

PARTIALLY CONFIDENTIAL (Attachment Only)

1 **Request IR-1:**

2
3 **Appendix 6.03 of the Maritime Link Project Application, page 13, indicates that coal prices**
4 **come from the "NSPI Fuels Group long-term update July 2012" (Update). Please provide this**
5 **July 2012 update, and also include the following, if not included in the update:**

6
7 **(a) Clear correlation between the coal prices in the Update, and the coal prices listed on**
8 **page 2 of Appendix 6.04.**

9
10 **(b) For each generating unit and type of coal listed on page 2 of Appendix 6.04, show all**
11 **of the components of the price delivered to the unit, including mine prices, water**
12 **transportation, land transportation, and any other delivered price components.**
13 **Identify coal mines by name and location.**

14
15 **(c) Show the buildup to the final delivered prices in all cases where coal from any**
16 **generating unit comes from more than one coal mine.**

17
18 **(d) Identification of source of coal price information for each of the coal price**
19 **components listed in item "b" above. Please be clear whether prices were internally**
20 **generated, or obtained from commercially available forecasts; specifically identify**
21 **all commercially available forecasts used.**

22
23 **(e) Please justify the use of all forecasts referenced in "d" above, and list forecasts**
24 **considered for use but not used, and explain why the forecasts utilized were the ones**
25 **used, compared to the forecasts considered, but not used.**

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1 Response IR-1:

2
3 (a) Please refer to Confidential Attachment 1 for the July 2012 data referenced in
4 Appendix 6.04, Page 2. The data in the attached is to Year 2037 and includes imported
5 solid fuel only. Information on Page 2 of Appendix 6.04 that is not included in the
6 attached is as follows: For years 2038 to 2040, pricing was determined by applying a
7 year-over-year escalation of 2 percent; for Trenton Unit 6 domestic, pricing was
8 determined by applying a year-over-year escalation of 2 percent, and; for Point Aconi
9 pricing, limestone costs were added to the July 2012 price data.
10

11 (b-c) Please refer to Confidential Attachment 1 which contains the components of the price
12 delivered to the units including FOB price, water transportation and land transportation.
13 The Low Sulphur (LS) coal in Page 2 of Appendix 6.04 corresponds to Colombian coal
14 containing 11,300 Btu/lb identified as “11300 LS Colombian” in Confidential
15 Attachment 1. The mid-sulphur (MS) coal in Page 2 of Appendix 6.04 corresponds to
16 Pittsburg Seam coal containing 13,000 Btu/lb identified as “13000 MS US” in
17 Confidential Attachment 1.
18

19 (d) The sources of the expert coal price information in Confidential Attachment 1 include
20 commercially-available forecasts published as of July 2012 by EVA and PIRA. For LS
21 coal, the average of EVA and PIRA was used for years 2015 to 2030. Beyond 2030
22 PIRA, data was not available and EVA was used. For MS and petcoke (PC), the EVA
23 forecast was used.
24

25 (e) Commercially available sources for long-term forecast prices were evaluated for
26 availability and currentness, as well as consistency with other sources. The following
27 expert forecasts were evaluated: Wood Mackenzie; EVA; PIRA and Jacobs for petcoke.
28 Wood Mackenzie and Jacobs’s long-term price data can be purchased with several
29 months’ notice. Wood MacKenzie and Jacobs data had most recently been purchased by

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1 NS Power for a November 2011 long-term data set. The EVA and PIRA information is
2 published regularly and available to NS Power at no additional cost.

3
4 LS Coal: EVA and PIRA data closely correlated (within an average of 1 percent in the
5 first 5 years and an average of 6 percent to 2030), while the Wood Mackenzie was an
6 outlier deviating from the EVA/PIRA average by 13 percent in the first 5 years and an
7 average of 15 percent to 2030). The EVA/PIRA average was thus used for the July LS
8 coal forecast.

9
10 Petcoke: Data available for petcoke included the EVA forecast published as of July 2012
11 and Jacobs Consultancy published as of November 2011. The EVA was most current and
12 its forecast price for 2012 was significantly closer to current market than the Jacobs
13 forecast for 2012. The EVA data was thus selected for petcoke.

14
15 MS Coal: Data available for MS coal included EVA, PIRA and Wood Mackenzie. The
16 Wood Mackenzie data for MS was higher than current market trends as noted in the 2013
17 GRA Application. Although correlating to the other data sources in later years, the Wood
18 Mackenzie pricing averaged much higher in the first 5 years. PIRA MS coal data beyond
19 2025 was not available. The PIRA and EVA MS coal price data sets correlated well, with
20 an average variance under 1 percent out to 2025. The EVA data was selected for MS
21 forecast pricing, as it was available to 2037 and was shown to correlate closely with
22 PIRA.

