 172:23-174:7; [REDACTED]. Specifically, Peabody tests its LOMs with a “Monte Carlo simulation,” which requires the identification of the range of outcomes of all inputs and assumptions—not the small subset of the assumptions changed by Dr. Israel—and then rerunning the simulation many times with randomly chosen inputs and assumptions within each assumption’s range of outcomes to get a “distribution” that you can analyze. Zmijewski (FTC Expert), Hrg. Tr. Vol 9B 172:23-174:7. Because Dr. Israel used a small subset of the assumptions and did not determine the range of outcomes for any of them, he erroneously concluded that a [REDACTED] change to a few assumptions was aggressive testing of the efficiencies, despite the fact that even for the few variables he tested, [REDACTED] was too narrow of a range. *Id.* at 173:5-173:11. For example, Dr. Israel decreased inflation by [REDACTED], but the difference between Peabody’s alleged inflation factor and current inflation projections is more than [REDACTED]. *Id.* at 173:5-173:11.

B. Claimed Efficiencies More Than Five Years In The Future Are Speculative

209. Defendants’ forecasts of recurring efficiencies use, on average, a [REDACTED] horizon. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 125:17-19.

210. Forecasts by mining companies (including LOMs) become less accurate as their horizon increases. [REDACTED]; *see also* [REDACTED]

[REDACTED] ([REDACTED]). [REDACTED]

[REDACTED] PX1639 (Peabody) at 010-11; Zmijewski (FTC Expert)

Hrg. Tr. Vol. 9B 129:3-20. It is an empirical fact that “the longer the forecast horizon, the more difficult it is to predict.” *Id.* 125:05-19.

211. Because claimed efficiencies in the distant future are often speculative, the Merger Guidelines are skeptical of them. *Guidelines* § 10 n.15. Parties presenting efficiencies claims commonly limit the claims to five years or less. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 125:20-127:13. The common practice is also consistent with Arch’s past litigation practice. Arch’s current CEO Paul Lang [REDACTED]

[REDACTED] based on five-year plans, not LOMs. PX2760; Lang (Arch) Hrg. Tr. Vol. 5B 19:1-19:4.

212. This common practice is consistent with [REDACTED]. [REDACTED]
[REDACTED]
[REDACTED] PX1712 (Peabody) at 010; PX1659 (Peabody); PX1660 (Peabody); [REDACTED]. *See also* PX6042 Cochran (Arch) Dep. Tr. 22:20-24:08 ([REDACTED]
[REDACTED]).

C. Evidence From Past Acquisitions Does Not Substantiate The Claimed Efficiencies

213. Defendants claim [REDACTED]
[REDACTED]
[REDACTED] DX4003 (Israel Rpt.) ¶¶ 234-239. According to Dr. Israel, a past acquisition is analogous if it is generally the same as the proposed transaction: “I’m looking at a car merger, and there was another car merger.” Israel (Def. Expert) Hrg. Tr. Vol. 9A 88:25-89:08. Dr. Israel does not find it necessary to map individual efficiencies in past transactions to those currently claimed. Israel (Def. Expert) Hrg. Tr. Vol. 9B 37:6-17; Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 175:25-177:25.

214. But verification of current claimed efficiencies with past-achieved efficiencies requires a mapping of the individual claims. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 176:08-18. For example,

Arch claimed it achieved a fuel efficiency in the Arch/Triton transaction because the installation of GPS on trucks meant that they “don’t need as much fuel.” *Id.* at 188:02-06. In this case, Defendants also claim a fuel efficiency, but the claim is different and [REDACTED]. *Id.* at 188:06-09; DX4003 (Israel Rpt.) ¶¶ 193-195. Defendants have not mapped the claimed fuel efficiency to the fuel efficiency achieved in Arch/Triton; if they had, they would have seen that this efficiency is not analogous. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 187:22-188:9.

215. Defendants admit that in calculating the synergies they did not use past synergies from the Triton and Jacobs Ranch acquisitions to calibrate their efficiency claims in this matter. [REDACTED]

[REDACTED] PX6042 Cochran (Arch) Dep. Tr. 236:02-237:07; PX6031 Gurglenli (Peabody) Dep. Tr. 258:10-260:14 ([REDACTED]).

216. In addition, there is no evidence that, if Arch achieved efficiencies in past transactions, it shared them with consumers. As [REDACTED] explained, [REDACTED]

[REDACTED] Dr. Hill compared Arch’s prices and output to the prices and output of other SPRB coal suppliers and his analysis is consistent with [REDACTED]. Hill (FTC Expert) Hrg. Tr. Vol. 4A 88:15-94:24; PX8006 (Hill Rebuttal Rpt.) ¶¶ 141-151.

D. The JV’s Claimed Efficiencies Are Not JV Specific

i. The JV’s Claimed Mining Cost Efficiencies Are Not JV Specific

217. [REDACTED]
[REDACTED] PX8007 (Zmijewski Rebuttal Rpt.) ¶¶ 53.

218. For example, [REDACTED]
[REDACTED] PX8002 (Zmijewski Rpt.) ¶¶ 150-154, 158, 163, 164, 168. Arch’s current CEO, Paul Lang, testified that [REDACTED]
[REDACTED] PX6005 Lang (Arch) IH Tr. 122:21-124:10, 144:01-15. He further testified that [REDACTED]

[REDACTED] *Id.* at 124:06-08. Dr. Israel claims that [REDACTED]

[REDACTED]. DX4004

(Israel Reply Rpt.) ¶ 121. In the absence of documented evidence and given Mr. Lang's testimony, Defendants have failed to show that the JV is necessary to achieve these efficiencies. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 188:25-189:08.

219. Dr. Israel contends that contractual solutions are not likely because: "[h]ere, I mean I would just go to the facts, right? The idea of sharing their equipment or selling -- even selling equipment to each other has never happened that I've seen in the record, and nobody at either party could remember it happening." Israel (Def. Expert) Hrg. Tr. Vol. 9A 96:21-97:08. Contrary to Dr. Israel's claim, [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]¹¹ PX6042 Cochran (Arch) Dep. Tr. 89:06-90:16. There is no reason to believe that the Defendants would intentionally forego contractual opportunities to create value for themselves in the absence of the JV. Zmijewski (FTC Expert) Hrg. Tr. Vol. 9B 189:20-190:05.

