

Recently Authorized Returns for Gas Utilities since 2008

State	Company	Order Date	[1] Authorized ROE	[2] 30-Yr Treasury Rate	[3] Risk Premium
Wisconsin	Northern States Power Co.	1/8/2008	10.75%	4.35%	6.40%
Wisconsin	Wisconsin Gas LLC	1/17/2008	10.75%	4.25%	6.50%
Wisconsin	Wisconsin Electric Power Co.	1/17/2008	10.75%	4.25%	6.50%
Illinois	North Shore Gas Co.	2/5/2008	9.99%	4.33%	5.66%
Illinois	The Peoples Gas Light & Coke C	2/5/2008	10.19%	4.33%	5.86%
Indiana	Indiana Gas Co.	2/13/2008	10.20%	4.52%	5.68%
Oregon	Avista Corp.	3/31/2008	10.00%	4.30%	5.70%
Ohio	Duke Energy Ohio Inc.	5/28/2008	10.50%	4.71%	5.79%
Texas	Atmos Energy Corp.	6/24/2008	10.00%	4.65%	5.35%
Utah	Dominion Energy Inc.	6/27/2008	10.00%	4.53%	5.47%
California	San Diego Gas & Electric Co.	7/31/2008	10.70%	4.59%	6.11%
California	Southern California Gas Co.	7/31/2008	10.82%	4.59%	6.23%
Colorado	Black Hills Gas Distribution	8/27/2008	10.25%	4.38%	5.87%
Delaware	Chesapeake Utilities Corp.	9/2/2008	10.25%	4.36%	5.89%
Georgia	Atmos Energy Corp.	9/19/2008	10.70%	4.36%	6.34%
Illinois	Ameren Illinois	9/24/2008	10.68%	4.40%	6.28%
Illinois	Ameren Illinois	9/24/2008	10.68%	4.40%	6.28%
Illinois	Ameren Illinois	9/24/2008	10.68%	4.40%	6.28%
Idaho	Avista Corp.	9/30/2008	10.20%	4.31%	5.89%
New Jersey	New Jersey Natural Gas Co.	10/3/2008	10.30%	4.11%	6.19%
Washington	Puget Sound Energy Inc.	10/8/2008	10.15%	4.09%	6.06%
Texas	CenterPoint Energy Resources	10/20/2008	10.06%	4.26%	5.80%
North Carolina	Piedmont Natural Gas Co.	10/24/2008	10.60%	4.11%	6.49%
North Carolina	Public Service Co. of NC	10/24/2008	10.60%	4.11%	6.49%
California	Southwest Gas Corp.	11/21/2008	10.50%	3.70%	6.80%
California	Southwest Gas Corp.	11/21/2008	10.50%	3.70%	6.80%
California	Southwest Gas Corp.	11/21/2008	10.50%	3.70%	6.80%
Rhode Island	The Narragansett Electric Co.	11/24/2008	10.50%	3.78%	6.72%
Ohio	Columbia Gas Ohio Inc.	12/3/2008	10.39%	3.17%	7.22%
Arizona	Southwest Gas Corp.	12/24/2008	10.00%	2.63%	7.37%
Washington	Northwest Natural Gas Co.	12/26/2008	10.10%	2.61%	7.49%
Washington	Avista Corp.	12/29/2008	10.20%	2.63%	7.57%
Michigan	Michigan Gas Utilities Corp.	1/13/2009	10.45%	3.00%	7.45%
Massachusetts	Liberty Utilities (NE Nat Gas)	2/2/2009	10.05%	3.47%	6.58%
Tennessee	Atmos Energy Corp.	3/9/2009	10.30%	3.59%	6.71%
Illinois	Northern Illinois Gas Co.	3/25/2009	10.17%	3.73%	6.44%
Louisiana	Entergy New Orleans LLC	4/2/2009	10.75%	3.57%	7.18%
Florida	Peoples Gas System	5/5/2009	10.75%	4.06%	6.69%
New York	Niagara Mohawk Power Corp.	5/15/2009	10.20%	4.09%	6.11%
New Hampshire	Liberty Utilities EnergyNorth	5/29/2009	9.54%	4.34%	5.20%
Iowa	Black Hills Iowa Gas Utility	6/3/2009	10.10%	4.45%	5.65%
New York	Central Hudson Gas & Electric	6/22/2009	10.00%	4.45%	5.55%
Minnesota	Minnesota Energy Resources	6/29/2009	10.21%	4.31%	5.90%
Connecticut	CT Natural Gas Corp.	6/30/2009	9.31%	4.32%	4.99%
Connecticut	The Sthrn CT Gas Co	7/17/2009	9.26%	4.53%	4.73%
Idaho	Avista Corp.	7/17/2009	10.50%	4.53%	5.97%
New York	Orange & Rockland Utlts Inc.	10/16/2009	10.40%	4.24%	6.16%
Oregon	Avista Corp.	10/26/2009	10.10%	4.37%	5.73%
Nevada	Southwest Gas Corp.	10/28/2009	10.15%	4.25%	5.90%
Nevada	Southwest Gas Corp.	10/28/2009	10.15%	4.25%	5.90%
Massachusetts	Eversource Gas Co MA	10/30/2009	9.95%	4.23%	5.72%
West Virginia	Hope Gas Inc.	11/20/2009	9.45%	4.30%	5.15%
Oklahoma	Oklahoma Natural Gas Co	12/14/2009	10.50%	4.49%	6.01%
Michigan	Michigan Gas Utilities Corp.	12/16/2009	10.75%	4.52%	6.23%
New Jersey	Elizabethtown Gas Co.	12/17/2009	10.30%	4.42%	5.88%
Wisconsin	Wisconsin Electric Power Co.	12/18/2009	10.40%	4.46%	5.94%
Wisconsin	Wisconsin Power and Light Co	12/18/2009	10.40%	4.46%	5.94%
Wisconsin	Wisconsin Gas LLC	12/18/2009	10.50%	4.46%	6.04%
Washington	Avista Corp.	12/22/2009	10.20%	4.60%	5.60%
Wisconsin	Madison Gas and Electric Co.	12/22/2009	10.40%	4.60%	5.80%

