



CURRICULUM VITAE

NAME

Patrick R. Crowley

BUSINESS ADDRESS

Brown, Williams, Moorhead & Quinn, Inc.
P.O. Box 10
Sunderland, MD 20689-0010

PRESENT POSITION

Vice President

EDUCATION

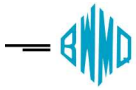
BA Economics – DePaul University, Chicago, IL 1976
MA Economics – DePaul University, Chicago, IL 1978

NATURE OF WORK PERFORMED WITH FIRM

Patrick Crowley is a regulatory energy consultant with over 40 years' experience as an economist and expert witness in energy litigation as an independent consultant and an analyst previously with the Federal Energy Regulatory Commission in Washington, D.C.
Mr. Crowley joined BWMQ in 2013 to head up the depreciation and negative salvage studies practice for Brown Williams.

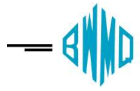
PREVIOUS EMPLOYMENT

Mr. Crowley joined the Federal Energy Regulatory Commission in 1979 where he held various positions within the FERC, gaining proficiency at long-term natural resource discovery & production forecasting, actuarial analysis of physical plant life span expectancies, depreciation accounting, regulatory cost-of-service rate making, rate base composition, cost allocation methodologies, trended original cost rate design, energy market bidding platforms and strategies, pipeline rate design, master limited partnership income allocation structures, market power analysis, and market anomalies investigation. While an employee at FERC, Mr. Crowley filed written testimony and was cross-examined in numerous rate case proceedings, participated in hundreds of settlement negotiations, prepared and reviewed discovery for litigation, prepared and filed supporting exhibits and documentation in litigated



rate cases, and led multi-disciplinary teams in rate case analysis and the investigation of energy market abuses.

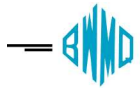
He left the FERC to create Crowley Energy Consulting in 2007, offering technical analysis and expert testimony in energy litigation involving natural gas pipeline, oil pipeline, and electric transmission matters before federal and state regulatory commissions. Mr. Crowley prepared and filed written testimony, affidavits, and comments before FERC, and provided oral testimony supporting his filed positions in numerous rate case proceedings.



#	JURISDICTION	CASE OR DOCKET NO.	UTILITY/ORGANIZATION INITIATING PROCEEDING	POSITION	SUBJECT MATTER
Formal Proceedings In Which Patrick R. Crowley Testified While with BWMQ					
31	FERC	RP20-1060	COLUMBIA GAS TRANSMISSION, LLC	Witness	Depreciation
30	FERC	RP20-980	EAST TENNESSEE NATURAL GAS COMPANY	Witness	Depreciation
29	FERC	RP20-921	MARITIMES & NORTHEAST PIPELINE, LLC	Witness	Depreciation
28	FERC	RP20-908	ALLIANCE PIPELINE, LP	Witness	Depreciation
27	FERC	RP20-467	DOMINION ENERGY COVE POINT LNG	Witness	Depreciation
26	FERC	RP19-1523	PANHANDLE EASTERN PIPE LINE COMPANY L.P.	Witness	Depreciation
25	FERC	RP19-78	PANHANDLE EASTERN PIPE LINE COMPANY L.P.	Witness	Depreciation
24	FERC	RP19-1426	NATIONAL FUEL GAS SUPPLY CORPORATION	Witness	Depreciation
23	FERC	DO19-16	SAN MATEO BLACK RIVER OIL PIPELINE	Witness	Depreciation
22	FERC	RP19-343	TEXAS EASTERN TRANSMISSION	Witness	Depreciation
21	FERC	RP19-165	WBI ENERGY TRANSMISSION	Witness	Depreciation
20	FERC	RP18-1126	TRANSCONTINENTAL GAS PIPE LINE	Witness	Depreciation
19	FERC	RP18-1115	SALTVILLE GAS STORAGE COMPANY	Witness	Depreciation
18	FERC	RP18-923	ENABLE MRT	Witness	Depreciation
17	FERC	RP18-922	TRAILBLAZER PIPELINE COMPANY	Witness	Depreciation
16	FERC	RP18-940	EMPIRE	Witness	Depreciation