LINGAN TOTAL DELIVERED COST - CDN/MT

Base Case	11300 LS	13000 MS US
	Colombian	
2015		
2016		
2017	\$140.90	\$134.95
2018	\$144.53	\$138.45
2019	\$147.77	\$141.97
2020	\$151.30	\$145.50
2021	\$154.73	\$149.29
2022	\$158.65	\$153.09
2023	\$162.63	\$157.15
2024	\$166.78	\$160.97
2025	\$170.99	\$165.57
2026	\$174.90	\$169.92
2027	\$179.35	\$174.54
2028	\$183.72	\$179.17
2029	\$188.28	\$184.06
2030	\$193.03	\$188.97
2031	\$194.59	\$193.63
2032	\$199.51	\$198.82
2033	\$204.71	\$204.01
2034	\$209.66	\$209.48
2035	\$215.15	\$214.96
2036	\$220.65	\$220.70
2037	\$225.40	\$225.69

LINGAN TOTAL DELIVERED COST - CDN/MMBtu

Base Case	11300 LS	13000 MS US
	Colombian	
2015		
2016		
2017	\$5.66	\$4.71
2018	\$5.80	\$4.83
2019	\$5.93	\$4.95
2020	\$6.07	\$5.08
2021	\$6.21	\$5.21
2022	\$6.37	\$5.34
2023	\$6.53	\$5.48
2024	\$6.69	\$5.62
2025	\$6.86	\$5.78
2026	\$7.02	\$5.93
2027	\$7.20	\$6.09
2028	\$7.37	\$6.25
2029	\$7.56	\$6.42
2030	\$7.75	\$6.59
2031	\$7.81	\$6.76
2032	\$8.01	\$6.94
2033	\$8.22	\$7.12
2034	\$8.42	\$7.31
2035	\$8.64	\$7.50
2036	\$8.86	\$7.70
2037	\$9.05	\$7.87

POINT ACONI TOTAL DELIVERED COST - CDN/MT

Base Case	11300 LS	14000 6%
	Colombian	Petcoke
2015		
2016		
2017	\$139.79	\$126.41
2018	\$143.39	\$127.56
2019	\$146.61	\$129.50
2020	\$150.12	\$131.44
2021	\$153.52	\$134.69
2022	\$157.42	\$137.95
2023	\$161.37	\$141.22
2024	\$165.51	\$144.77
2025	\$169.69	\$148.07
2026	\$173.57	\$151.90
2027	\$177.99	\$156.01
2028	\$182.34	\$159.87
2029	\$186.87	\$164.00
2030	\$191.59	\$168.15
2031	\$193.12	\$172.84
2032	\$198.02	\$177.53
2033	\$203.18	\$182.25
2034	\$208.10	\$187.24
2035	\$213.56	\$191.99
2036	\$219.03	\$196.49
2037	\$223.75	\$199.99

POINT ACONI TOTAL DELIVERED COST - CDN/MMBtu

Base Case	11300 LS	14000 6%
	Colombian	Petcoke
2015		
2016		
2017	\$5.61	\$4.10
2018	\$5.76	\$4.13
2019	\$5.89	\$4.20
2020	\$6.03	\$4.26
2021	\$6.16	\$4.36
2022	\$6.32	\$4.47
2023	\$6.48	\$4.58
2024	\$6.64	\$4.69
2025	\$6.81	\$4.80
2026	\$6.97	\$4.92
2027	\$7.14	\$5.05
2028	\$7.32	\$5.18
2029	\$7.50	\$5.31
2030	\$7.69	\$5.45
2031	\$7.75	\$5.60
2032	\$7.95	\$5.75
2033	\$8.16	\$5.90
2034	\$8.35	\$6.07
2035	\$8.57	\$6.22
2036	\$8.79	\$6.37
2037	\$8.98	\$6.48

TRENTON TOTAL DELIVERED COST - CDN/MT

Base Case	11300 LS	
	Colombian	13000 MS US
2015		
2016		
2017	\$137.32	\$136.77
2018	\$140.87	\$140.32
2019	\$144.03	\$143.87
2020	\$147.50	\$147.43
2021	\$150.85	\$151.26
2022	\$154.69	\$155.10
2023	\$158.59	\$159.21
2024	\$162.66	\$163.07
2025	\$166.79	\$167.71
2026	\$170.62	\$172.10
2027	\$174.98	\$176.76
2028	\$179.26	\$181.44
2029	\$183.73	\$186.38
2030	\$188.39	\$191.33
2031	\$189.86	\$196.04
2032	\$194.69	\$201.27
2033	\$199.79	\$206.52
2034	\$204.64	\$212.04
2035	\$210.03	\$217.56
2036	\$215.43	\$223.36
2037	\$220.07	\$228.40

TRENTON TOTAL DELIVERED COST - CDN/MMBtu

Base Case	11300 LS	
	Colombian	13000 MS US
2015		
2016		
2017	\$5.51	\$4.77
2018	\$5.65	\$4.90
2019	\$5.78	\$5.02
2020	\$5.92	\$5.14
2021	\$6.06	\$5.28
2022	\$6.21	\$5.41
2023	\$6.37	\$5.56
2024	\$6.53	\$5.69
2025	\$6.70	\$5.85
2026	\$6.85	\$6.00
2027	\$7.02	\$6.17
2028	\$7.20	\$6.33
2029	\$7.38	\$6.50
2030	\$7.56	\$6.68
2031	\$7.62	\$6.84
2032	\$7.82	\$7.02
2033	\$8.02	\$7.21
2034	\$8.21	\$7.40
2035	\$8.43	\$7.59
2036	\$8.65	\$7.79
2037	\$8.83	\$7.97