Florida	Florida Public Utilities Co.	12/28/2009	10.85%	4.69%	6.16%
Kentucky	Duke Energy Kentucky Inc.	12/29/2009	10.38%	4.64%	5.74%
Minnesota	CenterPoint Energy Resources	1/11/2010	10.24%	4.74%	5.50%
Illinois	The Peoples Gas Light & Coke C	1/21/2010	10.23%	4.50%	5.73%
Illinois	North Shore Gas Co.	1/21/2010	10.33%	4.50%	5.83%
Texas	Atmos Energy Corp.	1/26/2010	10.40%	4.56%	5.84%
Missouri	Missouri Gas Energy	2/10/2010	10.00%	4.65%	5.35%
Texas	CenterPoint Energy Resources	2/23/2010	10.50%	4.63%	5.87%
Nebraska	Black Hills Gas Distribution	3/9/2010	9.60%	4.68%	4.92%
Illinois	MidAmerican Energy Co.	3/24/2010	10.13%	4.72%	5.41%
Georgia	Atmos Energy Corp.	3/31/2010	10.70%	4.72%	5.98%
Arizona	UNS Gas Inc.	4/1/2010	9.50%	4.74%	4.76%
Washington	Puget Sound Energy Inc.	4/2/2010	10.10%	4.81%	5.29%
Utah	Dominion Energy Inc.	4/8/2010	10.35%	4.75%	5.60%
Illinois	Ameren Illinois	4/29/2010	9.19%	4.60%	4.59%
Illinois	Ameren Illinois	4/29/2010	9.40%	4.60%	4.80%
Illinois	Ameren Illinois	4/29/2010	9.40%	4.60%	4.80%
Michigan	Consumers Energy Co.	5/17/2010	10.55%	4.35%	6.20%
Tennessee	Chattanooga Gas Co.	5/24/2010	10.05%	4.12%	5.93%
Michigan	DTE Gas Co.	6/3/2010	11.00%	4.29%	6.71%
New York	Central Hudson Gas & Electric	6/16/2010	10.00%	4.18%	5.82%
New Jersey	Public Service Electric Gas	6/18/2010	10.30%	4.15%	6.15%
Alaska	ENSTAR Natural Gas Co.	8/9/2010	12.55%	4.01%	8.54%
Nebraska	Black Hills Nebraska Gas LLC	8/17/2010	10.10%	3.77%	6.33%
New York	Consolidated Edison Company of	9/16/2010	9.60%	3.92%	5.68%
New York	Rochester Gas & Electric Corp.	9/16/2010	10.00%	3.92%	6.08%
New York	NY State Electric & Gas Corp.	9/16/2010	10.00%	3.92%	6.08%
New Jersey	South Jersey Gas Co.	9/16/2010	10.30%	3.92%	6.38%
Kentucky	Delta Natural Gas Co.	10/21/2010	10.40%	3.95%	6.45%
Massachusetts	Colonial Gas Co.	11/2/2010	9.75%	3.93%	5.82%
Massachusetts	Boston Gas Co.	11/2/2010	9.75%	3.93%	5.82%
Georgia	Atlanta Gas Light Co.	11/3/2010	10.75%	4.09%	6.66%
Washington	Avista Corp.	11/19/2010	10.20%	4.25%	5.95%
Colorado	Black Hills Gas Distribution	12/1/2010	10.00%	4.24%	5.76%
Maryland	Baltimore Gas and Electric Co.	12/6/2010	9.56%	4.25%	5.31%
Minnesota	Northern States Power Co.	12/6/2010	10.09%	4.25%	5.84%
Montana	NorthWestern Corp.	12/9/2010	10.25%	4.41%	5.84%
Texas	Texas Gas Service Co.	12/14/2010	10.33%	4.54%	5.79%
Virginia	Columbia Gas of Virginia Inc	12/17/2010	10.10%	4.41%	5.69%
Nevada	Sierra Pacific Power Co.	12/20/2010	10.10%	4.44%	5.66%
Wyoming	Black Hills Gas Distribution	12/23/2010	9.92%	4.47%	5.45%
Michigan	SEMCO Energy Inc.	1/6/2011	10.35%	4.53%	5.82%
Wisconsin	Madison Gas and Electric Co.	1/12/2011	10.30%	4.52%	5.78%
Wisconsin	Wisconsin Public Service Corp.	1/13/2011	10.30%	4.50%	5.80%
Oregon	Avista Corp.	3/10/2011	10.10%	4.53%	5.57%
Massachusetts	Liberty Utilities (NE Nat Gas)	3/31/2011	9.45%	4.51%	4.94%
Texas	CenterPoint Energy Resources	4/18/2011	10.05%	4.45%	5.60%
Virginia	Washington Gas Light Co.	4/21/2011	10.00%	4.47%	5.53%
Michigan	Consumers Energy Co.	5/26/2011	10.50%	4.23%	6.27%
Delaware	Delmarva Power & Light Co.	6/21/2011	10.00%	4.21%	5.79%
Connecticut	Yankee Gas Services Co.	6/29/2011	8.83%	4.39%	4.44%
Massachusetts	Fitchburg Gas & Electric Light	8/1/2011	9.20%	4.07%	5.13%
Colorado	Public Service Co. of CO	9/1/2011	10.10%	3.51%	6.59%
Maryland	Washington Gas Light Co.	11/14/2011	9.60%	3.09%	6.51%
Arizona	Southwest Gas Corp.	12/13/2011	9.50%	2.98%	6.52%
Virginia	Virginia Natural Gas Inc.	12/20/2011	10.00%	2.93%	7.07%
Wisconsin	Northern States Power Co.	12/22/2011	10.40%	2.99%	7.41%
Illinois	Ameren Illinois	1/10/2012	9.06%	3.04%	6.02%
Illinois	The Peoples Gas Light & Coke C	1/10/2012	9.45%	3.04%	6.41%
Illinois	North Shore Gas Co.	1/10/2012	9.45%	3.04%	6.41%
Tennessee	Piedmont Natural Gas Co.	1/23/2012	10.20%	3.15%	7.05%