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15	FERC	RP18-877	MOGAS PIPELINE COMPANY	Witness	Depreciation
14	FERC	DO18-11	SHELL PIPELINE COMPANY	Witness	Depreciation
13	FERC	DO18-10	ZYDECO PIPELINE COMPANY LLC	Witness	Depreciation
12	FERC	DO18-09	MARS OIL PIPELINE COMPANY LLC	Witness	Depreciation
11	FERC	DO18-07	SHIP SHOAL PIPELINE COMPANY	Witness	Depreciation
10	FERC	RP17-598	GREAT LAKES GAS TRANSMISSION L.P.	Witness	Depreciation
9	FERC	RP17-363	EASTERN SHORE NATURAL GAS COMPANY	Witness	Depreciation
8	FERC	RP17-197	DOMINION COVE POINT LNG, L.P.	Witness	Depreciation
7	FERC	RP16-440	ANR PIPELINE COMPANY	Witness	Depreciation
6	FERC	RP16-877	ANR STORAGE COMPANY	Witness	Depreciation
5	FERC	RP16-137	TALLGRASS INTERSTATE GAS TRANSMISSION	Witness	Depreciation
4	FERC	RP15-1322	SABINE PIPE LINE LLC	Witness	Depreciation
3	FERC	RP13-65	GULF SOUTH PIPELINE COMPANY	Witness	Depreciation
2	FERC	RP13-941	SOUTHERN STAR CENTRAL GAS PIPELINE COMPANY	Witness	Depreciation
1	FERC	RP13-1013	TRAILBLAZER PIPELINE COMPANY	Witness	Depreciation



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Formal Proceedings In Which Patrick R. Crowley Testified While with Crowley Energy Consulting					
1	FERC	RP10-21	FLORIDA GAS TRANSMISSION	Witness	Depreciation
2	FERC	CPUC APPLICATION NO. 09-05-014	SFPP, LP GENERAL RATE APPLICATION (PLC-9 OIL)	Witness	Depreciation
3	FERC	IS09-92 & IS09-93	BELLE FOURCHE PIPELINE CO. BRIDGER PIPELINE, LLC	Witness	Depreciation
4	FERC	RP08-29	ROCKIES EXPRESS SHIPPERS V. NORTHERN NATURAL GAS COMPANY	Witness	Depreciation
5	FERC	OR07-22	BP WEST COAST PRODUCTS V. CALNEV PIPE LINE, LLC	Witness	Depreciation
6	FERC	RM07-2	ASSESSMENET OF INFORMATION REQUIREMENTS FOR FERC FINANCIAL FORMS	Witness	Depreciation
7	FERC	PL07-2	COMPOSITION OF PROXY GROUP FOR PIPELINE ROE	Witness	Depreciation

#	JURISDICTION	CASE OR DOCKET NO.	UTILITY/ORGANIZATION INITIATING PROCEEDING	POSITION	SUBJECT MATTER
Formal Proceedings In Which Patrick R. Crowley Testified While Employed with the Federal Energy Regulatory Commission					