POINT TUPPER TOTAL DELIVERED COST - CDN/MT

Base Case	11300 LS	
	Colombian	13000 MS US
2015		
2016		
2017	\$128.10	\$127.56
2018	\$131.47	\$130.92
2019	\$134.45	\$134.28
2020	\$137.72	\$137.65
2021	\$140.87	\$141.28
2022	\$144.52	\$144.92
2023	\$148.21	\$148.83
2024	\$152.08	\$152.48
2025	\$155.99	\$156.91
2026	\$159.60	\$161.09
2027	\$163.74	\$165.53
2028	\$167.80	\$169.98
2029	\$172.05	\$174.69
2030	\$176.47	\$179.41
2031	\$177.70	\$183.88
2032	\$182.28	\$188.87
2033	\$187.13	\$193.87
2034	\$191.74	\$199.13
2035	\$196.86	\$204.40
2036	\$202.00	\$209.94
2037	\$206.38	\$214.71

POINT TUPPER TOTAL DELIVERED COST - CDN/MMBtu

Base Case	11300 LS	
	Colombian	13000 MS US
2015		
2016		
2017	\$5.14	\$4.45
2018	\$5.28	\$4.57
2019	\$5.40	\$4.69
2020	\$5.53	\$4.80
2021	\$5.65	\$4.93
2022	\$5.80	\$5.06
2023	\$5.95	\$5.19
2024	\$6.10	\$5.32
2025	\$6.26	\$5.47
2026	\$6.41	\$5.62
2027	\$6.57	\$5.78
2028	\$6.74	\$5.93
2029	\$6.91	\$6.10
2030	\$7.08	\$6.26
2031	\$7.13	\$6.42
2032	\$7.32	\$6.59
2033	\$7.51	\$6.76
2034	\$7.70	\$6.95
2035	\$7.90	\$7.13
2036	\$8.11	\$7.33
2037	\$8.28	\$7.49

BASE CASE Solid Fuel Cost FOB Vessel - USD/MT

Base Case	11300 LS Colombian	13000 MS US	14000 6% Petcoke
2015			
2016			
2017	\$ 107.30	\$ 110.75	\$ 92.00
2018	\$ 110.23	\$ 113.75	\$ 92.50
2019	\$ 112.77	\$ 116.75	\$ 93.75
2020	\$ 115.59	\$ 119.75	\$ 95.00
2021	\$ 118.29	\$ 123.00	\$ 97.50
2022	\$ 121.46	\$ 126.25	\$ 100.00
2023	\$ 124.67	\$ 129.75	\$ 102.50
2024	\$ 128.04	\$ 133.00	\$ 105.25
2025	\$ 131.45	\$ 137.00	\$ 107.75
2026	\$ 134.56	\$ 140.75	\$ 110.75
2027	\$ 138.17	\$ 144.75	\$ 114.00
2028	\$ 141.69	\$ 148.75	\$ 117.00
2029	\$ 145.39	\$ 153.00	\$ 120.25
2030	\$ 149.25	\$ 157.25	\$ 123.50
2031	\$ 150.00	\$ 161.25	\$ 127.25
2032	\$ 154.00	\$ 165.75	\$ 131.00
2033	\$ 158.25	\$ 170.25	\$ 134.75
2034	\$ 162.25	\$ 175.00	\$ 138.75
2035	\$ 166.75	\$ 179.75	\$ 142.50
2036	\$ 171.25	\$ 184.75	\$ 146.00
2037	\$ 175.00	\$ 189.00	\$ 148.50

BASE CASE Solid Fuel Cost FOB Vessel - CDN/MT

Base Case	11300 LS Colombian	13000 MS US
2015		
2016		
2017	110.519	114.0725
2018	113.5369	117.1625
2019	116.1531	120.2525
2020	119.0577	123.3425
2021	121.8387	126.69
2022	125.1038	130.0375
2023	128.4101	133.6425
2024	131.8812	136.99
2025	135.3935	141.11
2026	138.59165	144.9725
2027	142.30995	149.0925
2028	145.9407	153.2125
2029	149.74655	157.59
2030	153.7275	161.9675
2031	154.5	166.0875
2032	158.62	170.7225
2033	162.9975	175.3575
2034	167.1175	180.25
2035	171.7525	185.1425
2036	176.3875	190.2925
2037	180.25	194.67

BASE CASE TOTAL Delivered Cost CDN/MT

Base Case	11300 LS Colombian	13000 MS US
2015		
2016		
2017	140.9034217	134.9474368
2018	144.5290101	138.4549356
2019	147.7650523	141.9707843
2020	151.3018914	145.4951499
2021	154.7277752	149.2857029
2022	158.6506567	153.085117
2023	162.6278939	157.1510693
2024	166.7833497	160.9687407
2025	170.9936927	165.5683155
2026	174.9038466	169.9199819
2027	179.3483905	174.5389315
2028	183.7199093	179.1678601
2029	188.2813435	184.0644673
2030	193.0329894	188.9714567
2031	194.5915992	193.6315358
2032	199.5134311	198.8174165
2033	204.7087998	204.0143149
2034	209.6630258	209.4799511
2035	215.1489363	214.9570502
2036	220.651865	220.7033412
2037	225.3996523	225.689058