New Mexico	New Mexico Gas Co.	1/31/2012	10.00%	2.94%	7.06%
New Hampshire	Northern Utilities Inc.	4/24/2012	9.50%	3.12%	6.38%
Arizona	UNS Gas Inc.	4/24/2012	9.75%	3.12%	6.63%
Washington	Puget Sound Energy Inc.	5/7/2012	9.80%	3.07%	6.73%
Nebraska	Black Hills Gas Distribution	5/22/2012	9.60%	2.88%	6.72%

Minnesota	Minnesota Energy Resources	5/24/2012	9.70%	2.86%	6.84%
Michigan	Consumers Energy Co.	6/7/2012	10.30%	2.75%	7.55%
Wisconsin	Wisconsin Power and Light Co	6/15/2012	10.40%	2.70%	7.70%
Wyoming	Cheyenne Light Fuel Power Co.	6/18/2012	9.60%	2.67%	6.93%
Virginia	Washington Gas Light Co.	7/2/2012	9.75%	2.69%	7.06%
Wisconsin	Wisconsin Public Service Corp.	10/24/2012	10.30%	2.93%	7.37%
Oregon	Northwest Natural Gas Co.	10/26/2012	9.50%	2.92%	6.58%
Nevada	Southwest Gas Corp.	10/31/2012	9.30%	2.85%	6.45%
West Virginia	Mountaineer Gas Co.	10/31/2012	9.90%	2.85%	7.05%
Nevada	Southwest Gas Corp.	10/31/2012	10.00%	2.85%	7.15%
Massachusetts	Eversource Gas Co MA	11/1/2012	9.45%	2.89%	6.56%
Tennessee	Atmos Energy Corp.	11/8/2012	10.10%	2.77%	7.33%
Wisconsin	Madison Gas and Electric Co.	11/9/2012	10.30%	2.75%	7.55%
Iowa	Interstate Power & Light Co.	11/26/2012	10.00%	2.80%	7.20%
Wisconsin	Wisconsin Electric Power Co.	11/28/2012	10.40%	2.79%	7.61%
Wisconsin	Wisconsin Gas LLC	11/28/2012	10.50%	2.79%	7.71%
Texas	CenterPoint Energy Resources	12/4/2012	10.00%	2.78%	7.22%
Texas	Atmos Energy Corp.	12/4/2012	10.50%	2.78%	7.72%
Wisconsin	Northern States Power Co.	12/14/2012	10.40%	2.87%	7.53%
Rhode Island	The Narragansett Electric Co.	12/20/2012	9.50%	2.98%	6.52%
California	Southern California Gas Co.	12/20/2012	10.10%	2.98%	7.12%
Kentucky	Louisville Gas & Electric Co.	12/20/2012	10.25%	2.98%	7.27%
California	San Diego Gas & Electric Co.	12/20/2012	10.30%	2.98%	7.32%
California	Pacific Gas and Electric Co.	12/20/2012	10.40%	2.98%	7.42%
Michigan	DTE Gas Co.	12/20/2012	10.50%	2.98%	7.52%
Washington	Avista Corp.	12/26/2012	9.80%	2.94%	6.86%
Maryland	Baltimore Gas and Electric Co.	2/22/2013	9.60%	3.15%	6.45%
New York	Niagara Mohawk Power Corp.	3/14/2013	9.30%	3.25%	6.05%
Idaho	Avista Corp.	3/27/2013	9.80%	3.09%	6.71%
Montana	NorthWestern Corp.	4/23/2013	9.80%	2.90%	6.90%
District of Columbia	Washington Gas Light Co.	5/10/2013	9.25%	3.10%	6.15%
New York	The Brooklyn Union Gas Co.	6/13/2013	9.40%	3.33%	6.07%
Illinois	The Peoples Gas Light & Coke C	6/18/2013	9.28%	3.34%	5.94%
Illinois	North Shore Gas Co.	6/18/2013	9.28%	3.34%	5.94%
Washington	Puget Sound Energy Inc.	6/25/2013	9.80%	3.60%	6.20%
Maryland	Columbia Gas of Maryland Inc	9/23/2013	9.60%	3.73%	5.87%
Wisconsin	Wisconsin Public Service Corp.	11/6/2013	10.20%	3.77%	6.43%
Ohio	Duke Energy Ohio Inc.	11/13/2013	9.84%	3.83%	6.01%
Michigan	Michigan Gas Utilities Corp.	11/14/2013	10.25%	3.79%	6.46%
Maryland	Washington Gas Light Co.	11/22/2013	9.50%	3.84%	5.66%
Wisconsin	Northern States Power Co.	12/5/2013	10.20%	3.92%	6.28%
Maryland	Baltimore Gas and Electric Co.	12/13/2013	9.60%	3.88%	5.72%
Nevada	Sierra Pacific Power Co.	12/16/2013	9.73%	3.90%	5.83%
North Carolina	Piedmont Natural Gas Co.	12/17/2013	10.00%	3.88%	6.12%
Illinois	Ameren Illinois	12/18/2013	9.08%	3.90%	5.18%
Colorado	Public Service Co. of CO	12/23/2013	9.72%	3.85%	5.87%
North Dakota	MDU Resources Group	12/30/2013	10.00%	3.90%	6.10%
Oregon	Avista Corp.	1/21/2014	9.65%	3.74%	5.91%
Connecticut	CT Natural Gas Corp.	1/22/2014	9.18%	3.75%	5.43%
New York	Consolidated Edison Company of	2/20/2014	9.30%	3.73%	5.57%
Utah	Dominion Energy Inc.	2/21/2014	9.85%	3.69%	6.16%
Massachusetts	Eversource Gas Co MA	2/28/2014	9.55%	3.59%	5.96%
New Hampshire	Northern Utilities Inc.	4/21/2014	9.50%	3.52%	5.98%
Kentucky	Atmos Energy Corp.	4/22/2014	9.80%	3.50%	6.30%
New York	Natl Fuel Gas Distribution Cor	5/8/2014	9.10%	3.45%	5.65%
Minnesota	CenterPoint Energy Resources	5/8/2014	9.59%	3.45%	6.14%