1	FERC	RP06-72	NORTHERN BORDER PIPELINE COMPANY	Witness	Depreciation
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#	JURISDICTION	CASE OR DOCKET NO.	UTILITY/ORGANIZATION INITIATING PROCEEDING	POSITION	SUBJECT MATTER
2	FERC	IS05-230	SFPP, LP	Witness	Depreciation
3	FERC	EL03-180, ET AL.	ENRON POWER MARKETING INC.	Witness	Depreciation
4	FERC	OR02-6	SINCLAIR OIL CORP. V. ROCKY MOUNTAIN PIPELINE SYSTEM, LLC & BP PIPELINES (NORTH AMERICA)	Witness	Depreciation
5	FERC	OR02-929	AMEREN SERVICES COMPANY	Witness	Depreciation
6	FERC	EL03-166 & EL03-199	POWEREX CORPORATION	Witness	Depreciation
7	FERC	EL02-115	AVISTA CORPORATION & AVISTA ENERGY	Witness	Depreciation
8	FERC	OR02-2 & OR02-4	BIG WEST OIL CO. & CHEVRON PRODUCTS CO. V. FRONTIER PIPELINE INC. & EXPRESS PIPELINE PARTNERSHIP	Witness	Depreciation
9	FERC	OR02-1 & OR02-3	BIG WEST OIL CO. & CHEVRON PRODUCTS CO. V. ANSCHUTZ RANCH EAST PIPELINE CO. & EXPRESS PIPELINE PARTNERSHIP	Witness	Depreciation
10	FERC	ER01-890	BOSTON EDISON COMPANY	Witness	Depreciation
11	FERC	ER98-2382	MONTANA POWER COMPANY	Witness	Depreciation
12	FERC	EL97-54-002 & EL99-21	SAN DIEGO GAS & ELECTRIC COMPANY V. PUBLIC SERVICE CO. OF NEW MEXICO	Witness	Depreciation
13	FERC	RP93-36	NATURAL GAS PIPELINE COMPANY OF AMERICA	Witness	Depreciation
14	FERC	RP92-164	TARPON TRANSMISSION COMPANY	Witness	Depreciation
15	FERC	RP89-248 & RP90-75	MISSISSIPPI RIVER TRANSMISSION CORPORATION	Witness	Depreciation
16	FERC	RP89-38	U-T OFFSHORE SYSTEM	Witness	Depreciation



#	JURISDICTION	CASE OR DOCKET NO.	UTILITY/ORGANIZATION INITIATING PROCEEDING	POSITION	SUBJECT MATTER
17	FERC	RP89-37	HIGH ISLAND OFFSHORE SYSTEM	Witness	Depreciation
18	FERC	RP87-7	TRANSCONTINENTAL GAS PIPELINE CO.	Witness	Depreciation
19	FERC	RP89-60	SOUTHWEST GAS STORAGE COMPANY	Witness	Depreciation
20	FERC	RP88-227	PAIUTE PIPELINE COMPANY	Witness	Depreciation
21	FERC	RP88-209	NATURAL GAS PIPELINE COMPANY OF AMERICA	Witness	Depreciation
22	FERC	RP88-181	SEA ROBIN PIPELINE COMPANY	Witness	Depreciation
23	FERC	RP87-62	PACIFIC GAS TRANSMISSION COMPANY	Witness	Depreciation
24	FERC	RP86-136	NATURAL FUEL GAS SUPPLY CORP.	Witness	Depreciation
25	FERC	RP84-82	TARPON TRANSMISSION COMPANY	Witness	Depreciation
26	FERC	RP81-67	BLACK MARLIN PIPELINE COMPANY	Witness	Depreciation

#	Jurisdiction	Case or Docket No.	Utility/Organization Initiating Proceeding	Position	Subject Matter
Non-Litigated Oil Pipeline Cost of Service Analyses While Patrick R. Crowley was at the FERC					
1	FERC	IS03-218	OLYMPIC PIPE LINE COMPANY		Cost of Service
2	FERC	IS02-384	PLATTE PIPELINE		Cost of Service
3	FERC	IS02-81	EXPRESS PIPELINE		Cost of Service
4	FERC	OR02-03	CHEVRON PRODUCTS, INC. V. ANSCHUTZ RANCH EAST PIPELINE CO.		Cost of Service



#	JURISDICTION	CASE OR DOCKET NO.	UTILITY/ORGANIZATION INITIATING PROCEEDING	POSITION	SUBJECT MATTER
5	FERC	IS01-444 & IS01-445	CONOCO PIPE LINE COMPANY		Cost of Service
6	FERC	IS01-441	OLYMPIC PIPE LINE COMPANY		Cost of Service
7	FERC	OR00-11	EOTT ENERGY OPERATING LTD V. CONOCO P/L CORP.		Cost of Service