220. A second example is the claimed [REDACTED]. According to the clean team's primary engineer, [REDACTED] PX6031 Gurganli (Peabody) Dep. Tr. 27:06-28:06; PX8002 (Zmijewski Rpt.) ¶ 160-162. [REDACTED]

[REDACTED] PX6031 Gurganli (Peabody) Dep. Tr. 268:12-20. In such circumstance, the claimed efficiency is typically deemed non-merger specific.

Zmijewski (FTC Expert) Hrg. Tr. 121:20-122:8. Defendants have not explained why Arch could not [REDACTED] through other means, and, in any event [REDACTED]

¹¹ Moreover, in many transactions with other parties, Arch has bought and sold used draglines. Lang (Arch) Hrg. Tr. Vol 5B 19:05-22.

[REDACTED] Lang (Arch), Hrg. Tr. Vol. 5B 20:16-22:09; PX6005 Lang (Arch) IH Tr. 85:22-86:03, 91:13-20.

ii. The JV's Claimed [REDACTED] Are Not JV Specific

221. Defendants and Dr. Israel incorrectly assume that [REDACTED]

[REDACTED]

[REDACTED]. DX4004 (Israel Reply Rpt.) ¶ 124.

222. [REDACTED]

[REDACTED]

[REDACTED] PX8007 (Zmijewski Rebuttal Rpt.) ¶ 54-

56. [REDACTED]

[REDACTED]

PX8002 (Zmijewski Rpt.) ¶¶ 133-141.

223. Arch and Peabody's fuel contracts are illustrative. Arch purchases fuel from Equitable Oil and Peabody purchases fuel from Wyoming Refining (owned by Par Pacific). PX7015 (Equitable Oil Decl.)

¶ 3; PX7013 (Par Pacific Decl.) ¶ 4. [REDACTED]

[REDACTED] PX2378 (Arch). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *Id.* at 001. [REDACTED]

[REDACTED]

[REDACTED] PX8002 (Zmijewski Rpt.) ¶ 135.

E. The JV Has Not Demonstrated That It Will Share Efficiencies With Customers

224. [REDACTED]

[REDACTED]

PX8002 (Zmijewski Rpt.) ¶¶ 66-71.

225. Consistent with this plan, Defendants admitted to customers that Arch and Peabody intend to retain the benefits of the JV for themselves. [REDACTED] (“I candidly asked him, I said, so as one of your customers, should we expect to see the price of our coal go down because of the savings that you had, to which Mr. Galli with a smile on his face said no, we don’t expect that to happen.”); [REDACTED] (Peabody and Arch told [REDACTED] “it will take longer before prices increase” which leads [REDACTED] to believe that “there is not going to be significant price decreases, and when there is less competition, then generally prices suffer.”); *see also* [REDACTED] ([REDACTED] [REDACTED]); PX6029 Kimm (MidAmerican) Dep. Tr. 183:16-21; [REDACTED] ([REDACTED] does not know whether the JV will result in lower prices or cost savings to the JV parties, or how it might impact future RFPs); [REDACTED] ([REDACTED] testified that she doubted [REDACTED] would see savings resulting from the JV because “[t]he synergy that saves them 10 cents a ton doesn’t necessarily mean that your price is going to reflect that same change.”).

226. Dr. Hill’s analysis shows that market data do not indicate Arch shared any achieved efficiencies with customers after past transactions. Hill (FTC Expert) Hrg. Tr. 4A 88:15-94:24; PX8006 (Hill Rebuttal Rpt.) ¶¶ 141-15). Customer testimony accords. [REDACTED]

F. The Temporary Discount Defendants Offered On The Eve Of Litigation Was Rejected By Several Customers And Is Not Connected To Any Cognizable Efficiency Savings

227. In February 2020, the same month this case was filed, Peabody and Arch suddenly offered customers a reduction in the base prices of already contracted coal volumes by \$0.15 per ton from the time the JV is approved until December 31, 2022, but only on the condition that customers sign a letter (within a matter of days) that some customers felt would endorse the JV. [REDACTED]

[REDACTED] (nine days to sign); Ruhl (OPPD) Hrg. Tr. Vol. 2B 15:17-16:21 (declined to sign because of concern it would appear to endorse the JV); *see also* [REDACTED]; PX6029 Kimm (MidAmerican) Dep. Tr. 59:4-60:6; [REDACTED]; PX6038 Sandlin (WFA) Dep. Tr. 173:10-15; [REDACTED]; [REDACTED].

Several of Defendants' most significant customers refused to sign the letter, to avoid giving the appearance of endorsing the JV. [REDACTED]; Ruhl (OPPD) Hrg. Tr. Vol. 2B 15:17-16:21. Neither Defendants nor their hired experts have established that a temporary \$.15 per ton discount on committed volumes is connected in any way to cognizable merger-specific efficiencies that will be recognized between the date the JV closes and December 31, 2022.

PLAINTIFF’S PROPOSED CONCLUSIONS OF LAW

I. THE COURT HAS JURISDICTION OVER THIS ACTION

1. This action seeks a preliminary injunction to preserve the status quo until the FTC can complete an administrative adjudication on the merits to determine whether the proposed transaction violates Section 7 of the Clayton Act, 5 U.S.C. § 18, and Section 5 of the Federal Trade Commission Act (“FTC Act”), 15 U.S.C. § 45. This Court has subject matter jurisdiction pursuant to 15 U.S.C. § 53(b) .
2. Defendants are, and at all relevant times have been, engaged in activities in or affecting “commerce” as defined in Section 4 of the FTC Act, 15 U.S.C. § 44, and Section 1 of the Clayton Act, 15 U.S.C. § 12.
3. Defendants Peabody and Arch have consented to personal jurisdiction in the United States District Court for the Eastern District of Missouri. Venue is proper in this District under 28 U.S.C. § 1391(b) and (c), as well as under 15 U.S.C. § 53(b).

II. THE STANDARD FOR A PRELIMINARY INJUNCTION IS MET

4. This Court should issue a preliminary injunction under Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), “if the FTC shows that ‘weighing the equities and considering the Commission’s likelihood of ultimate success, such action would be in the public interest.’” *FTC v. Sanford Health*, 926 F.3d 959, 962 (8th Cir. 2019) (quoting *FTC v. Tenet Health Care Corp.*, 186 F.3d 1045, 1051 (8th Cir. 1999)). Under Section 13(b)’s “unique public interest standard,” the FTC is “not held to the high thresholds applicable where private parties seek interim restraining orders.” *FTC v. Tronox Ltd.*, 332 F. Supp. 3d 187, 197 (D.D.C. 2018) (quoting *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 714 (D.C. Cir. 2001)). In crafting Section 13(b), “Congress further demonstrated its concern that injunctive relief be broadly available to the FTC by incorporating a unique ‘public interest’ standard . . . rather than the more stringent, traditional ‘equity’ standard for injunctive relief.” *FTC v. Exxon Corp.*, 636 F.2d 1336, 1343 (D.C. Cir. 1980).