Wisconsin	Wisconsin Power and Light Co	6/6/2014	10.40%	3.44%	6.96%
California	Southwest Gas Corp.	6/12/2014	10.10%	3.41%	6.69%
California	Southwest Gas Corp.	6/12/2014	10.10%	3.41%	6.69%
California	Southwest Gas Corp.	6/12/2014	10.10%	3.41%	6.69%
Arkansas	Black Hills Energy Arkansas	7/7/2014	9.30%	3.44%	5.86%
Arkansas	Arkansas Oklahoma Gas Corp.	7/25/2014	9.30%	3.24%	6.06%
Wyoming	Cheyenne Light Fuel Power Co.	7/31/2014	9.90%	3.32%	6.58%
Kansas	Atmos Energy Corp.	9/4/2014	9.10%	3.21%	5.89%
Minnesota	Minnesota Energy Resources	9/24/2014	9.35%	3.28%	6.07%
New Jersey	South Jersey Gas Co.	9/30/2014	9.75%	3.21%	6.54%

Missouri	Summit Natural Gas of Missouri	10/29/2014	10.80%	3.06%	7.74%
Wisconsin	Wisconsin Public Service Corp.	11/6/2014	10.20%	3.09%	7.11%
Wisconsin	Wisconsin Electric Power Co.	11/14/2014	10.20%	3.04%	7.16%
Wisconsin	Wisconsin Gas LLC	11/14/2014	10.30%	3.04%	7.26%
Wisconsin	Madison Gas and Electric Co.	11/26/2014	10.20%	2.95%	7.25%
Missouri	Liberty Utilities (Midstates)	12/3/2014	10.00%	2.99%	7.01%
Michigan	Consumers Energy Co.	1/13/2015	10.30%	2.49%	7.81%
Illinois	North Shore Gas Co.	1/21/2015	9.05%	2.44%	6.61%
Illinois	The Peoples Gas Light & Coke C	1/21/2015	9.05%	2.44%	6.61%
Oregon	Avista Corp.	4/9/2015	9.50%	2.61%	6.89%
Tennessee	Atmos Energy Corp.	5/11/2015	9.80%	3.03%	6.77%
New York	Central Hudson Gas & Electric	6/17/2015	9.00%	3.09%	5.91%
Virginia	Columbia Gas of Virginia Inc	8/21/2015	9.75%	2.74%	7.01%
Massachusetts	Eversource Gas Co MA	10/7/2015	9.55%	2.89%	6.66%
West Virginia	Mountaineer Gas Co.	10/13/2015	9.75%	2.89%	6.86%
New York	Orange & Rockland Utlts Inc.	10/15/2015	9.00%	2.87%	6.13%
Massachusetts	NSTAR Gas Co.	10/30/2015	9.80%	2.93%	6.87%
Wisconsin	Wisconsin Public Service Corp.	11/19/2015	10.00%	3.00%	7.00%
Wisconsin	Northern States Power Co.	12/3/2015	10.00%	3.07%	6.93%
Illinois	Ameren Illinois	12/9/2015	9.60%	2.97%	6.63%
Michigan	Michigan Gas Utilities Corp.	12/11/2015	9.90%	2.87%	7.03%
Idaho	Avista Corp.	12/18/2015	9.50%	2.90%	6.60%
Oklahoma	Oklahoma Natural Gas Co	1/6/2016	9.50%	2.94%	6.56%
Washington	Avista Corp.	1/6/2016	9.50%	2.94%	6.56%
Arkansas	Black Hills Energy Arkansas	1/28/2016	9.40%	2.79%	6.61%
Massachusetts	Liberty Utilities (NE Nat Gas)	2/10/2016	9.60%	2.53%	7.07%
Colorado	Public Service Co. of CO	2/16/2016	9.50%	2.64%	6.86%
Oregon	Avista Corp.	2/29/2016	9.40%	2.61%	6.79%
Massachusetts	Fitchburg Gas & Electric Light	4/29/2016	9.80%	2.66%	7.14%
Minnesota	CenterPoint Energy Resources	5/5/2016	9.49%	2.60%	6.89%
Maine	Maine Natural Gas Corp.	6/1/2016	9.55%	2.63%	6.92%
Maryland	Baltimore Gas and Electric Co.	6/3/2016	9.65%	2.52%	7.13%
New York	NY State Electric & Gas Corp.	6/15/2016	9.00%	2.43%	6.57%
New York	Rochester Gas & Electric Corp.	6/15/2016	9.00%	2.43%	6.57%
Arkansas	CenterPoint Energy Resources	9/2/2016	9.50%	2.28%	7.22%
New Jersey	New Jersey Natural Gas Co.	9/23/2016	9.75%	2.34%	7.41%
Texas	Texas Gas Service Co.	9/27/2016	9.50%	2.28%	7.22%
Minnesota	Minnesota Energy Resources	9/29/2016	9.11%	2.28%	6.83%
South Carolina	Piedmont Natural Gas Co.	10/13/2016	10.20%	2.48%	7.72%
North Carolina	Public Service Co. of NC	10/28/2016	9.70%	2.62%	7.08%
Wisconsin	Madison Gas and Electric Co.	11/9/2016	9.80%	2.88%	6.92%
Wisconsin	Wisconsin Power and Light Co	11/18/2016	10.00%	3.01%	6.99%
Michigan	DTE Gas Co.	12/9/2016	10.10%	3.16%	6.94%
Maryland	Columbia Gas of Maryland Inc	12/14/2016	9.70%	3.14%	6.56%
New York	The Brooklyn Union Gas Co.	12/15/2016	9.00%	3.16%	5.84%
New York	KeySpan Gas East Corp.	12/15/2016	9.00%	3.16%	5.84%
Delaware	Chesapeake Utilities Corp.	12/20/2016	9.75%	3.15%	6.60%
Nevada	Sierra Pacific Power Co.	12/22/2016	9.50%	3.12%	6.38%
New York	Consolidated Edison Company of	1/24/2017	9.00%	3.05%	5.95%
Georgia	Atlanta Gas Light Co.	2/21/2017	10.55%	3.04%	7.51%
District of Columbia	Washington Gas Light Co.	3/1/2017	9.25%	3.06%	6.19%