BASE CASE TOTAL Delivered Cost CDN/MMBtu

Base Case	11300 LS Colombian	13000 MS US
2015		
2016		
2017	5.656050691	4.708596599
2018	5.801586632	4.830980522
2019	5.931485668	4.953655792
2020	6.07345909	5.076628237
2021	6.210978622	5.208888511
2022	6.368448301	5.341457966
2023	6.528099888	5.483327495
2024	6.694905412	5.616533986
2025	6.863914178	5.777022713
2026	7.020872953	5.928861397
2027	7.199282855	6.090026151
2028	7.374761433	6.251539094
2029	7.557863466	6.422391898
2030	7.748600849	6.593606957
2031	7.811165518	6.756206806
2032	8.008734398	6.937152964
2033	8.217283402	7.11848355
2034	8.416152621	7.309190963
2035	8.636364363	7.500298333
2036	8.857259239	7.700798372
2037	9.047841733	7.874760396

BASE CASE Solid Fuel Cost FOB Vessel - USD/MT

Base Case	11300 LS Colombian	13000 MS US
2015		
2016		
2017	107.3	110.75
2018	110.23	113.75
2019	112.77	116.75
2020	115.59	119.75
2021	118.29	123
2022	121.46	126.25
2023	124.67	129.75
2024	128.04	133
2025	131.45	137
2026	134.555	140.75
2027	138.165	144.75
2028	141.69	148.75
2029	145.385	153
2030	149.25	157.25
2031	150	161.25
2032	154	165.75
2033	158.25	170.25
2034	162.25	175
2035	166.75	179.75
2036	171.25	184.75
2037	175	189

BASE CASE TOTAL Delivered Cost USD/MT

Base Case	11300 LS Colombian	13000 MS US
2015		
2016		
2017	136.7994385	131.0169289
2018	140.3194273	134.4222675
2019	143.4612159	137.8357129
2020	146.8950402	141.2574271
2021	150.221141	144.9375757
2022	154.0297638	148.6263272
2023	157.8911591	152.5738537
2024	161.9255823	156.2803308
2025	166.0132939	160.7459374
2026	169.8095598	164.9708562
2027	174.124651	169.4552733
2028	178.368844	173.9493788
2029	182.7974209	178.7033663
2030	187.4106693	183.4674337
2031	188.9238827	187.9917823
2032	193.7023603	193.026618
2033	198.7464075	198.0721503
2034	203.5563357	203.3785933
2035	208.8824624	208.6961652
2036	214.2251117	214.2750885
2037	218.8346139	219.1155903

BASE CASE TOTAL Delivered Cost USD/MMBtu

Base Case	11300 LS Colombian	13000 MS US
2015		
2016		
2017	5.491311351	4.571453009
2018	5.63260838	4.690272351
2019	5.75872395	4.809374555
2020	5.896562223	4.928765279
2021	6.030076332	5.057173312
2022	6.182959516	5.18588152
2023	6.337961056	5.323618927
2024	6.499908167	5.452945617
2025	6.663994348	5.608759915
2026	6.816381507	5.756176113
2027	6.989595005	5.912646749
2028	7.159962556	6.069455431
2029	7.33773152	6.23533194
2030	7.522913446	6.401560153
2031	7.583655843	6.559424083
2032	7.775470289	6.735099965
2033	7.977945051	6.911149078
2034	8.171021962	7.096301905
2035	8.38481977	7.281843042
2036	8.599280814	7.476503274
2037	8.784312363	7.645398443

BASE CASE Solid Fuel Cost FOB Vessel - CDN/MT

Base Case	11300 LS	14000 6% Petcoke
	Colombian	
2015		
2016		
2017	110.519	94.76
2018	113.5369	95.275
2019	116.1531	96.5625
2020	119.0577	97.85
2021	121.8387	100.425
2022	125.1038	103
2023	128.4101	105.575
2024	131.8812	108.4075
2025	135.3935	110.9825
2026	138.59165	114.0725
2027	142.30995	117.42
2028	145.9407	120.51
2029	149.74655	123.8575
2030	153.7275	127.205
2031	154.5	131.0675
2032	158.62	134.93
2033	162.9975	138.7925
2034	167.1175	142.9125
2035	171.7525	146.775
2036	176.3875	150.38
2037	180.25	152.955

BASE CASE TOTAL Delivered Cost CDN/MT

Base Case	11300 LS	14000 6% Petcoke
	Colombian	
2015		
2016		
2017	139.7907247	126.4145612
2018	143.3940592	127.5626524
2019	146.6074024	129.4959055
2020	150.1210885	131.4420736
2021	153.5233562	134.688915
2022	157.4221494	137.9491933
2023	161.3748164	141.2231772
2024	165.5052107	144.7686408
2025	169.6899909	148.0708636
2026	173.5740707	151.9026308
2027	177.9920191	156.0067335
2028	182.3364105	159.8684681
2029	186.8701747	164.0031375
2030	191.5935972	168.1535502
2031	193.1234192	172.8350212
2032	198.0158875	177.5328717
2033	203.1813053	182.2474291
2034	208.1049814	187.2365277
2035	213.559731	191.9855082
2036	219.0308757	196.4947184
2037	223.7462432	199.9920128

