

EXHIBIT LIST
 NW Natural 2019 GRC
 Docket UG-181053
 Settlement and Evidentiary Hearing – August 14, 2019

NUMBER	SPONSOR(S)	A/R ¹	DATE	DESCRIPTION
TESTIMONY AND EXHIBITS IN SUPPORT OF ALL-PARTY PARTIAL SETTLEMENT AGREEMENT				
JT-1T	All Parties		6/6/19	Joint Testimony of Zachary D. Kravitz, Kristen Hillstead, Sarah Laycock, Bradley G. Mullins, and Shawn M. Collins, in Support of All-Party Joint Settlement Agreement (65 pages)
JT-2	All Parties		6/6/19	Excerpt of NW Natural Response to Staff Data Request No. 7 (1 page) (6/6/19)
JT-3	All Parties		5/23/19	All-Party Partial Settlement Agreement (16 pages)
TESTIMONY AND EXHIBITS IN SUPPORT OF MULTIPARTY PARTIAL SETTLEMENT AGREEMENT ON DECOUPLING				
JT-4T	Kyle T. Walker (NW Natural) Jing Liu (Staff) Bradley G. Mullins (AWEC) Shawn Collins (TEP)		6/6/19	Joint Testimony of Kyle T. Walker, Jing Liu, Bradley G. Mullins, and Shawn Collins, in Support of Partial Multiparty Settlement Agreement on Decoupling (16 pages)
JT-5	NW Natural, Staff, AWEC, TEP		5/23/19	Partial Multiparty Settlement Agreement on Decoupling (6 pages)
JL-1T	Jing Liu (Staff)		6/6/19	Testimony in Support of Partial Multiparty Settlement Agreement on Decoupling (17 pages)
JL-2	Jing Liu		6/6/19	Comparison of Decoupling Mechanisms in Washington State (1 page)
JL-3	Jing Liu		6/6/19	NW Natural's Operating Expense Per Customer (1 page)

¹ All parties stipulated to the admission of pre-filed testimony and exhibits, including cross-examination exhibits, at the settlement and evidentiary hearing held on August 14, 2019.

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NUMBER	SPONSOR(S)	A/R ¹	DATE	DESCRIPTION
JL-4	Jing Liu		6/6/19	NW Natural's Estimate on Incremental Cost and Revenue Associated with Serving Additional Customers (6 pages)
JL-5Tr	Jing Liu		7/18/19, revised 7/23/19	Rebuttal Testimony (24 pages)
JL-6 Attachment 1 Attachment 2	Jing Liu		7/18/19	NW Natural's Revised Estimate on Incremental Cost of Serving New Customers (5 pages)
JL-7	Jing Liu		7/18/19	NW Natural's Explanation on Line Extension Cost Categories (2 pages)
JL-8	Jing Liu		7/18/19	NW Natural's Explanation on the Incremental Operating and Maintenance Cost (1 page)
JL-9	Jing Liu		7/18/19	NW Natural's Residential and Commercial Usage Per Customer Over Time (1 page)
JL-10r	Jing Liu		7/18/19, revised 7/23/19	Staff's Estimate on Incremental Cost for and Revenue from Schedule 2 Residential Customers (1 page)
KTW-4Tr	Kyle T. Walker (NW Natural)		7/18/19, revised 8/13/19	Rebuttal Testimony in Support of Partial Multi-Party Settlement Agreement on Decoupling (28 pages)
KTW-5	Kyle T. Walker		7/18/19	Per Customer Decoupling Impact (1 page)
KTW-6	Kyle T. Walker		7/18/19	New Customer Costs Exceed New Revenue (1 page)
KTW-7	Kyle T. Walker		7/18/19	NW Natural's Response to Data Request 202 (5 pages)
KTW-8	Kyle T. Walker		7/18/19	Incremental O&M (1 page)
KTW-9	Kyle T. Walker		7/18/19	A&G Costs Per Customer (1 page)