5. The FTC satisfies Section 13(b)'s public interest standard where—as it has done here—it marshals evidence that “rais[es] questions going to the merits so serious, substantial, difficult and doubtful as to make them fair ground for thorough investigation, study, deliberation and determination by the FTC in the first instance.” *Tenet Health Care Corp.*, 186 F.3d at 1051 (internal quotations omitted).
6. At this stage, the Commission is not required to prove, nor is this Court required to find, that the proposed transaction would violate the antitrust laws. *FTC v. Staples, Inc.*, 970 F. Supp. 1066, 1070-71 (D.D.C. 1997) (hereinafter *Staples I*). “That adjudicatory function is vested in the FTC in the first instance.” *Heinz*, 246 F.3d at 714 (quoting *FTC v. Food Town Stores, Inc.*, 539 F.2d 1339, 1342 (4th Cir. 1976)).
7. To evaluate the FTC's “likelihood of success on the merits,” this Court need only “measure the probability that, after an *administrative hearing on the merits*, the [FTC] will succeed in proving that the effect of the [proposed transaction] may be substantially to lessen competition . . . in violation of the Clayton Act.” *Tronox*, 332 F. Supp. 3d at 197 (quoting *FTC v. Sysco Corp.*, 113 F. Supp. 3d 1, 22 (D.D.C. 2015)) (emphasis added).
8. District courts also consider the equities, mindful that “[t]he equities will often weigh in favor of the FTC, since the public interest in effective enforcement of the antitrust laws was Congress's specific public equity consideration in enacting” Section 13(b). *FTC v. CCC Holdings, Inc.*, 605 F. Supp. 2d 26, 35 (D.D.C. 2009) (internal quotations omitted). That public interest trumps any private interest and, thus, the equities favor preliminary relief where the FTC has shown a likelihood of success on the merits. *FTC v. Sanford Health, Sanford Bismarck*, No. 1:17-CV-133, 2017 WL 10810016, at *24 (D.N.D. 2017).
9. Here, Plaintiff has demonstrated a likelihood of success on the merits, and the equities weigh in favor of relief under Section 13(b).

III. PLAINTIFF HAS SHOWN A LIKELIHOOD OF SUCCESS ON THE MERITS

A. The Proposed JV is Presumptively Unlawful

10. Section 7 of the Clayton Act prohibits business combinations, such as joint ventures, whose “effect . . . may be substantially to lessen competition, or to tend to create a monopoly” in “any line of commerce . . . in any section of the country.” 15 U.S.C. § 18. A transaction that violates the Clayton Act also violates Section 5 of the FTC Act. *FTC v. Indiana Fed’n of Dentists*, 476 U.S. 447, 454 (1986).

11. Congress intended Section 7 to stop anticompetitive combinations “in their incipiency,” *Brown Shoe Co. v. United States*, 370 U.S. 294, 318 (1962), and “used the words ‘may be substantially to lessen competition’ . . . to indicate that its concern was with probabilities, not certainties.” *Id.* at 323 (quoting 15 U.S.C. § 18). Indeed, “[a] certainty, even a high probability, need not be shown,” and “doubts are to be resolved against the transaction.” *FTC v. Elders Grain, Inc.*, 868 F.2d 901, 906 (7th Cir. 1989).

12. Courts evaluate the FTC’s likelihood of success on the merits using a burden-shifting framework. *Sanford*, 926 F.3d at 962-63; *see also Chicago Bridge & Iron Co. N.V. v. FTC*, 534 F.3d 410, 423 (5th Cir. 2008); *Tronox*, 332 F. Supp. 3d at 197. The FTC establishes a presumption of illegality by showing that the transaction will lead to undue concentration in a relevant antitrust market. *Sanford*, 926 F.3d at 962. A relevant antitrust market has two dimensions: the relevant product market and the relevant geographic market. *See id.* at 963; *see also CCC Holdings*, 605 F. Supp. 2d at 37). By meeting this initial burden, the government makes out a *prima facie* case. *FTC v. Wilh. Wilhelmsen Holding ASA*, 341 F. Supp. 3d 27, 58 (D.D.C. 2018) (citing *Heinz*, 246 F.3d at 715).

13. The burden then shifts to the defendants to produce evidence rebutting the presumption of illegality. *United States v. Marine Bancorp., Inc.*, 418 U.S. 602, 631 (1974); *see also Sanford*, 926 F.3d at 962-63. The combination “must be enjoined,” *United States v. Phila. Nat’l Bank*, 374 U.S. 321, 363 (1963), unless the defendants produce evidence “that the market-share statistics [give] an inaccurate account of the merger’s probable effects on competition in the relevant market.” *Heinz*, 246 F.3d at 715

(alterations omitted).

14. A “more compelling . . . prima facie case” increases the amount of “evidence the defendant must present to rebut it successfully.” *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 991 (D.C. Cir. 1990); *see also Sanford*, 926 F.3d at 963. Only “[i]f the defendant successfully rebuts the presumption” does “the burden of producing additional evidence of anticompetitive effect [shift] to the government,” where it “merges with the ultimate burden of persuasion, which remains with the government at all times.” *Baker Hughes*, 908 F.2d at 983.

15. The Supreme Court and the Courts of Appeals have established a well-settled framework for defining a relevant antitrust market under the Clayton Act and assessing the likely effects of proposed transactions. *See Brown Shoe*, 370 U.S. at 325; *see also Sanford*, 926 F.3d at 962-63 (describing market definition and burden-shifting framework). The FTC prevails on the merits by demonstrating, through the standard tests established by precedent, that SPRB coal is a relevant product market, and that the proposed JV will likely harm competition in that market compared to the but-for world in which competition continues. *See* U.S. Dep’t of Justice & Fed. Trade Comm’n, *Horizontal Merger Guidelines* § 1 (hereinafter *Guidelines*)¹² (merger analysis normally requires “an assessment of what will likely happen if a merger proceeds as compared to what will likely happen if it does not.”); *cf. FTC v. Nat’l Tea Co.*, 603 F.2d 694, 700 (8th Cir. 1979) (“when examining a merger, a court must necessarily compare what may happen if the merger occurs with what may happen if the merger does not occur.”). The FTC has shown that SPRB coal is an appropriate relevant product market, and that the effect of the JV “may be substantially to lessen competition” within that line of commerce. 15 U.S.C. § 18. No further showing is required under controlling law.

