

Assumptions

San Juan Power Plant Units 5 & 6 Production Assumption

Capacity	440 MW
Capacity Factor	85%
Heat Rate	7,500

Notes:

ULSD Futures only available through 12/2022, escalated by inflation thereafter
 Using ULSD futures for conservatism purposes as this represents a narrower spread to natural gas pricing in comparison to Diesel in the Fiscal Plan
 Bunker C calculated as discount to Delivered Diesel using 4-years (1/2015-10/2018) of historical delivered fuel pricing, adjusted for heat content. Over term the maximum discount was 31% and minimum discount 21%
 Assume Substantial Completion & Start of Contract Term of 7/1/18 - Online Date for Unit 6
 Outages are 1 month per unit, June & July 2019
 Cells highlighted orange represent 1 unit in outage by reducing capacity factor by 50%
 Contract extends to 7/1/2024; partial year benefit only

*Privileged and Confidential - Subject to Common Interest and/or Deliberative Process Privilege
 Draft - Subject to Further Revisions and Modifications*

Next Best Generation Facility Assumption

Capacity	220 MW
Capacity Factor	85%
Heat Rate	10,500 Palo Seco 4 as indicative replacement unit
Bunker C Discount to Delivered Diesel	26% 4 Year Historical Average (PS to SJ CC, 1/15-10/18)
MMBtu/barrel of Bunker C	6.29

Month	2019	2020	2021	2022	2023	2024	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20		
Calendar Year							2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2020	2020		
Days	365	366	365	365	365	366	31	28	31	30	31	30	31	31	30	31	30	31	31	29		
Month Number							1	2	3	4	5	6	7	8	9	10	11	12	13	14		
Fuel Indices																						
Diesel (Delivered)	\$/MMBtu	NY Harbor - 12/17/18	14.57	14.88	14.92	14.90	15.06	15.39	14.59	14.55	14.48	14.40	14.38	14.42	14.49	14.56	14.64	14.72	14.78	14.84	14.88	14.89
Natural Gas - Henry Hub	\$/MMBtu	NYMEX - 12/17/18	2.85	2.65	2.63	2.65	2.71	2.79	2.78	2.73	2.76	2.79	2.79	2.76	2.79	2.84	2.99	3.10	3.04	2.87	2.54	2.49
Bunker C (Delivered)	\$/MMBtu	Historical 4-year average discount to Delivered Diesel, adjusted for heat content	9.90	10.10	10.13	10.12	10.23	10.45	9.91	9.88	9.83	9.78	9.77	9.79	9.84	9.89	9.94	9.99	10.04	10.08	10.11	10.11
Other																						
Consumer Price Index	2018 base/n	Philadelphia Federal Reserve	102.40	104.76	107.16	109.36	111.60	114.04	102.40	102.40	102.40	102.40	102.40	102.40	102.40	102.40	102.40	102.40	102.40	104.76	104.76	
Fuel Consumption																						
Capacity Factor			78%	85%	85%	85%	85%	85%	85%	85%	85%	43%	43%	85%	85%	85%	85%	85%	85%	85%	85%	
Heat Rate	Btu/kWh		7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	
Fuel Consumption	TBtu		22.5	24.6	24.6	24.6	24.6	24.6	2.1	1.9	2.1	2.0	2.1	1.0	1.0	2.1	2.0	2.1	2.0	2.1	2.0	
Base Case - Diesel																						
Fuel	\$/MMBtu		14.57	14.88	14.92	14.90	15.06	15.39	14.59	14.55	14.48	14.40	14.38	14.42	14.49	14.56	14.64	14.72	14.78	14.84	14.88	14.89
Total Cost	\$mm		328.4	366.6	366.7	366.2	370.0	379.2	30.5	27.4	30.2	29.1	30.0	14.6	15.1	30.4	29.6	30.7	29.9	31.0	31.1	29.1