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NUMBER	SPONSOR(S)	A/R ¹	DATE	DESCRIPTION
KTW-10	Kyle T. Walker		7/18/19	Rate Class Decoupling Impact (1 page)
KTW-11r	Kyle T. Walker		7/18/19, revised 8/13/19	Customer Impact (1 page)
TESTIMONY AND EXHIBITS IN OPPOSITION TO MULTIPARTY PARTIAL SETTLEMENT AGREEMENT ON DECOUPLING				
SJR-1T	Scott J. Rubin (Public Counsel)		7/3/19	Response Testimony (32 pages)
SJR-2	Scott J. Rubin		7/3/19	Curriculum Vitae (29 pages)
SJR-3	Scott J. Rubin		7/3/19	Average Annual Natural Gas Usage per Gas-Using Single-Family Housing Unit by Age of Housing Unit in the United States, 2015 (1 page)
SJR-4	Scott J. Rubin		7/3/19	Average Monthly Natural Gas Bill per Gas-Using Housing Unit by Age of Housing Unit in Clark, Klickitat, and Skamania Counties, Washington, 2015 (1 page)
SJR-5	Scott J. Rubin		7/3/19	Average Monthly Natural Gas Usage by Full-Year Company Residential Customers by Age of Housing Unit, October 2017 to September 2018 (1 page)
SJR-6	Scott J. Rubin		7/3/19	Penetration of Gas-Using Appliances by Company New Residential Customers, 2008-2018 (1 page)
SJR-7 Attachment 1	Scott J. Rubin		7/3/19	Northwest Natural Gas Company's Response to WUTC Staff Data Request 203 (Customer Growth Forecast) (2 pages)

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NUMBER	SPONSOR(S)	A/R ¹	DATE	DESCRIPTION
SJR-8	Scott J. Rubin		7/3/19	Illustration of Effect on Company Revenues under Different Decoupling Methods Assuming Normal Sales (2 pages)
SJR-9	Scott J. Rubin		7/3/19	Illustration of Effect on Company Revenues under Different Decoupling Methods Assuming Low Sales (2 pages)
SJR-10 Attachment 1 Attachment 2 Attachment 3	Scott J. Rubin		7/3/19	Northwest Natural Gas Company's Response to WUTC Staff Data Request 202 (Cost of Adding a New Customer) (4 pages)
SJR-11	Scott J. Rubin		7/3/19	Capital Cost for Adding New Residential (1 page)
SJR-12	Scott J. Rubin		7/3/19	Test-Year Rate Base per Existing Residential Customer (Rate Schedule R02) (1 page)
SJR-13	Scott J. Rubin		7/3/19	Illustration of Average Base Revenues per Customers as a Percentage of Rate Base per Customer (1 page)
Cross-Examination Exhibits				
SJR-14X	NW Natural		8/7/19	Response of Public Counsel to NW Natural Gas Data Request No. 2 (1 page)
SJR-15X	NW Natural		8/7/19	Response of Public Counsel to NW Natural Gas Data Request No. 3 (1 page)
SJR-16X	NW Natural		8/7/19	Response of Public Counsel to NW Natural Gas Data Request No. 4 (1 page)
SJR-17X	NW Natural		8/7/19	Response of Public Counsel to UTC Staff Data Request No. 1 (2 pages)

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NUMBER	SPONSOR(S)	A/R ¹	DATE	DESCRIPTION
BENCH EXHIBITS				
BR-1	NW Natural		4/15/19	NW Natural Supplemental Response to Staff Data Request No. 43 (2 pages)
BR-2 Attachment 1	NW Natural		7/18/19	NW Natural Response to Bench Request No. 2 (2 pages)
BR-3 Attachment 1	NW Natural		7/22/19	NW Natural Response to Bench Request No. 3 (1 page)
BR-4	Public Counsel		8/15/19	Public Comments
NW NATURAL WITNESSES				
David H. Anderson, President and Chief Executive Officer				
DHA-1T	David H. Anderson		12/31/18	Direct Testimony (17 pages)
Brody J. Wilson, Vice President, Controller, Treasurer and Chief Accounting Officer				
BJW-1T	Brody J. Wilson		12/31/18	Direct Testimony (16 pages)
BJW-2			12/31/18	Moody's Credit Opinion for NW Natural (7 pages)
BJW-3			12/31/18	S&P Credit Analysis for NW Natural (7 pages)
BJW-4r			12/31/18, revised 2/20/19	Embedded Cost of Long-Term Debt Capital (1 page)
BJW-5			12/31/18	Test Year Short-Term Debt (1 page)
Bente Villadsen, The Brattle Group, Principal				
BV-1T	Bente Villadsen		12/31/18	Direct Testimony (62 pages)
BV-2			12/31/18	Resume (17 pages)
BV-3			12/31/18	Technical Appendix (20 pages)