¹² Although the Guidelines are not binding, “[t]hey have [] been repeatedly relied on by the courts” in evaluating merger challenges. *Tronox Ltd.*, 332 F. Supp. 3d at 206; *accord Sanford*, 926 F.3d at 964-66 (citing the *Guidelines*); *FTC v. Staples*, 190 F. Supp. 3d 100, 117 (D.D.C. 2016) (“*Staples II*”); *H&R Block*, 833 F. Supp. 2d at 52.

i. The Relevant Product Market is SPRB Coal

16. A “relevant product market” is a term of art in antitrust law. *United States v. H&R Block*, 833 F. Supp. 2d 36, 50 (D.D.C. 2011). “Market definition focuses . . . on customers’ ability and willingness to substitute away from one product to another in response to a price increase or a corresponding non-price change. . . .” *Guidelines* § 4.

17. A broad set of functional substitutes may contain smaller markets which themselves “constitute [relevant] product markets for antitrust purposes.” *Brown Shoe*, 370 U.S. at 325. In other words, a firm can be said to compete in multiple—at times overlapping—product markets, and a merger is illegal if it results in harm in *any* of these markets. *United States v. Continental Can Co.*, 378 U.S. 441, 458 (1964); *Brown Shoe*, 370 U.S. at 325 (“Because [Section 7] of the Clayton Act prohibits any merger which may substantially lessen competition ‘in any line of commerce,’ it is necessary to examine the effects of a merger in each such economically significant submarket to determine if there is a reasonable probability that the merger will substantially lessen competition.”) (internal citations omitted). Thus, “the mere fact that a firm may be termed a competitor in the overall marketplace does not necessarily require that it be included in the relevant product market for antitrust purposes.” *Staples I*, 970 F. Supp. at 1075.

18. Because an unconcentrated broader market of all functional substitutes does not imply that a transaction poses no risk to competition within a narrower included market, the relevant market shares and competitive effects of a proposed transaction are often assessed by looking to the *narrowest market* in which (1) the Defendants compete, and that (2) satisfies the criteria for a properly defined relevant market using the *Brown Shoe* factors or the hypothetical monopolist test (HMT). *See, e.g., H&R Block*, 833 F. Supp. 2d at 51-52; *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 120 (D.D.C. 2004); *Tronox*, 332 F. Supp. 3d at 201-202. Importantly, this narrowest market principle does not mean the relevant product market is the narrowest market conceivable; rather, courts look to the narrowest market that satisfies the market definition criteria endorsed by precedent: the HMT ensures that the relevant market is not

defined *too narrowly*. See, e.g., *FTC v. Advocate Health Care Network*, 841 F.3d 460, 473 (7th Cir. 2016) (“The economic literature explains that if a candidate market is too narrow, the [HMT] will show as much, and further iterations will broaden the market until it is big enough.”); *Arch Coal*, 329 F. Supp. 2d at 120-21 (holding that SPRB coal was appropriate relevant market based on application of HMT and *Brown Shoe*, rejecting proposed narrower relevant market of 8800BTU SPRB coal); *Guidelines* § 4.1.1 (the HMT “ensures that markets are not defined too narrowly...when the Agencies rely on market shares and concentration, they usually do so in the smallest relevant market satisfying the” HMT).

1. The Hypothetical Monopolist Test Shows SPRB Coal Is the Relevant Product Market

19. As the Eighth Circuit affirmed last year, the HMT is “commonly used in antitrust actions to define the relevant market.” *Sanford*, 926 F.3d at 963; see also *Wilhelmsen*, 341 F. Supp. 3d at 47; *FTC v. Staples, Inc.*, 190 F. Supp. 3d 100, 121 (D.D.C. 2016) (hereinafter *Staples II*); *Guidelines* § 4.1. The HMT is an analytical method that asks “whether a hypothetical monopolist who has control over the products in an alleged market could profitably raise prices on those products.” *Staples II*, 190 F. Supp. 3d at 121. If a firm with a monopoly over a set of products in a candidate market could profitably impose a small but significant non-transitory increase in price (SSNIP), those products constitute a relevant product market for antitrust purposes. *Guidelines* § 4.1.1. A SSNIP is normally 5% of the prices that would prevail absent the merger. *Id.* § 4.1.2.

20. The FTC’s economic expert, Dr. Hill, implemented the HMT using multiple data sources and a standard, reliable, quantitative method that the FTC and the Antitrust Division of the Department of Justice use regularly. PFF ¶¶ 39-52. Dr. Hill’s analysis showed that a hypothetical monopolist of SPRB coal could profitably impose a SSNIP; thus, the HMT is satisfied and the sale of SPRB coal is a properly defined relevant product market. PFF ¶ 47. As part of his HMT analysis, Dr. Hill calculated the price elasticity of demand of SPRB coal, *id.*, and accounted for the role of non-SPRB fuels, RTO/ISO electricity markets, and power plant retirements, among other factors. PFF ¶¶ 47-52.

21. Defendants did not present any alternative estimate of the own-price elasticity of SPRB coal disputing those proffered by the FTC at the hearing, nor did Defendants present any alternative HMT results based on reliable methods and data that suggests that SPRB coal does not satisfy the HMT. PFF ¶ 39. Defendants did not suggest that any other fuels should be included within the relevant market by presenting any quantification showing a high degree of cross-price elasticity between any other fuels and SPRB coal (or any other quantification of the *degree* of constraint non-SPRB fuels impose on SPRB coal prices). *H.J., Inc. v. IT&T*, 867 F.2d 1531, 1538 (8th Cir. 1989) (“degree” of cross-elasticity must be high for products to be in the same relevant antitrust market). All substitutes, even distant ones, exhibit *some* level of cross-price elasticity, but market definition depends on the *degree* of sensitivity. *Cf. SuperTurf, Inc. v. Monsanto Co.*, 660 F.2d 1275, 1278 (8th Cir. 1981) (narrower relevant antitrust market may exist despite a showing of some cross-elasticity in a broader market). Thus, Defendants’ assertion that Dr. Hill’s analysis shows that there is a *low* cross-price elasticity between natural gas prices and demand for SPRB coal does not support including both SPRB coal and natural gas within the same relevant product market. *See* PFF ¶ 46; *Staples I*, 970 F. Supp. at 1078-80 (excluding substitutes with low cross-elasticity from the relevant product market).