Source: <https://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/2018/survq318>

Median Short-Run and Long-Run Projections for Inflation (Annualized Percentage Points)

	Headline CPI		Core CPI		Headline PCE		Core PCE	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current
<i>Quarterly</i>								
2018:Q3	2.2	2.3	2.3	2.3	2	2	2.1	2
2018:Q4	2.3	2.3	2.3	2.3	2	2.1	2.1	2
2019:Q1	2.3	2.4	2.4	2.4	2.1	2.1	2.1	2.1
2019:Q2	2.2	2.1	2.4	2.4	2	2	2	2.1
2019:Q3	N.A.	2.3	N.A.	2.4	N.A.	2.1	N.A.	2.1
<i>Q4/Q4 Annual Averages</i>								
2018	2.5	2.4	2.5	2.3	2.1	2.1	2.2	2
2019	2.2	2.3	2.4	2.4	2.1	2.1	2.1	2.1
2020	2.3	2.3	2.4	2.4	2.1	2.1	2.1	2.1
<i>Long-Term Annual Averages</i>								
2018-2022	2.2	2.22	N.A.	N.A.	2	2.04	N.A.	N.A.
2018-2027	2.3	2.2	N.A.	N.A.	2	2	N.A.	N.A.

	CPI	CPI %		Derivation of 2021, 2022
2018	100.00	2.40		11.1
2019	102.40	2.30		4.1
2020	104.76	2.30		2.05
2021	107.16	2.05	2018-2022 Average	
2022	109.36	2.05	2.22	
2023	111.60	2.18		Derivation of 2023-2027
2024	114.04	2.18		22
2025	116.52	2.18		10.9
2026	119.06	2.18	2018-2027 Average	
2027	121.66	2.18	2.2	2.18

Reference Case	
Month	No. 2
Fuel	Light D.- AGUIRRE CC, Light D.- Costa Sur and others
Jan-18	16.9998
Feb-18	16.9222
Mar-18	16.7104
Apr-18	16.6982
May-18	15.8058
Jun-18	15.1067
Jul-18	13.3105
Aug-18	14.1780
Sep-18	14.2210
Oct-18	14.9527
Nov-18	15.8335
Dec-18	16.1717
Jan-19	15.7038
Feb-19	15.6326
Mar-19	15.4382
Apr-19	15.4271
May-19	14.6079
Jun-19	13.9661
Jul-19	15.3700
Aug-19	16.3851
Sep-19	16.4354
Oct-19	17.2916
Nov-19	18.3223
Dec-19	18.7181
Jan-20	18.1706
Feb-20	18.0873
Mar-20	17.8598
Apr-20	17.8467
May-20	16.8882
Jun-20	16.1371
Jul-20	17.8357
Aug-20	19.0276
Sep-20	19.0867
Oct-20	20.0919
Nov-20	21.3021
Dec-20	21.7668
Jan-21	21.1240
Feb-21	21.0261
Mar-21	20.7590
Apr-21	20.7437
May-21	19.6182
Jun-21	18.7364
Jul-21	19.2207
Aug-21	20.5119
Sep-21	20.5759
Oct-21	21.6649
Nov-21	22.9759
Dec-21	23.4792
Jan-22	22.7829
Feb-22	22.6769
Mar-22	22.3875
Apr-22	22.3709
May-22	21.1517
Jun-22	20.1965
Jul-22	20.1854
Aug-22	21.5458
Sep-22	21.6132
Oct-22	22.7605
Nov-22	24.1417
Dec-22	24.6720
Jan-23	23.9384
Feb-23	23.8267
Mar-23	23.5219
Apr-23	23.5044
May-23	22.2198
Jun-23	21.2135