BASE CASE TOTAL Delivered Cost CDN/MMBtu

Base Case	11300 LS Colombian	14000 6% Petcoke
	2015	
2016		
2017	5.611385556	4.095804914
2018	5.756028194	4.133002826
2019	5.885016062	4.195639814
2020	6.026060091	4.258695247
2021	6.162631643	4.36389222
2022	6.319134383	4.469524544
2023	6.477799691	4.575600926
2024	6.643599211	4.690473191
2025	6.811581853	4.797464508
2026	6.967493981	4.921612953
2027	7.144836305	5.054585006
2028	7.319225951	5.179704388
2029	7.501217275	5.313666797
2030	7.690821734	5.448139288
2031	7.752230821	5.599817954
2032	7.948621007	5.752027309
2033	8.155967743	5.904777968
2034	8.353610648	6.066423701
2035	8.572571551	6.220289662
2036	8.792190571	6.366387113
2037	8.981471692	6.479698707

BASE CASE Solid Fuel Cost FOB Vessel - USD/MT

Base Case	11300 LS	14000 6% Petcoke
	Colombian	
2015		
2016		
2017	107.3	92
2018	110.23	92.5
2019	112.77	93.75
2020	115.59	95
2021	118.29	97.5
2022	121.46	100
2023	124.67	102.5
2024	128.04	105.25
2025	131.45	107.75
2026	134.555	110.75
2027	138.165	114
2028	141.69	117
2029	145.385	120.25
2030	149.25	123.5
2031	150	127.25
2032	154	131
2033	158.25	134.75
2034	162.25	138.75
2035	166.75	142.5
2036	171.25	146
2037	175	148.5

BASE CASE TOTAL Delivered Cost USD/MT

Base Case	11300 LS	14000 6% Petcoke
	Colombian	
2015		
2016		
2017	135.7191502	122.7325837
2018	139.2175332	123.8472354
2019	142.3372839	125.7241801
2020	145.7486296	127.6136637
2021	149.0518022	130.7659369
2022	152.8370382	133.9312557
2023	156.674579	137.1098808
2024	160.6846706	140.5520784
2025	164.747564	143.75812
2026	168.5185153	147.4782824
2027	172.8077856	151.462848
2028	177.0256413	155.212105
2029	181.4273541	159.2263471
2030	186.0132012	163.255874
2031	187.4984652	167.8009915
2032	192.2484345	172.3620113
2033	197.2634032	176.9392516
2034	202.0436713	181.7830366
2035	207.3395447	186.3936973
2036	212.6513356	190.7715713
2037	217.2293623	194.1670027

BASE CASE TOTAL Delivered Cost USD/MMBtu

Base Case	11300 LS Colombian	14000 6% Petcoke
	2015	
2016		
2017	5.447947142	3.976509625
2018	5.588376887	4.012624103
2019	5.713607827	4.073436712
2020	5.850543778	4.134655579
2021	5.983137518	4.236788563
2022	6.135081925	4.339344218
2023	6.289125914	4.442330996
2024	6.450096322	4.553857467
2025	6.613186265	4.657732532
2026	6.764557264	4.778265003
2027	6.936734277	4.907364083
2028	7.106044613	5.028839212
2029	7.282735218	5.158899803
2030	7.466817217	5.289455619
2031	7.52643769	5.43671646
2032	7.717107773	5.584492533
2033	7.918415285	5.732794143
2034	8.1103016	5.889731749
2035	8.322885001	6.039116177
2036	8.53610735	6.180958362
2037	8.719875429	6.290969618

BASE CASE Solid Fuel Cost FOB Vessel - CDN/MT

Base Case	11300 LS Colombian	13000 MS US
2015		
2016		
2017	110.519	114.0725
2018	113.5369	117.1625
2019	116.1531	120.2525
2020	119.0577	123.3425
2021	121.8387	126.69
2022	125.1038	130.0375
2023	128.4101	133.6425
2024	131.8812	136.99
2025	135.3935	141.11
2026	138.59165	144.9725
2027	142.30995	149.0925
2028	145.9407	153.2125
2029	149.74655	157.59
2030	153.7275	161.9675
2031	154.5	166.0875
2032	158.62	170.7225
2033	162.9975	175.3575
2034	167.1175	180.25
2035	171.7525	185.1425
2036	176.3875	190.2925
2037	180.25	194.67

BASE CASE TOTAL Delivered Cost CDN/MT

Base Case	11300 LS Colombian	13000 MS US
2015		
2016		
2017	137.3180872	136.7726713
2018	140.871969	140.3166747
2019	144.0348703	143.8697582
2020	147.4971057	147.4321034
2021	150.8468939	151.2613955
2022	154.6921577	155.1003234
2023	158.5902249	159.2065798
2024	162.6649274	163.0653614
2025	166.7929019	167.7068687
2026	170.61904	172.101306
2027	174.9778878	176.7638822
2028	179.2619965	181.4373098
2029	183.7342725	186.379306
2030	188.3949769	191.3325921
2031	189.8608265	196.039894
2032	194.688043	201.2739419
2033	199.7869038	206.5199707
2034	204.6426919	212.0357201
2035	210.0281958	217.5639345
2036	215.4287097	223.3623632
2037	220.0720339	228.4012605