2. The *Brown Shoe* Factors Show that SPRB Coal, not a Broader Market, Is the Relevant Product Market

22. “Because Section 7 of the Clayton Act prohibits any merger which may substantially lessen competition ‘in any line of commerce,’ it is necessary to examine the effects of a merger in each . . . economically significant submarket [i.e., relevant market] to determine if there is a reasonable probability that the merger will lessen competition.” *Brown Shoe*, 370 U.S. at 325 (internal citations omitted). The “boundaries of such [economically significant relevant markets] may be determined by examining such practical indicia as industry or public recognition of the [relevant market] as a separate economic entity, the product’s peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors.” *Id.* (internal citations

omitted). These practical indicia are commonly referred to as the “*Brown Shoe* factors,” and courts apply them to define relevant product markets. *See, e.g., Henry v. Chloride*, 809 F.2d 1334, 1342 (8th Cir. 1987); *SuperTurf*, 660 F.2d at 1278; *see also H&R Block*, 833 F. Supp. 2d. at 51 (“‘practical indicia’ of market boundaries may be viewed as evidentiary proxies for proof of substitutability and cross-elasticities of supply and demand.”) (citing *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 218 (D.C. Cir. 1986) (Bork, J.)).

23. A relevant product market of SPRB coal satisfies the *Brown Shoe* factors, including industry recognition, PFF ¶¶ 11-15; distinct characteristics and uses, PFF ¶¶ 24-34 ; unique production facilities, PFF ¶ 23; distinct customers, PFF ¶ 35; distinct prices, PFF ¶¶ 16-22; price sensitivity, PFF ¶¶ 36-37; and specialized vendors, PFF ¶ 23. Thus, the market for SPRB coal is an “economically significant” market that constitutes a relevant product market “for antitrust purposes.” *Brown Shoe*, 370 U.S. at 325.

24. As the *Arch Coal* court explained, “[t]he SPRB provides a critical source of plentiful, inexpensive coal having a strong combination of . . . important characteristics.” *Arch Coal*, 329 F. Supp. 2d at 118.

ii. The Relevant Geographic Market Is the SPRB

25. Courts use the same principles and analytical tools used to define a relevant product market when defining the relevant geographic market. *Guidelines* § 4. In cases where customers receive goods at the suppliers’ locations, as with SPRB coal, the relevant geographic market is usually defined based on the locations of suppliers. *Guidelines* § 4.2.1.

26. “[B]ecause the relevant product market is defined in geographic terms as SPRB coal, which is produced and sold in that region, the product market and geographic market analysis are really the same” in the case of the SPRB coal relevant market. *Arch Coal*, 329 F. Supp. 2d at 123. All SPRB coal suppliers are located in the SPRB region and all or nearly all SPRB coal sales are made in the SPRB.

PFF ¶ 63. A hypothetical monopolist of all SPRB coal could profitably impose a SSNIP. The relevant geographic market is the SPRB. PFF ¶ 64.

iii. The JV Is Presumptively Illegal Because It Would Lead to Undue Concentration in the Relevant Market

27. A transaction that significantly increases market shares and concentration is presumptively unlawful under Section 7 of the Clayton Act. *Phila. Nat'l Bank*, 374 U.S. at 362-63; *Heinz*, 246 F.3d at 716. Such a combination “is so inherently likely to lessen competition substantially that it must be enjoined” unless defendants successfully rebut the presumption. *Phila. Nat'l Bank*, 374 U.S. at 363.

28. Courts use the Herfindahl-Hirshman Index (HHI) to measure market concentration. *Sanford*, 926 F.3d at 964; *see also Wilhelmsen*, 341 F. Supp. 3d at 58; *Heinz*, 246 F.3d at 716; *FTC v. Swedish Match*, 131 F. Supp. 2d 151, 166-67 (D.D.C. 2000). HHIs are calculated by summing the squares of each market participant’s individual market share both pre- and post-acquisition. *Tronox*, 332 F. Supp. at 207; *Sysco Corp.*, 113 F. Supp. 3d at 52-53 ; *Heinz*, 246 F.3d at 716; *Guidelines* § 5.3.

29. A joint venture is presumptively anticompetitive and presumptively unlawful if it increases the HHI by more than 200 points and results in a relevant market with a post-acquisition HHI exceeding 2,500, which is deemed a “highly concentrated market.” *FTC v. Penn State Hershey Med. Ctr.*, 838 F.3d 327, 347 (3d Cir. 2016); *St. Alphonsus Med. Ctr. – Nampa, Inc. v. St. Luke’s Health Sys.*, 778 F.3d 775, 786 (9th Cir. 2015); *Sysco*, 113 F. Supp. 3d at 52-53; *H&R Block*, 833 F. Supp. 2d at 71; *Guidelines* § 5.3. A transaction resulting in such a concentration “establish[es] the government’s prima facie case that a merger is anticompetitive.” *H&R Block*, 833 F. Supp. 2d at 71. *See also Swedish Match*, 131 F. Supp. 2d at 166 (“In *Philadelphia National Bank*, the [Supreme] Court specifically held that a post-merger market share of thirty percent triggers the presumption.”) (citing *Phila. Nat'l Bank*, 374 U.S. at 364).

30. In this case, the proposed JV far surpasses the *Guidelines* thresholds, creating a dominant SPRB coal producer controlling nearly 70% of the market, and increasing the HHI in the relevant market by 2,258, resulting in a highly concentrated post-JV HHI of 4,965. PFF ¶ 65.

31. These statistics establish the FTC’s *prima facie* case by a wide margin. For example, the HHI increase of 2,258 exceeds the threshold anticompetitive HHI increase of 200 points by more than a factor of 10. *See, e.g., Tronox*, 332 F. Supp. 3d at 207 (proposed transaction “presumptively anticompetitive” where it increased the HHI by 726 and resulted in a post-transaction HHI of 3,046); *Heinz*, 246 F.3d at 716 (transaction enjoined where it would “increase the HHI by 510,” noting this “creates, by a wide margin, a presumption that the merger will lessen competition” in the relevant market); *H&R Block*, 833 F. Supp. 2d at 72 (transaction enjoined where it would cause HHI increase of approximately 400, which is “enough to create a presumption of anticompetitive effects”); *Swedish Match*, 131 F. Supp. 2d at 166-67 (transaction enjoined involving an HHI increase of 1,514).

32. Defendants’ own ordinary-course documents show SPRB market shares in line with market shares calculated by the FTC. PFF ¶ 68. Further, Dr. Hill calculated market shares and HHIs using multiple sources of data—production and reserves—and by using data from multiple years. PFF ¶¶ 65-67. The joint venture is presumptively anticompetitive under every calculation. PFF ¶¶ 65-67.