Arizona	Southwest Gas Corp.	4/11/2017	9.50%	2.93%	6.57%
New York	Natl Fuel Gas Distribution Cor	4/20/2017	8.70%	2.89%	5.81%
Idaho	Intermountain Gas Co.	4/28/2017	9.50%	2.96%	6.54%
Texas	CenterPoint Energy Resources	5/23/2017	9.60%	2.95%	6.65%
Delaware	Delmarva Power & Light Co.	6/6/2017	9.70%	2.81%	6.89%
Kentucky	Louisville Gas & Electric Co.	6/22/2017	9.70%	2.72%	6.98%
New Jersey	Elizabethtown Gas Co.	6/30/2017	9.60%	2.84%	6.76%
Montana	NorthWestern Corp.	7/20/2017	9.55%	2.83%	6.72%
Michigan	Consumers Energy Co.	7/31/2017	10.10%	2.89%	7.21%
Oregon	Avista Corp.	9/13/2017	9.40%	2.79%	6.61%
Maryland	Columbia Gas of Maryland Inc	9/19/2017	9.70%	2.81%	6.89%
Alaska	ENSTAR Natural Gas Co.	9/22/2017	11.88%	2.80%	9.08%
South Carolina	Piedmont Natural Gas Co.	9/27/2017	10.20%	2.86%	7.34%
New Jersey	South Jersey Gas Co.	10/20/2017	9.60%	2.89%	6.71%
California	San Diego Gas & Electric Co.	10/26/2017	10.20%	2.96%	7.24%

California	Southern California Gas Co.	10/30/2017	10.05%	2.88%	7.17%
Virginia	Washington Gas Light Co.	11/21/2017	9.50%	2.76%	6.74%
Washington	Puget Sound Energy Inc.	12/5/2017	9.50%	2.73%	6.77%
Wisconsin	Northern States Power Co.	12/7/2017	9.80%	2.76%	7.04%
Connecticut	The Sthrn CT Gas Co	12/13/2017	9.25%	2.74%	6.51%
Idaho	Avista Corp.	12/28/2017	9.50%	2.75%	6.75%
Illinois	Northern Illinois Gas Co.	1/31/2018	9.80%	2.95%	6.85%
Missouri	Spire Missouri Inc.	2/21/2018	9.80%	3.22%	6.58%
Missouri	Missouri Gas Energy	2/21/2018	9.80%	3.22%	6.58%
Maine	Northern Utilities Inc.	2/28/2018	9.50%	3.13%	6.37%
New York	Niagara Mohawk Power Corp.	3/15/2018	9.00%	3.05%	5.95%
Florida	Pivotal Utility Holdings Inc.	3/26/2018	10.19%	3.08%	7.11%
Washington	Avista Corp.	4/26/2018	9.50%	3.18%	6.32%
New Hampshire	Liberty Utilities EnergyNorth	4/27/2018	9.30%	3.13%	6.17%
New Hampshire	Northern Utilities Inc.	5/2/2018	9.50%	3.14%	6.36%
Kentucky	Atmos Energy Corp.	5/3/2018	9.70%	3.12%	6.58%
Montana	MDU Resources Group	5/29/2018	9.40%	2.96%	6.44%
Missouri	Liberty Utilities (Midstates)	6/6/2018	9.80%	3.13%	6.67%
New York	Central Hudson Gas & Electric	6/14/2018	8.80%	3.05%	5.75%
Wyoming	Black Hills Northwest Wyoming	7/16/2018	9.60%	2.96%	6.64%
Washington	Cascade Natural Gas Corp.	7/20/2018	9.40%	3.03%	6.37%
Virginia	Virginia Natural Gas Inc.	8/15/2018	9.50%	3.03%	6.47%
Rhode Island	The Narragansett Electric Co.	8/24/2018	9.28%	2.97%	6.31%
Michigan	Consumers Energy Co.	8/28/2018	10.00%	3.03%	6.97%
Michigan	DTE Gas Co.	9/13/2018	10.00%	3.11%	6.89%
Wisconsin	Wisconsin Power and Light Co	9/14/2018	10.00%	3.13%	6.87%
Indiana	Northern IN Public Svc Co. LLC	9/19/2018	9.85%	3.23%	6.62%
Wisconsin	Madison Gas and Electric Co.	9/20/2018	9.80%	3.21%	6.59%
North Dakota	MDU Resources Group	9/26/2018	9.40%	3.19%	6.21%
South Carolina	Piedmont Natural Gas Co.	9/26/2018	10.20%	3.19%	7.01%
Massachusetts	Boston Gas Co.	9/28/2018	9.50%	3.19%	6.31%
Massachusetts	Colonial Gas Co.	9/28/2018	9.50%	3.19%	6.31%
Arkansas	Black Hills Energy Arkansas	10/5/2018	9.61%	3.40%	6.21%
Tennessee	Chattanooga Gas Co.	10/15/2018	9.80%	3.34%	6.46%
Oregon	Northwest Natural Gas Co.	10/26/2018	9.40%	3.32%	6.08%
New Jersey	Public Service Electric Gas	10/29/2018	9.60%	3.33%	6.27%
Illinois	Ameren Illinois	11/1/2018	9.87%	3.38%	6.49%
Delaware	Delmarva Power & Light Co.	11/8/2018	9.70%	3.43%	6.27%
Minnesota	Minnesota Energy Resources	11/8/2018	9.70%	3.43%	6.27%
Maryland	Washington Gas Light Co.	12/11/2018	9.70%	3.13%	6.57%
Connecticut	Yankee Gas Services Co.	12/12/2018	9.30%	3.15%	6.15%
Iowa	Interstate Power & Light Co.	12/13/2018	9.60%	3.16%	6.44%
Connecticut	CT Natural Gas Corp.	12/19/2018	9.30%	3.00%	6.30%
Colorado	Public Service Co. of CO	12/21/2018	9.35%	3.03%	6.32%
Nevada	Southwest Gas Corp.	12/24/2018	9.25%	3.00%	6.25%
Nevada	Southwest Gas Corp.	12/24/2018	9.25%	3.00%	6.25%