BASE CASE TOTAL Delivered Cost CDN/MMBtu

Base Case	11300 LS Colombian	13000 MS US
2015		
2016		
2017	5.512130598	4.772282825
2018	5.654788137	4.895940472
2019	5.781751203	5.019914941
2020	5.920729936	5.14421257
2021	6.055194885	5.27782453
2022	6.209548889	5.411772705
2023	6.366022488	5.55504853
2024	6.529586464	5.689689441
2025	6.695288851	5.851641277
2026	6.848875119	6.004972332
2027	7.023845065	6.167659306
2028	7.195814886	6.330724911
2029	7.375337989	6.503161432
2030	7.562424862	6.675991882
2031	7.621266012	6.840239428
2032	7.815036901	7.02286624
2033	8.019711956	7.205911091
2034	8.214629745	7.398367054
2035	8.43081103	7.591257947
2036	8.647594839	7.793577178
2037	8.833984046	7.969394778

BASE CASE Solid Fuel Cost FOB Vessel - USD/MT

Base Case	11300 LS	13000 MS US
	Colombian	
2015		
2016		
2017	107.3	110.75
2018	110.23	113.75
2019	112.77	116.75
2020	115.59	119.75
2021	118.29	123
2022	121.46	126.25
2023	124.67	129.75
2024	128.04	133
2025	131.45	137
2026	134.555	140.75
2027	138.165	144.75
2028	141.69	148.75
2029	145.385	153
2030	149.25	157.25
2031	150	161.25
2032	154	165.75
2033	158.25	170.25
2034	162.25	175
2035	166.75	179.75
2036	171.25	184.75
2037	175	189

BASE CASE TOTAL Delivered Cost USD/MT

Base Case	11300 LS	13000 MS US
	Colombian	
2015		
2016		
2017	133.3185313	132.7890013
2018	136.7689019	136.2297813
2019	139.8396799	139.6793769
2020	143.2010735	143.1379645
2021	146.453295	146.8557238
2022	150.1865609	150.5828382
2023	153.9710921	154.569495
2024	157.927114	158.3158849
2025	161.9348563	162.8222026
2026	165.6495534	167.0886466
2027	169.8814444	171.6154196
2028	174.0407733	176.152728
2029	178.3827888	180.9507825
2030	182.9077446	185.7597982
2031	184.3308995	190.3299941
2032	189.0175175	195.411594
2033	193.9678678	200.5048259
2034	198.6822252	205.8599224
2035	203.9108697	211.2271209
2036	209.1540871	216.8566633
2037	213.6621688	221.7487966

BASE CASE TOTAL Delivered Cost USD/MMBtu

Base Case	11300 LS Colombian	13000 MS US
	2015	
2016		
2017	5.351583105	4.633284296
2018	5.490085569	4.753340264
2019	5.613350683	4.873703827
2020	5.748281491	4.994381136
2021	5.878829985	5.124101486
2022	6.028688242	5.254148258
2023	6.180604357	5.393251
2024	6.339404334	5.523970331
2025	6.500280438	5.681205123
2026	6.649393319	5.830070226
2027	6.819267053	5.988018743
2028	6.986228045	6.146334865
2029	7.160522319	6.313748963
2030	7.34216006	6.481545516
2031	7.39928739	6.641009154
2032	7.587414467	6.818316737
2033	7.786128112	6.996030186
2034	7.975368685	7.182880635
2035	8.185253427	7.370153346
2036	8.395723145	7.566579784
2037	8.57668354	7.737276484

BASE CASE Solid Fuel Cost FOB Vessel - CDN/MT

Base Case	11300 LS	13000 MS US
	Colombian	
2015		
2016		
2017	110.519	114.0725
2018	113.5369	117.1625
2019	116.1531	120.2525
2020	119.0577	123.3425
2021	121.8387	126.69
2022	125.1038	130.0375
2023	128.4101	133.6425
2024	131.8812	136.99
2025	135.3935	141.11
2026	138.59165	144.9725
2027	142.30995	149.0925
2028	145.9407	153.2125
2029	149.74655	157.59
2030	153.7275	161.9675
2031	154.5	166.0875
2032	158.62	170.7225
2033	162.9975	175.3575
2034	167.1175	180.25
2035	171.7525	185.1425
2036	176.3875	190.2925
2037	180.25	194.67

BASE CASE TOTAL Delivered Cost CDN/MT

Base Case	11300 LS	13000 MS US
	Colombian	
2015		
2016		
2017	128.1013667	127.5559508
2018	131.4709141	130.9156198
2019	134.4457943	134.2806822
2020	137.7162482	137.6512459
2021	140.8704192	141.2849208
2022	144.5161536	144.9243192
2023	148.2107007	148.8270556
2024	152.0778127	152.4782467
2025	155.9940449	156.9080117
2026	159.6042058	161.0864719
2027	163.7427569	165.5287513
2028	167.8021631	169.9774763
2029	172.0452423	174.6902759
2030	176.4721662	179.4097814
2031	177.6995595	183.878627
2032	182.2835507	188.8694496
2033	187.1343217	193.8673886
2034	191.7370581	199.1300863
2035	196.8644493	204.4001881
2036	202.0016883	209.9353418
2037	206.3764721	214.7056986