33. Since the extremely high market concentration statistics are well beyond the thresholds for a presumptively anticompetitive joint venture, the FTC has established an especially compelling *prima facie* case. “[T]he more compelling the *prima facie* case, the more evidence the defendant must present to rebut it successfully.” *Sanford*, 926 F.3d at 963 (quoting *Baker Hughes*, 908 F.2d at 991).

iv. Evidence of Anticompetitive Effects Corroborates the Presumption of Illegality

34. Direct evidence that the JV will eliminate valuable competition strengthens the presumption of harm arising from the Defendants’ enormous combined share of the relevant market. *See, e.g., Sysco*, 113 F. Supp. 3d at 71-72 (“the FTC has bolstered its *prima facie* case with additional proof that the merger would harm competition in [the relevant] markets.”). The results of economic modeling also strengthen the presumption of harm. *See, e.g., Wilhelmsen*, 341 F. Supp. 3d at 65.

1. The JV Would Eliminate Significant and Beneficial Price Competition Between Defendants

35. The loss of head-to-head competition between merging firms is additional evidence that bolsters a presumption of competitive harm arising from market concentration levels. *Heinz*, 246 F.3d at 716-17. When this eliminated head-to-head competition “is an important feature of the relevant market, a merger is likely to have unilateral anticompetitive effect if the acquiring firm will have the incentive to raise prices or reduce quality after the acquisition.” *Wilhelmsen*, 341 F. Supp. 3d at 59; *see also United States v. Aetna, Inc.*, 240 F. Supp. 3d 1, 74 (D.D.C. 2017) (“[i]n further support of that presumption, there is clear evidence that the proposed merger would eliminate valuable head-to-head competition between close rivals”).

36. Courts have repeatedly found that transactions that would eliminate valuable head-to-head competition are likely to result in anticompetitive effects. *See, e.g., Staples II*, 190 F. Supp. 3d at 131-33; *Sysco*, 113 F. Supp. 3d at 62, 65-66; *Aetna*, 240 F. Supp. 3d at 74; *Wilhelmsen*, 341 F. Supp. 3d at 59; *Staples I*, 970 F. Supp. at 1083; *Heinz*, 246 F.3d at 717-19. Here, the FTC has produced extensive evidence that Peabody and Arch compete head-to-head with each other in bidding events for SPRB coal, resulting in lower prices and other benefits to customers. PFF ¶¶ 78-101. Bidding data and switching data further confirm the close degree of competition between Peabody and Arch. PFF ¶¶ 73-74. Power producers—including those *called by Defendants* at the hearing—testified that they have benefited from this head-to-head SPRB competition, PFF ¶¶ 91-96, and that they viewed the elimination of that competition by the JV as plausibly leading to higher SPRB prices than would otherwise prevail without the JV. PFF ¶¶ 91-96.

37. Courts have found the likelihood of harm to competition is particularly clear where, as here, the proposed transaction would combine the two largest rivals in the relevant market. Indeed, “there can be little doubt that the acquisition of the second largest firm in the market by the largest firm in the market will tend to harm competition in that market.” *Staples II*, 190 F. Supp. 3d at 138 (quoting *Sysco*, 113 F.

Supp. 3d at 88); *see also Wilhelmsen*, 341 F. Supp. 3d at 59; *Swedish Match*, 131 F. Supp. 2d at 169 (eliminating one of a market leader’s “primary direct competitors” likely to lead to price effects); *Staples I*, 970 F. Supp. at 1083.

2. Economic Modeling Shows Consumers Will Suffer Significant Financial Harm

38. Courts also consider economic modeling as additional evidence of likely anticompetitive effects. *See, e.g., Wilhelmsen*, 341 F. Supp. 3d at 65; *Aetna*, 240 F. Supp. 3d at 46-47. Dr. Hill used a Cournot model of the industry to assess the likely competitive effects of the proposed JV. PFF ¶¶ 125-128.¹³ This economic modeling confirms that the transaction is likely to result in significant anticompetitive harm. PFF ¶ 128. Dr. Hill’s modeling accounts for declining demand, captures the effect of competition from non-SPRB fuels, and very conservatively assumes that all of Defendants’ claimed efficiencies are achieved *and* passed on to customers. PFF ¶¶ 125-128.

39. None of Defendants’ three hired experts advanced any economic model of competition to aid the Court in assessing the effects of the proposed JV. PFF ¶¶ 117-20.

B. Defendants Failed to Rebut the Presumption of Illegality

40. Defendants have the burden to rebut the presumption of illegality, and that burden is particularly heavy here given the strength of the FTC’s prima facie case. *See Sysco*, 113 F. Supp. 3d at 23 (the stronger the prima facie case, the more evidence defendants must present to rebut the established presumption). Defendants have failed to rebut the presumption of illegality, which is bolstered by the FTC’s evidence that competition between SPRB coal producers is critical to pricing, in particular head-to-head competition between Peabody and Arch. *See* PFF ¶¶ 78-101.

i. The Existence of Non-SPRB Fuels Does Not Rebut the FTC’s Case

41. Defendants have failed to establish that non-SPRB fuels are “sufficiently close substitutes to

¹³ The Cournot model is “a ‘fundamental economic’ tool used to analyze oligopolies” and transactions that increase market concentration. *Tronox*, 332 F. Supp. 3d at 211.

constrain any anticompetitive [] pricing after the proposed” JV. *H&R Block*, 833 F. Supp. 2d at 55.