Maryland	Baltimore Gas and Electric Co.	1/4/2019	9.80%	2.98%	6.82%
Massachusetts	The Berkshire Gas Co.	1/18/2019	9.70%	3.09%	6.61%
New York	Orange & Rockland Utlts Inc.	3/14/2019	9.00%	3.04%	5.96%
Kentucky	Duke Energy Kentucky Inc.	3/27/2019	9.70%	2.83%	6.87%
Kentucky	Louisville Gas & Electric Co.	4/30/2019	9.73%	2.93%	6.80%
Kentucky	Atmos Energy Corp.	5/7/2019	9.65%	2.86%	6.79%
Texas	Atmos Energy Corp.	5/21/2019	9.80%	2.84%	6.96%
Virginia	Virginia Natural Gas Inc.	8/29/2019	9.50%	1.97%	7.53%
Wisconsin	Northern States Power Co.	9/4/2019	10.00%	1.97%	8.03%
Michigan	Consumers Energy Co.	9/26/2019	9.90%	2.15%	7.75%
Illinois	Northern Illinois Gas Co.	10/2/2019	9.73%	2.09%	7.64%
South Carolina	Piedmont Natural Gas Co.	10/2/2019	9.90%	2.09%	7.81%
Oregon	Avista Corp.	10/8/2019	9.40%	2.04%	7.36%
Maryland	Washington Gas Light Co.	10/15/2019	9.70%	2.23%	7.47%
Washington	Northwest Natural Gas Co.	10/21/2019	9.40%	2.28%	7.12%
North Carolina	Piedmont Natural Gas Co.	10/31/2019	9.70%	2.17%	7.53%
Wisconsin	Wisconsin Electric Power Co.	10/31/2019	10.00%	2.17%	7.83%
Wisconsin	Wisconsin Public Service Corp.	10/31/2019	10.00%	2.17%	7.83%
Wisconsin	Wisconsin Gas LLC	10/31/2019	10.20%	2.17%	8.03%
Louisiana	Entergy New Orleans LLC	11/7/2019	9.35%	2.40%	6.95%

New Jersey	Elizabethtown Gas Co.	11/13/2019	9.60%	2.36%	7.24%
New Jersey	New Jersey Natural Gas Co.	11/13/2019	9.60%	2.36%	7.24%
Virginia	Columbia Gas of Virginia Inc	12/6/2019	9.70%	2.29%	7.41%
Michigan	SEMCO Energy Inc.	12/6/2019	9.87%	2.29%	7.58%
Wyoming	Black Hills Wyoming Gas LLC	12/11/2019	9.40%	2.23%	7.17%
Maryland	Baltimore Gas and Electric Co.	12/17/2019	9.75%	2.31%	7.44%
Maryland	Columbia Gas of Maryland Inc	12/18/2019	9.60%	2.35%	7.25%
Iowa	Interstate Power & Light Co.	12/18/2019	9.60%	2.35%	7.25%
California	Southern California Gas Co.	12/19/2019	10.05%	2.35%	7.70%
California	San Diego Gas & Electric Co.	12/19/2019	10.20%	2.35%	7.85%
Georgia	Atlanta Gas Light Co.	12/19/2019	10.25%	2.35%	7.90%
Virginia	Washington Gas Light Co.	12/20/2019	9.20%	2.34%	6.86%
West Virginia	Mountaineer Gas Co.	12/26/2019	9.75%	2.33%	7.42%
Wyoming	MDU Resources Group	1/15/2020	9.35%	2.23%	7.12%
New York	Consolidated Edison Company of	1/16/2020	8.80%	2.26%	6.54%
Virginia	Roanoke Gas Co.	1/24/2020	9.44%	2.14%	7.30%
Washington	Cascade Natural Gas Corp.	2/3/2020	9.40%	2.01%	7.39%
Kansas	Atmos Energy Corp.	2/24/2020	9.10%	1.84%	7.26%
Utah	Dominion Energy Inc.	2/25/2020	9.50%	1.80%	7.70%
Massachusetts	Fitchburg Gas & Electric Light	2/28/2020	9.70%	1.65%	8.05%
Washington	Avista Corp.	3/25/2020	9.40%	1.45%	7.95%
Maine	Northern Utilities Inc.	3/26/2020	9.48%	1.42%	8.06%
Texas	Atmos Energy Corp.	4/21/2020	9.80%	1.17%	8.63%
Colorado	Black Hills Colorado Gas Inc.	5/19/2020	9.20%	1.43%	7.77%
Texas	CenterPoint Energy Resources	6/16/2020	9.65%	1.54%	8.11%
Washington	Puget Sound Energy Inc.	7/8/2020	9.40%	1.39%	8.01%
Texas	Texas Gas Service Co.	8/4/2020	9.50%	1.19%	8.31%
Michigan	DTE Gas Co.	8/20/2020	9.90%	1.38%	8.52%
Wyoming	Dominion Energy Inc.	8/21/2020	9.35%	1.35%	8.00%
Michigan	Consumers Energy Co.	9/10/2020	9.90%	1.43%	8.47%
New Jersey	South Jersey Gas Co.	9/23/2020	9.60%	1.42%	8.18%
Nevada	Southwest Gas Corp.	9/25/2020	9.25%	1.40%	7.85%
Nevada	Southwest Gas Corp.	9/25/2020	9.25%	1.40%	7.85%
Massachusetts	Eversource Gas Co MA	10/7/2020	9.70%	1.60%	8.10%
Oregon	Northwest Natural Gas Co.	10/16/2020	9.40%	1.52%	7.88%
Massachusetts	NSTAR Gas Co.	10/30/2020	9.90%	1.65%	8.25%
New York	Rochester Gas & Electric Corp.	11/19/2020	8.80%	1.58%	7.22%
New York	NY State Electric & Gas Corp.	11/19/2020	8.80%	1.58%	7.22%
Florida	Peoples Gas System	11/19/2020	9.90%	1.58%	8.32%
Wisconsin	Madison Gas and Electric Co.	11/24/2020	9.80%	1.60%	8.20%
Arizona	Southwest Gas Corp.	12/9/2020	9.10%	1.69%	7.41%
Oregon	Avista Corp.	12/10/2020	9.40%	1.65%	7.75%