NY Harbor ULSD Futures Quotes

CME Group

<https://www.cmegroup.com/trading/energy/refined-products/heating-oil.html>

As-of 12/17/2018

Month	Prior Settle	Not Delivered		Adder		Delivered		MMBtu/Barrel	Year	NY Harbor Delivered				
		\$/Barrel	\$/MMBtu	\$/barrel	\$/mmbtu	Total / Bar	\$/MMBtu			\$/MMBtu	\$/MMBtu	\$/MMBtu		
Jan-19	1.85	77.50	13.43	6.70	1.16	84.20	14.59	5.77	2019	2019	13.41	14.57	↑	1.16
Feb-19	1.84	77.25	13.39	6.70	1.16	83.95	14.55	5.77	2019	2020	13.72	14.88	↑	1.16
Mar-19	1.83	76.83	13.32	6.70	1.16	83.53	14.48	5.77	2019	2021	13.76	14.92	↑	1.16
Apr-19	1.82	76.37	13.24	6.70	1.16	83.07	14.40	5.77	2019	2022	13.74	14.90	↓	1.16
May-19	1.82	76.29	13.22	6.70	1.16	82.99	14.38	5.77	2019	2023	13.76	14.92	↑	1.16
Jun-19	1.82	76.48	13.26	6.70	1.16	83.18	14.42	5.77	2019					
Jul-19	1.83	76.89	13.33	6.70	1.16	83.59	14.49	5.77	2019					
Aug-19	1.84	77.31	13.40	6.70	1.16	84.01	14.56	5.77	2019					
Sep-19	1.85	77.77	13.48	6.70	1.16	84.47	14.64	5.77	2019					
Oct-19	1.86	78.22	13.56	6.70	1.16	84.92	14.72	5.77	2019					
Nov-19	1.87	78.61	13.62	6.70	1.16	85.31	14.78	5.77	2019					
Dec-19	1.88	78.92	13.68	6.70	1.16	85.62	14.84	5.77	2019					
Jan-20	1.88	79.16	13.72	6.70	1.16	85.86	14.88	5.77	2020					
Feb-20	1.89	79.20	13.73	6.70	1.16	85.90	14.89	5.77	2020					
Mar-20	1.88	79.14	13.72	6.70	1.16	85.84	14.88	5.77	2020					
Apr-20	1.88	78.78	13.65	6.70	1.16	85.48	14.81	5.77	2020					
May-20	1.87	78.68	13.64	6.70	1.16	85.38	14.80	5.77	2020					
Jun-20	1.88	78.79	13.66	6.70	1.16	85.49	14.82	5.77	2020					
Jul-20	1.88	79.03	13.70	6.70	1.16	85.73	14.86	5.77	2020					
Aug-20	1.89	79.25	13.74	6.70	1.16	85.95	14.90	5.77	2020					
Sep-20	1.89	79.40	13.76	6.70	1.16	86.10	14.92	5.77	2020					
Oct-20	1.89	79.42	13.76	6.70	1.16	86.12	14.93	5.77	2020					
Nov-20	1.89	79.48	13.77	6.70	1.16	86.18	14.94	5.77	2020					
Dec-20	1.89	79.47	13.77	6.70	1.16	86.17	14.93	5.77	2020					
Jan-21	1.90	79.59	13.79	6.70	1.16	86.29	14.95	5.77	2021					
Feb-21	1.90	79.59	13.79	6.70	1.16	86.29	14.96	5.77	2021					
Mar-21	1.89	79.47	13.77	6.70	1.16	86.17	14.93	5.77	2021					
Apr-21	1.89	79.18	13.72	6.70	1.16	85.88	14.88	5.77	2021					
May-21	1.88	79.08	13.70	6.70	1.16	85.78	14.87	5.77	2021					
Jun-21	1.89	79.30	13.74	6.70	1.16	86.00	14.90	5.77	2021					
Jul-21	1.89	79.38	13.76	6.70	1.16	86.08	14.92	5.77	2021					
Aug-21	1.89	79.42	13.76	6.70	1.16	86.12	14.93	5.77	2021					
Sep-21	1.89	79.48	13.77	6.70	1.16	86.18	14.94	5.77	2021					
Oct-21	1.89	79.51	13.78	6.70	1.16	86.21	14.94	5.77	2021					
Nov-21	1.89	79.42	13.76	6.70	1.16	86.12	14.93	5.77	2021					
Dec-21	1.89	79.37	13.76	6.70	1.16	86.07	14.92	5.77	2021					
Jan-22	1.89	79.49	13.78	6.70	1.16	86.19	14.94	5.77	2022					
Feb-22	1.89	79.53	13.78	6.70	1.16	86.23	14.94	5.77	2022					
Mar-22	1.89	79.40	13.76	6.70	1.16	86.10	14.92	5.77	2022					
Apr-22	1.88	79.11	13.71	6.70	1.16	85.81	14.87	5.77	2022					
May-22	1.88	79.02	13.69	6.70	1.16	85.72	14.86	5.77	2022					
Jun-22	1.89	79.27	13.74	6.70	1.16	85.97	14.90	5.77	2022					
Jul-22	1.89	79.33	13.75	6.70	1.16	86.03	14.91	5.77	2022					
Aug-22	1.89	79.30	13.74	6.70	1.16	86.00	14.91	5.77	2022					
Sep-22	1.89	79.32	13.75	6.70	1.16	86.02	14.91	5.77	2022					
Oct-22	1.89	79.33	13.75	6.70	1.16	86.03	14.91	5.77	2022					
Nov-22	1.89	79.18	13.72	6.70	1.16	85.88	14.88	5.77	2022					
Dec-22	1.88	79.16	13.72	6.70	1.16	85.86	14.88	5.77	2022					
Jan-23	1.89	79.37	13.76	6.70	1.16	86.07	14.92	5.77	2023					