Although some customers may switch to some degree to other fuels in response to an increase in SPRB coal prices, Defendants have presented no evidence or elasticity estimates showing that *enough* sales will be lost to other fuels to make a small price increase unprofitable. See PFF ¶ 37.

ii. The Existence of RTOs/ISOs Does Not Rebut the FTC’s Case

42. Defendants failed to present any evidence that a small increase in the commodity price of SPRB coal, which represents only a minority of the variable costs incurred by SPRB coal-fired power units, would be rendered unprofitable due to the operation of RTO/ISO wholesale electricity markets. See PFF ¶ 155. These RTO/ISO wholesale electricity markets already operate today, see PFF ¶ 153, and their impact is already taken into account in Dr. Hill’s elasticity of demand estimates and implementation of the HMT, as well as by pre-JV customer behavior and customer testimony regarding their inability to avoid SPRB coal price increases. See *Wilhelmsen*, 341 F. Supp. at 71 (“Defendants have not identified any *new* strategy or alternative likely to emerge post-merger—instead, they have focused on strategies that are already part of the competitive landscape and which show no promise of becoming more effective. On the other hand, the FTC has shown that the merger will result in the loss of a proven strategy—the ability to leverage” two large competitors against each other) (emphasis in original). To the extent that power producers can leverage the dynamics of electricity markets to obtain better prices for SPRB coal, power producers *already* have the incentive to do that as much as they possibly can today. PFF ¶¶ 153-154. Yet, despite the operation of RTO/ISO markets, power producers still reap benefits from the competition among SPRB suppliers, including Peabody and Arch. PFF ¶¶ 78-101.

iii. Declining Demand for SPRB Coal Does Not Rebut the FTC’s Case

43. The Clayton Act provides no exception for anticompetitive transactions in declining markets. *Staples II*, 190 F. Supp. 3d at 109, 111 (preliminary injunction granted where defendants likened themselves to “‘penguins on a melting iceberg’ struggling to survive in an increasingly digitized

world”); *United States v. Ivaco, Inc.*, 704 F. Supp. 1409, 1424-25 (W.D. Mich. 1989) (preliminary injunction granted despite “shrinking” market with “stable prices, high overhead and persistent losses,” to the point that one defendant might exit, because “evidence of weakened financial condition and a shrinking market is insufficient to demonstrate that the firms’ past performance is an unreliable indicator of their future ability to compete”); *FTC v. Bass Bros. Enterprises*, No. C84-1304, 1984 WL 355, at *3 (N.D. Ohio June 6, 1984) (preliminary injunction granted in market with “increasing costs and declining demand”); *FTC v. Cardinal Health*, 12 F. Supp. 2d 34, 64-65 (D.D.C. 1998) (preliminary injunction granted in market where prices had been falling for ten years).

44. There is no dispute that total demand for SPRB coal has generally declined over the past decade, although much less so than demand for other types of coal. PFF ¶ 5. Every stage of the FTC’s analysis of this case, including its implementation of the HMT, its extensive documentation of the continuing benefits of recent head-to-head competition, and its economic modeling have accounted for current market trends. PFF ¶¶ 38-52, 78-101, 125-28. Peabody and Arch keep each other’s prices low through head-to-head competition, and it is probable that eliminating this close competition will lead to higher prices for SPRB coal than if the competition continued. PFF ¶¶ 78-101. *See, e.g., Ivaco*, 704 F. Supp. at 1424-25.

iv. Current Industry Margins Do Not Rebut the FTC’s Prima Facie Case

45. Defendants have failed to show that supposedly low industry margins today mean that the JV would not cause anticompetitive effects compared to the world but-for the JV. PFF ¶ 62. *See Cardinal Health*, 12 F. Supp. 2d at 43, 64-65 (enjoining combination of wholesale distributors despite the fact that “wholesalers have increasingly lowered their prices and profit margins in order to compete . . . [and] wholesale distributors’ sell-side margins declined from 5.5% to 0.35%,” because if the transaction proceeded the “prices set today could in effect become the floor tomorrow”); *Sysco*, 113 F. Supp. 3d at 48 (“Defendants’ present inability to earn duopoly profits [from customers within the proposed relevant

market] is probably because large customers can keep prices down by leveraging the defendant companies against one another.”); *Ivaco*, 704 F. Supp. at 1419 (transaction enjoined where “high concentration” accompanied low margins because “vigorous price competition between the three firms, and especially between [the defendants]” led to years of persistent losses).

C. Defendants’ Belated “Powerful Buyer” Defense Fails

46. In *Sanford*, the court considered (and rejected) a powerful buyer defense in a market where a single dominant buyer accounted for over 60% of the market. *Sanford*, 926 F.3d at 962, 964-65. No remotely comparable large buyers exist in the SPRB market, nor did Defendants present any evidence whatsoever quantifying supposed buyer power at the hearing. Defendants also have not attempted to establish the other showings required for such a defense. *See id.* at 964 (identifying elements considered in powerful buyer defense). Even assuming *arguendo* that SPRB customers were powerful buyers, this defense would fail because the JV will eliminate head-to-head competition between close rivals, removing a critical tool those customers have used to negotiate prices. *See Guidelines* § 8 (“Even buyers that can negotiate favorable terms may be harmed by an increase in market power. The Agencies examine the choices available to powerful buyers and how those choices likely would change due to the merger.”). The “ability of large buyers to keep prices down . . . depends on the alternatives these large buyers have available to them. . . . If a merger reduces alternatives, the power buyers’ ability to constrain price . . . can be correspondingly diminished.” *Sysco*, 113 F. Supp. 3d at 48. *See also Wilhelmsen*, 341 F. Supp. 3d at 71 (rejecting power buyer defense where the merger would eliminate a “proven strategy” of leveraging two competitors against each other).

i. Entry and Expansion Are Not Likely

47. Entry of a new competitor into the relevant market “will alleviate concerns about adverse competitive effects only if such entry will deter or counteract any competitive effects of concern so the merger will not substantially harm customers.” *Sysco*, 113 F. Supp. 3d at 80 (quoting *Guidelines* § 9).

Defendants bear the burden of demonstrating that new entrants will “fill the competitive void that will result from the proposed merger.” *Id.* (internal quotation omitted).

48. To rebut the presumption of illegality, entry of a new competitor or expansion of an existing competitor must be timely, likely, and sufficient to offset the loss of competition resulting from the proposed transaction. *Guidelines* § 9; *see also Staples II*, 190 F. Supp. 3d at 133.

49. A finding of high entry barriers “largely eliminates the possibility that the reduced competition caused by the merger will be ameliorated by new competition from outsiders and further strengthens the FTC’s case.” *Heinz*, 246 F.3d at 717.

50. Defendants have not shown that there is any likely entry or expansion by acquiring new reserves in the SPRB. PFF ¶¶ 181-84.

51. Defendants have not shown that there is any likelihood of timely output expansion by existing SPRB coal suppliers sufficient to reverse the anticompetitive effects of the proposed JV. PFF ¶¶ 185-92.

ii. Defendants’ Efficiencies Defense Fails

52. “Congress was aware that some mergers which lessen competition may also result in economies [i.e., efficiencies] but it struck the balance in favor of protecting competition.” *FTC v. Procter & Gamble Co.*, 386 U.S. 568, 580 (1967). Because of this, courts subject efficiencies defenses to a “rigorous analysis.” *Heinz Co.*, 246 F.3d at 720-21. “[C]ourts have rarely, if ever, denied a preliminary injunction solely based on the likely efficiencies,” *CCC Holdings*, 605 F. Supp. 2d at 72.