BASE CASE TOTAL Delivered Cost CDN/MMBtu

Base Case	11300 LS Colombian	13000 MS US
	2015	
2016		
2017	5.142159183	4.450692288
2018	5.277417293	4.567918124
2019	5.396832943	4.685332146
2020	5.528113311	4.802938118
2021	5.654725927	4.92972459
2022	5.801070552	5.056710766
2023	5.949374584	5.192885352
2024	6.104605602	5.320283
2025	6.261808372	5.474846707
2026	6.40672503	5.620641871
2027	6.572851975	5.775642235
2028	6.735801934	5.930867499
2029	6.906124777	6.095306872
2030	7.083827387	6.25998023
2031	7.133096587	6.415907544
2032	7.317104088	6.590047717
2033	7.511820486	6.764436198
2034	7.696580446	6.948062664
2035	7.902400745	7.131947468
2036	8.108616348	7.325080489
2037	8.284225985	7.491528156

BASE CASE Solid Fuel Cost FOB Vessel - USD/MT

Base Case	11300 LS	13000 MS US
	Colombian	
2015		
2016		
2017	107.3	110.75
2018	110.23	113.75
2019	112.77	116.75
2020	115.59	119.75
2021	118.29	123
2022	121.46	126.25
2023	124.67	129.75
2024	128.04	133
2025	131.45	137
2026	134.555	140.75
2027	138.165	144.75
2028	141.69	148.75
2029	145.385	153
2030	149.25	157.25
2031	150	161.25
2032	154	165.75
2033	158.25	170.25
2034	162.25	175
2035	166.75	179.75
2036	171.25	184.75
2037	175	189

BASE CASE TOTAL Delivered Cost USD/MT

Base Case	11300 LS	13000 MS US
	Colombian	
2015		
2016		
2017	124.370259	123.840729
2018	127.6416641	127.1025435
2019	130.5298974	130.3695944
2020	133.7050954	133.6419863
2021	136.7673973	137.169826
2022	140.3069452	140.7032225
2023	143.8938841	144.492287
2024	147.6483618	148.0371327
2025	151.450529	152.3378754
2026	154.9555396	156.3946329
2027	158.9735504	160.7075256
2028	162.9147214	165.0266761
2029	167.0342159	169.6022096
2030	171.3322002	174.1842538
2031	172.5238442	178.5229389
2032	176.9743211	183.3683976
2033	181.6838075	188.2207656
2034	186.1524836	193.3301809
2035	191.1305333	198.4467845
2036	196.118144	203.8207202
2037	200.3655069	208.4521346

BASE CASE TOTAL Delivered Cost USD/MMBtu

Base Case	11300 LS Colombian	13000 MS US
	2015	
2016		
2017	4.992387557	4.321060474
2018	5.12370611	4.434871965
2019	5.239643634	4.548866161
2020	5.367100302	4.663046717
2021	5.490025172	4.786140379
2022	5.632107332	4.909427928
2023	5.776091829	5.041636264
2024	5.926801555	5.165323301
2025	6.079425604	5.315385152
2026	6.220121388	5.456933855
2027	6.381409684	5.607419645
2028	6.539613528	5.758123785
2029	6.704975512	5.917773662
2030	6.877502317	6.077650709
2031	6.925336492	6.22903645
2032	7.103984551	6.39810458
2033	7.293029598	6.567413785
2034	7.4724082	6.745691906
2035	7.672233733	6.924220843
2036	7.872443056	7.111728631
2037	8.04293785	7.273328307

Transportation - USD Vessel + Land to LIN Plant			USD Vessel + Land to POA Plant			USD Vessel + Land to TRE Plant			USD Vessel + Land to POT Plant		
Base Case	11300 LS	13000 MS US	Base Case	11300 LS	14000 6% Petcoke	Base Case	11300 LS	13000 MS US	Base Case	11300 LS	13000 MS US
	Colombian			Colombian			Colombian			Colombian	
2015			2015			2015			2015		
2016			2016			2016			2016		
2017	29.499439	20.2669289	2017	28.41915	30.732584	2017	26.018531	22.039001	2017	17.07025896	13.090729
2018	30.089427	20.6722675	2018	28.987533	31.347235	2018	26.538902	22.479781	2018	17.41166414	13.3525435
2019	30.691216	21.0857129	2019	29.567284	31.97418	2019	27.06968	22.929377	2019	17.75989742	13.6195944
2020	31.30504	21.5074271	2020	30.15863	32.613664	2020	27.611074	23.387964	2020	18.11509537	13.8919863
2021	31.931141	21.9375757	2021	30.761802	33.265937	2021	28.163295	23.855724	2021	18.47739728	14.169826
2022	32.569764	22.3763272	2022	31.377038	33.931256	2022	28.726561	24.332838	2022	18.84694522	14.4532225
2023	33.221159	22.8238537	2023	32.004579	34.609881	2023	29.301092	24.819495	2023	19.22388413	14.742287
2024	33.885582	23.2803308	2024	32.644671	35.302078	2024	29.887114	25.315885	2024	19.60836181	15.0371327
2025	34.563294	23.7459374	2025	33.297564	36.00812	2025	30.484856	25.822203	2025	20.00052905	15.3378754
2026	35.25456	24.2208562	2026	33.963515	36.728282	2026	31.094553	26.338647	2026	20.40053963	15.6446329
2027	35.959651	24.7052733	2027	34.642786	37.462848	2027	31.716444	26.86542	2027	20.80855042	15.9575256
2028	36.678844	25.1993788	2028	35.335641	38.212105	2028	32.350773	27.402728	2028	21.22472143	16.2766761
2029	37.412421	25.7033663	2029	36.042354	38.976347	2029	32.997789	27.950783	2029	21.64921586	16.6022096
2030	38.160669	26.2174337	2030	36.763201	39.755874	2030	33.657745	28.509798	2030	22.08220017	16.9342538
2031	38.923883	26.7417823	2031	37.498465	40.550991	2031	34.330899	29.079994	2031	22.52384418	17.2729389
2032	39.70236	27.276618	2032	38.248435	41.362011	2032	35.017517	29.661594	2032	22.97432106	17.6183976
2033	40.496408	27.8221503	2033	39.013403	42.189252	2033	35.717868	30.254826	2033	23.43380748	17.9707656
2034	41.306336	28.3785933	2034	39.793671	43.033037	2034	36.432225	30.859922	2034	23.90248363	18.3301809
2035	42.132462	28.9461652	2035	40.589545	43.893697	2035	37.16087	31.477121	2035	24.3805333	18.6967845
2036	42.975112	29.5250885	2036	41.401336	44.771571	2036	37.904087	32.106663	2036	24.86814397	19.0707202
2037	43.834614	30.1155903	2037	42.229362	45.667003	2037	38.662169	32.748797	2037	25.36550685	19.4521346