Natural Gas Forwards & Futures (Data)

Price Type: Full Market (no discount)
Forward Term: Monthly
Basis: C&E (Crest) - L&A

As Of: 12/17/2018

As of 12/17/2018

Month

Month

2019 2.96

2020 2.89

2021 2.83

2022 2.80

2023 2.89

2024 2.96

2025 3.07

2026 3.16

2027 3.26

2028 3.35

2029 3.45

2030 3.45

2031 3.45

2032 3.45

2033 3.45

2034 3.45

2035 3.45

2036 3.45

2037 3.45

2038 3.45

2039 3.45

2040 3.45

2041 3.45

2042 3.45

2043 3.45

2044 3.45

2045 3.45

2046 3.45

2047 3.45

2048 3.45

2049 3.45

2050 3.45

2051 3.45

2052 3.45

2053 3.45

2054 3.45

2055 3.45

2056 3.45

2057 3.45

2058 3.45

2059 3.45

2060 3.45

2061 3.45

2062 3.45

2063 3.45

2064 3.45

2065 3.45

2066 3.45

2067 3.45

2068 3.45

2069 3.45

2070 3.45

2071 3.45

2072 3.45

2073 3.45

2074 3.45

2075 3.45

2076 3.45

2077 3.45

2078 3.45

2079 3.45

2080 3.45

2081 3.45

2082 3.45

2083 3.45

2084 3.45

2085 3.45

2086 3.45

2087 3.45

2088 3.45

2089 3.45

2090 3.45

2091 3.45

2092 3.45

2093 3.45

2094 3.45

2095 3.45

2096 3.45

2097 3.45

2098 3.45

2099 3.45

2100 3.45

NYMEX and CME Clearport market data provided by DTN.
NYMEX and CME Clearport market data is property of the Chicago Mercantile Exchange, Inc. and its licensors. All rights reserved.
OTC Global Holdings (OTCOH) price forwards for Ontario and Alberta are available in CAD or US\$/MMBtu. All others are posted in US\$/MMBtu only. OTCOH natural gas forwards are posted in US\$/MMBtu.