53. Defendants bear the burden of demonstrating that claimed efficiencies rebut the presumption of illegality. *FTC v. Advocate Health Care*, No. 15 C 11473, 2017 WL 1022015, at *16 (N.D. Ill. Mar. 16, 2017). Where the merger will result in high levels of concentration, “defendants must present ‘proof of extraordinary efficiencies’ to rebut the government’s *prima facie* case.” *Sysco*, 113 F. Supp. 3d at 81 (quoting *Heinz*, 246 F.3d at 720). Defendants cannot make this showing, because even assuming *arguendo* that the claimed efficiencies would all be achieved *and* passed through to consumers, the

claimed efficiencies still would not reverse the competitive harm resulting from the JV. PFF ¶ 194.

54. Not all cost savings associated with a JV qualify as cognizable efficiencies for antitrust purposes. To be cognizable, claimed efficiencies must satisfy three criteria. Claimed efficiencies “must be independently verifiable” and merger-specific, meaning that they represent actual cost savings that “cannot be achieved by either company alone.” *Sanford*, 926 F.3d at 965 (quoting *Heinz*, 246 F.3d at 721-22); *see also Tronox*, 332 F. Supp. 3d at 215; *H&R Block*, 833 F. Supp. 2d at 89. Further, the “claimed efficiencies must be passed through to consumers,” so that customers avoid the harms that the JV would otherwise impose. *Sanford*, 2017 WL 10810016, at *27; *see also Sysco*, 113 F. Supp. 3d at 82 (“Defendants must also demonstrate that their claimed efficiencies would benefit customers.”).

55. No category of Defendants’ claimed efficiencies satisfies all three requirements. The claimed efficiencies are either not independently verifiable, achievable without the proposed JV, not likely to be passed on to consumers, or some combination of the three. PFF ¶ 193.

56. Defendants’ expert, Dr. Israel, did not conduct any independent analysis to confirm the relevant calculations, nor did he substantiate (or even identify) the underlying assumptions. PFF ¶ 206. Much of the claimed efficiencies are projected to materialize more than five years in the future. PFF ¶¶ 209-12. These efficiencies “are too far afield and too speculative to overcome the strong presumption of anticompetitive effects created by the large HHIs.” *CCC Holdings*, 605 F. Supp. 2d at 73-75 (discussing claimed cost savings that would not be achieved for as long as 10 years). Defendants have not demonstrated that their plans accurately predict events so far into the future. PFF ¶¶ 209-12.

57. Defendants’ claimed cost efficiencies are not JV-specific. PFF ¶¶ 217-23. For example, the efficiency claim based on applying purported Peabody best practices for strip mining using the spoil-side method is not merger-specific. PFF ¶ 220. There is “nothing proprietary” about Peabody’s best practices that would prevent Arch from using them independently if it chose. *FTC v. ProMedica Health Sys., Inc.*, No. 3:11 CV 47, 2011 WL 1219281, at *39 (N.D. Ohio, Mar. 29, 2011).

58. Defendants have not shown, as they must, “what proportion [of the claimed efficiencies] they will pass on and how that will defeat the likely price increases in this market.” *Swedish Match*, 131 F. Supp. 2d at 172. The JV’s joint business plan projected future SPRB coal prices to *rise, not fall* (as would be expected if Defendants were planning on passing savings through to customers). PFF ¶ 224. Defendants’ business practices from 2017 to 2019 show that they will use any achieved cost savings to bolster their profit margins and satisfy their investors’ demands for cash returns. PFF ¶¶ 121-124. Finally, Defendants presented no evidence demonstrating that Arch passed on any benefits from its previous acquisitions to consumers, and the best available evidence suggests they did not. PFF ¶ 216.

iii. Defendants Cannot Satisfy the Stringent Requirements of the Failing Firm or “Weakened Competitor” Defense

59. Based on the facts and legal principles cited in the FTC’s prior briefing, ECF No. 384, insofar as Defendants are belatedly advancing the failing firm or weakened competitor defenses, these defenses fail and provide no reason to deny the preliminary injunction.

IV. THE EQUITIES FAVOR A PRELIMINARY INJUNCTION

60. “[N]o court has denied a Section 13(b) motion for a preliminary injunction based on weight of the equities,” where the FTC has demonstrated a likelihood of success on the merits. *Sanford*, 2017 WL 10810016, at *31; *ProMedica*, 2011 WL 1219281, at *60.

61. There is a “strong public interest in effective enforcement of the antitrust laws and in the FTC having the ability to order effective relief if it succeeds in an administrative proceeding.” *Sanford*, 2017 WL 10810016, at *31; *Sysco*, 113 F. Supp. 3d at 87.

62. The “public interest in effective enforcement of the antitrust laws” is “[t]he principal public equity weighing in favor of issuance of preliminary injunctive relief.” *Heinz*, 246 F.3d at 726. After all, “competition is our fundamental national economic policy, offering as it does the only alternative to the cartelization or governmental regimentation of large portions of the economy.” *Phila. Nat’l Bank*, 374 U.S. at 372.

63. An equally important public equity is the preservation of the FTC’s ability to obtain effective relief if the acquisition is ultimately found to violate Section 7 of the Clayton Act. Without a preliminary injunction, Defendants can “scramble the eggs”—that is, combine their operation and make it difficult, if not impossible, for competition to be restored to its previous state. *Heinz*, 246 F.3d at 726 (citing *FTC v. Dean Foods Co.*, 384 U.S. 597, 606 n.5 (1966)).

64. Private equities, such as the risk a transaction may not occur and the impact on the private companies involved, cannot override the public equities. *See Sysco*, 113 F. Supp. 3d at 87 (“the risk that the parties will abandon the merger rather than proceed to an administrative trial on the merits is . . . ‘at best, a private equity’”) (citing *Heinz*, 246 F.3d at 727); *Sanford*, 2017 WL 10810016, at *24 (citing *FTC v. Weyerhaeuser Co.*, 665 F.2d 1072, 1085-86 and n.31 (D.C. Cir. 1981)); *see also Staples II*, 190 F. Supp. 3d at 110 (granting the preliminary injunction where defendants asserted they would not proceed with their transaction if the injunction were granted).

65. Weighing the FTC’s likelihood of success and the relevant equities, a preliminary injunction enjoining the Joint Venture pending a full administrative hearing on the merits is in the public interest.

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Respectfully Submitted,

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