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NUMBER	SPONSOR(S)	A/R ¹	DATE	DESCRIPTION
BV-4C			12/31/18	***CONFIDENTIAL*** Cost of Capital Estimate Tables and Workpapers (51 pages)
BV-5C			12/31/18	***CONFIDENTIAL*** Risk Premium Analysis (4 pages)
BV-6C			12/31/18	***CONFIDENTIAL*** Authorized ROEs for Gas LDCs (2 pages)
Joe S. Karney, Engineering Director				
JSK-1T	Joe. S. Karney		12/31/18	Direct Testimony (86 pages)
Jorge O. Moncayo, Budget and Financial Planning Director				
JOM-1T	Jorge O. Moncayo		12/31/18	Direct Testimony (11 pages)
Melinda B. Rogers, Vice President, Chief Human Resources and Diversity Officer				
MBR-1T	Melinda B. Rogers		12/31/18	Direct Testimony (20 pages)
MBR-2C			12/31/18	***CONFIDENTIAL*** Compensation Table (38 pages)
MBR-3			12/31/18	Pay Governance Summary (1 page)
MBR-4			12/31/18	Labor-Management Joint Accord (64 pages)
MBR-5			12/31/18	Healthcare Financial Benchmarks (6 pages)
Kyle T. Walker, Rates/Regulatory Manager				
KTW-1T	Kyle T. Walker		12/31/18	Direct Testimony (20 pages)
KTW-2			12/31/18	Margin Revenue Calculation for Decoupling Mechanism (1 page)

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KTW-3			12/31/18	Margin Rate Weighting Example (1 page)
Andrew C. Middleton, Corporate Environmental Solutions LLC, President				
ACM-1T	Andrew C. Middleton		12/31/18	Direct Testimony (38 pages)
ACM-2			12/31/18	Curriculum Vitae (19 pages)
ACM-3			12/31/18	Schematic Diagram of Gas Manufacturing, Purification and Storage Processes (1 page)
ACM-4			12/31/18	Picture of Portland Gas & Coke Gas Holder at GASCO Plant (1 page)
ACM-5			12/31/18	American Gas Institute 1916 Proceedings (66 pages)
ACM-6			12/31/18	1952 Oil Gas Manufacture Report (13 pages)
ACM-7			12/31/18	Graph of Annual Gas Production at GASCO MGP (1 page)
ACM-8			12/31/18	Schematic Diagram of Oil Gas Manufacture (1 page)
ACM-9			12/31/18	1939 Gas Industry in the State of Washington Paper (15 pages)
Robert J. Wyatt, Director, NW Natural Legacy Environmental Program				
RJW-1CT	Robert J. Wyatt		12/31/18	***CONFIDENTIAL*** Direct Testimony (23 pages)
Zachary D. Kravitz, Director of Rates and Regulatory Affairs				
ZDK-1CT ²	Zachary D. Kravitz		12/31/18	Direct Testimony (16 pages)
ZDK-2C			12/31/18	Environmental Remediation Spend and Insurance Recoveries (1 page)

² Exhibits ZDK-1CT and ZDK-2C are no longer considered confidential per letter submitted on behalf of Northwest Natural Gas Company from Zachary Kravitz on April 22, 2019.

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ZDK-3			12/31/18	Derivation of State Allocation of Environmental Deferrals (1 page)
Amanda E. Faulk, General Accounting Manager				
AEF-1T	Amanda E. Faulk		12/31/18	Direct Testimony (15 pages)
AEF-2C			12/31/18	***CONFIDENTIAL*** Master Services Agreement & Cost Allocation Manual (25 pages)
Sean R. Borgerson, Tax Director				
SRB-1T	Sean R. Borgerson		12/31/18	Direct Testimony (23 pages)
SRB-2			12/31/18	2018 WA Interim Period Deferral (1 page)
SRB-3			12/31/18	Excess Deferred Tax Remeasurement, Plant Deferred Taxes (1 page)
SRB-4C			12/31/18	***CONFIDENTIAL*** Excess Deferred Tax Remeasurement, Non-Plant Other (1 page)
SRB-5			12/31/18	Summary of WA Rate Base Increase from Deferred Tax Remeasurement (1 page)
SRB-6			12/31/18	Prospective ARAM Estimate (1 page)
SRB-7			12/31/18	Summary of WA Remeasurement Liability Amortization (1 page)
Kevin S. McVay, Revenue Requirements Analytics Consultant				
KSM-1T	Kevin S. McVay		12/31/18	Direct Testimony (20 pages)
KSM-2			12/31/18	Analysis of Test Year Results/Adjustments (1 page)

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KSM-3			12/31/18	Test Year Financial Results (8 pages)
KSM-4			12/31/18	Explanation of Adjustments (23 pages)
Ronald J. Amen, Black & Veatch Management Consulting, LLC, Director				
RJA-1T	Ronald J. Amen		12/31/18	Direct Testimony (41 pages)
RJA-2			12/31/18	Summary of COS Study Results (2 pages)
RJA-3			12/31/18	Functionalized and Classified Rate Base and Revenue Requirement, and Unit Costs (3 pages)
RJA-4			12/31/18	Analysis of Revenue by Detailed Tariff Schedule (3 pages)
RJA-5			12/31/18	Residential Impact by Month (1 page)
RJA-6			12/31/18	Impact of Recommended Rate Changes (8 pages)
RJA-7			12/31/18	Curriculum Vitae (17 pages)