New Mexico	New Mexico Gas Co.	12/16/2020	9.38%	1.66%	7.72%
Maryland	Baltimore Gas and Electric Co.	12/16/2020	9.65%	1.66%	7.99%
Wisconsin	Wisconsin Power and Light Co	12/23/2020	10.00%	1.70%	8.30%
Oregon	Cascade Natural Gas Corp.	1/6/2021	9.40%	1.81%	7.59%
Delaware	Delmarva Power & Light Co.	1/6/2021	9.60%	1.81%	7.79%
Illinois	Ameren Illinois	1/13/2021	9.67%	1.82%	7.85%
Nebraska	Black Hills Nebraska Gas LLC	1/26/2021	9.50%	1.80%	7.70%
Tennessee	Piedmont Natural Gas Co.	2/16/2021	9.80%	2.08%	7.72%
Pennsylvania	Columbia Gas of Pennsylvania	2/19/2021	9.86%	2.14%	7.72%
District of Columbia	Washington Gas Light Co.	2/24/2021	9.25%	2.24%	7.01%
California	Southwest Gas Corp.	3/25/2021	10.00%	2.34%	7.66%
California	Southwest Gas Corp.	3/25/2021	10.00%	2.34%	7.66%
California	Southwest Gas Corp.	3/25/2021	10.00%	2.34%	7.66%
Maryland	Washington Gas Light Co.	4/9/2021	9.70%	2.34%	7.36%
North Dakota	MDU Resources Group	5/5/2021	9.30%	2.25%	7.05%
Washington	Cascade Natural Gas Corp.	5/18/2021	9.40%	2.37%	7.03%
New York	Corning Natural Gas Corp.	5/19/2021	8.80%	2.38%	6.42%
Pennsylvania	PECO Energy Co	6/17/2021	10.24%	2.11%	8.13%
Kentucky	Louisville Gas & Electric Co.	6/30/2021	9.43%	2.06%	7.37%
West Virginia	Hope Gas Inc.	7/27/2021	9.54%	1.89%	7.65%
New Hampshire	Liberty Utilities EnergyNorth	7/30/2021	9.30%	1.89%	7.41%
New York	KeySpan Gas East Corp.	8/12/2021	8.80%	2.03%	6.77%
New York	The Brooklyn Union Gas Co.	8/12/2021	8.80%	2.03%	6.77%
Idaho	Avista Corp.	9/1/2021	9.40%	1.92%	7.48%

Illinois	North Shore Gas Co.	9/8/2021	9.67%	1.95%	7.72%
Michigan	Michigan Gas Utilities Corp.	9/9/2021	9.85%	1.90%	7.95%
Virginia	Virginia Natural Gas Inc.	9/14/2021	9.50%	1.85%	7.65%
Washington	Avista Corp.	9/27/2021	9.40%	1.99%	7.41%
South Carolina	Piedmont Natural Gas Co.	9/29/2021	9.80%	2.09%	7.71%
Massachusetts	Boston Gas Co.	9/30/2021	9.70%	2.08%	7.62%
Indiana	Sthrn IN Gas & Electric Co.	10/6/2021	9.70%	2.08%	7.62%
Missouri	Spire Missouri Inc.	10/27/2021	9.37%	1.95%	7.42%
Tennessee	Chattanooga Gas Co.	11/1/2021	9.80%	1.98%	7.82%
New Jersey	New Jersey Natural Gas Co.	11/17/2021	9.60%	2.00%	7.60%
Indiana	Indiana Gas Co.	11/17/2021	9.80%	2.00%	7.80%
New York	Central Hudson Gas & Electric	11/18/2021	9.00%	1.97%	7.03%
Illinois	Northern Illinois Gas Co.	11/18/2021	9.75%	1.97%	7.78%
Wisconsin	Northern States Power Co.	11/18/2021	10.00%	1.97%	8.03%
Wisconsin	Wisconsin Power and Light Co	11/18/2021	10.00%	1.97%	8.03%
Wisconsin	Madison Gas and Electric Co.	11/23/2021	9.80%	2.02%	7.78%
Oklahoma	Oklahoma Natural Gas Co	11/30/2021	9.40%	1.78%	7.62%
Maryland	Columbia Gas of Maryland Inc	12/3/2021	9.65%	1.69%	7.96%
Michigan	DTE Gas Co.	12/9/2021	9.90%	1.87%	8.03%
Colorado	Black Hills Colorado Gas Inc.	12/13/2021	9.20%	1.81%	7.39%
Kentucky	Columbia Gas of Kentucky Inc	12/28/2021	9.35%	1.90%	7.45%
Kentucky	Duke Energy Kentucky Inc.	12/28/2021	9.38%	1.90%	7.48%
Iowa	Black Hills Iowa Gas Utility	12/28/2021	9.60%	1.90%	7.70%
Kentucky	Delta Natural Gas Co.	1/3/2022	9.25%	2.01%	7.24%
North Carolina	Piedmont Natural Gas Co.	1/6/2022	9.60%	2.09%	7.51%
New York	Niagara Mohawk Power Corp.	1/20/2022	9.00%	2.14%	6.86%
North Carolina	Public Service Co. of NC	1/21/2022	9.60%	2.07%	7.53%
Nevada	Southwest Gas Corp.	3/22/2022	9.40%	2.60%	6.80%
Nevada	Southwest Gas Corp.	3/22/2022	9.40%	2.60%	6.80%
New York	Orange & Rockland Utlts Inc.	4/14/2022	9.20%	2.92%	6.28%
Kentucky	Atmos Energy Corp.	5/19/2022	9.23%	3.05%	6.18%
New York	Corning Natural Gas Corp.	6/16/2022	9.25%	3.35%	5.90%
Michigan	Consumers Energy Co.	7/7/2022	9.90%	3.20%	6.70%
New Hampshire	Northern Utilities Inc.	7/20/2022	9.30%	3.17%	6.13%
Indiana	Northern IN Public Svc Co. LLC	7/27/2022	9.85%	3.03%	6.82%
Oregon	Avista Corp.	8/2/2022	9.40%	3.00%	6.40%
New Jersey	Elizabethtown Gas Co.	8/17/2022	9.60%	3.15%	6.45%
Minnesota	CenterPoint Energy Resources	8/18/2022	9.39%	3.14%	6.25%
Washington	Cascade Natural Gas Corp.	8/23/2022	9.40%	3.26%	6.14%
South Carolina	Piedmont Natural Gas Co.	9/15/2022	9.30%	3.48%	5.82%
Delaware	Delmarva Power & Light Co.	10/12/2022	9.60%	3.90%	5.70%
Oregon	Northwest Natural Gas Co.	10/24/2022	9.40%	4.40%	5.00%
Colorado	Public Service Co. of CO	10/25/2022	9.20%	4.26%	4.94%
Massachusetts	The Berkshire Gas Co.	10/27/2022	9.70%	4.12%	5.58%
North Dakota	Northern States Power Co.	10/27/2022	9.80%	4.12%	5.68%
Tennessee	Chattanooga Gas Co.	10/28/2022	9.80%	4.15%	5.65%
California	San Diego Gas & Electric Co.	11/3/2022	10.20%	4.18%	6.02%
Maryland	Columbia Gas of Maryland Inc	11/17/2022	9.65%	3.89%	5.76%
New Mexico	New Mexico Gas Co.	11/30/2022	9.38%	3.80%	5.58%
California	Southern California Gas Co.	12/15/2022	9.80%	3.48%	6.32%
New Jersey	South Jersey Gas Co.	12/21/2022	9.60%	3.74%	5.86%
Washington	Puget Sound Energy Inc.	12/22/2022	9.40%	3.73%	5.67%
Wisconsin	Wisconsin Public Service Corp.	12/22/2022	9.80%	3.73%	6.07%
Utah	Dominion Energy Inc.	12/23/2022	9.60%	3.82%	5.78%
Wisconsin	Wisconsin Electric Power Co.	12/29/2022	9.80%	3.92%	5.88%
Wisconsin	Wisconsin Gas LLC	12/29/2022	9.80%	3.92%	5.88%
Texas	Texas Gas Service Co.	1/19/2023	9.60%	3.57%	6.03%
Arizona	Southwest Gas Corp.	1/23/2023	9.30%	3.69%	5.61%
Virginia	Roanoke Gas Co.	1/23/2023	10.44%	3.69%	6.75%
Florida	Florida Public Utilities Co.	1/24/2023	10.25%	3.62%	6.63%
Ohio	Columbia Gas Ohio Inc.	1/26/2023	9.60%	3.62%	5.98%
Minnesota	Northern States Power Co.	3/23/2023	9.57%	3.66%	5.91%
Florida	Pivotal Utility Holdings Inc.	3/28/2023	9.50%	3.77%	5.73%
Colorado	Atmos Energy Corp.	5/4/2023	9.30%	3.73%	5.57%
Kentucky	Atmos Energy Corp.	5/25/2023	9.55%	4.01%	5.54%
Idaho	Intermountain Gas Co.	6/30/2023	9.50%	3.85%	5.65%

New York	Consolidated Edison Company of	7/20/2023	9.25%	3.91%	5.34%
Michigan	Michigan Gas Utilities Corp.	8/30/2023	9.80%	4.23%	5.57%
Michigan	Consumers Energy Co.	8/30/2023	9.90%	4.23%	5.67%
Idaho	Avista Corp.	8/31/2023	9.40%	4.20%	5.20%
Virginia	Roanoke Gas Co.	9/1/2023	10.44%	4.29%	6.15%
Maine	Northern Utilities Inc.	9/20/2023	9.35%	4.40%	4.95%
South Carolina	Dominion Energy South Carolina	9/20/2023	9.49%	4.40%	5.09%
South Carolina	Piedmont Natural Gas Co.	10/5/2023	9.30%	4.89%	4.41%
New York	NY State Electric & Gas Corp.	10/12/2023	9.20%	4.86%	4.34%
New York	Rochester Gas & Electric Corp.	10/12/2023	9.20%	4.86%	4.34%
Montana	NorthWestern Energy Group	10/25/2023	9.55%	5.09%	4.46%
Oregon	Avista Corp.	10/26/2023	9.50%	5.01%	4.49%
Minnesota	Minnesota Energy Resources	10/26/2023	9.65%	5.01%	4.64%
Ohio	Duke Energy Ohio Inc.	11/1/2023	9.60%	4.96%	4.64%
Wisconsin	Madison Gas and Electric Co.	11/3/2023	9.70%	4.77%	4.93%
Wisconsin	Northern States Power Co.	11/9/2023	9.80%	4.77%	5.03%
Wisconsin	Wisconsin Power and Light Co	11/9/2023	9.80%	4.77%	5.03%
Florida	Peoples Gas System	11/9/2023	10.15%	4.77%	5.38%
Illinois	The Peoples Gas Light & Coke C	11/16/2023	9.38%	4.63%	4.75%
Illinois	North Shore Gas Co.	11/16/2023	9.38%	4.63%	4.75%
Illinois	Ameren Illinois	11/16/2023	9.44%	4.63%	4.81%
Illinois	Northern Illinois Gas Co.	11/16/2023	9.51%	4.63%	4.88%
Tennessee	Piedmont Natural Gas Co.	12/4/2023	9.80%	4.43%	5.37%
Virginia	Columbia Gas of Virginia Inc	12/6/2023	9.70%	4.22%	5.48%
Virginia	Virginia Natural Gas Inc.	12/12/2023	9.70%	4.30%	5.40%
Maryland	Baltimore Gas and Electric Co.	12/14/2023	9.45%	4.03%	5.42%
Maryland	Washington Gas Light Co.	12/14/2023	9.50%	4.03%	5.47%
District of Columbia	Washington Gas Light Co.	12/15/2023	9.65%	4.00%	5.65%
Virginia	Washington Gas Light Co.	12/19/2023	9.65%	4.03%	5.62%
West Virginia	Mountaineer Gas Co.	12/21/2023	9.75%	4.03%	5.72%
California	Southern California Gas Co.	12/22/2023	10.50%	4.05%	6.45%

[1] Source: CapIQ

[2] Source: US Treasury Department

[3] Equals [1] - [2]