Base Case	
2013	1.01
2014	0.99
2015	
2016	
2017	1.03
2018	1.03
2019	1.03
2020	1.03
2021	1.03
2022	1.03
2023	1.03
2024	1.03
2025	1.03
2026	1.03
2027	1.03
2028	1.03
2029	1.03
2030	1.03
2031	1.03
2032	1.03
2033	1.03
2034	1.03
2035	1.03
2036	1.03
2037	1.03

REDACTED

1 **Request IR-2:**

2

3 **Appendix 6.04 of the Maritime Link Project Application, page 2, lists projected future**
 4 **delivered coal prices for 11 different locations/types of coal. Please provide the latest**
 5 **available actual delivered coal price information for these 11 different locations/types of**
 6 **coal on an annual average price basis, in terms of \$CAD/mmbtu, identifying what 12**
 7 **month period is included in this average price.**

8

9 Response IR-2:

10

11 The actual average delivered coal prices for 2012 are shown in Table 1:

12

Table 1											
Actual Delivered Coal Price											
All prices in \$CAD/mmbtu											
	Lingan LS	Lingan MS	Pt Aconi LS	Pt Aconi PC	Tupper LS	Tupper MS	Trenton 5	Trenton 5	Trenton 6	Tre 6 NOVA	Trenton 6 MS
2012											
* Pricing includes consumed inventory that may have been purchased prior to 2012 at higher or lower price than current market. LS pricing includes consumed inventory of both Colombian and US Low Sulphur coal.											

13

NON-CONFIDENTIAL

1 **Request IR-3:**

2

3 **Page 2 of Appendix 6.04 expresses prices as "Coal" prices. Please confirm that these are only coal**
4 **prices. If the prices include other solid fuels, such as petcoke, please provide:**

5

6 **(a) The percentages of each type of solid fuel for each year of the forecast.**

7

8 **(b) Responses to both questions #1 and #2 above for each of the solid fuels included, as**
9 **well as for coal.**

10

11 **Response IR-3:**

12

13 (a-b) The prices on page 2 of Appendix 6.04 represent Strategist input prices and are not
14 blended prices. They are all 100 percent coal prices except "Pt Aconi PC" which is 100
15 percent petcoke.

NON-CONFIDENTIAL

1 **Request IR-4:**

2

3 **Appendix 6.03 of the Maritime Link Project Application, page 13, indicates that oil and**
4 **Gas prices come from "Heavy Fuel Oil (HFO), Light Fuel Oil (LFO), natural gas- as per**
5 **NSPI Fuels Group long term update July/Aug 2012":**

6

7 **(a) Please provide the source(s) for these prices.**

8

9 **(b) Please identify any other sources of price information considered for this analysis.**

10

11 **(c) Please explain why the selected source(s) were chosen rather than the alternative(s).**

12

13 **Response IR-4:**

14

15 (a) The source of the prices was the PIRA Energy Group.

16

17 (b) The PIRA Energy Group provides the forecasting service that NS Power subscribes to for
18 long term pricing forecasts.

19

20 (c) The forward market (that is NYMEX) does not have prices for the term required so this
21 source was not considered as suitable.

CONFIDENTIAL (Attachment Only)

1 **Request IR-5:**

2
3 **Appendix 6.04 of the Maritime Link Project Application, page 3, lists the natural gas and**
4 **fuel oil prices used in the Alternatives Study. For each fuel type (natural gas, HFO, LFO)**
5 **and case (Low, Base, High), please identify for each year of the analysis period (2015 to**
6 **2040):**

7
8 **The base price used; e.g., Henry Hub for natural gas, NY Harbor for fuel oils, etc.**

9
10 **(a) The sources for those prices: futures prices, data vendors, etc.**

11
12 **(b) All adjustments to those prices; e.g., basis differentials, transportation adders, etc.**

13
14 **(c) The sources for those adjustments: broker quotes, NYMEX Clearport, etc.**

15
16 **(d) All other parameters required to produce the numbers in the table, such as**
17 **escalation rates, currency exchange rates, etc.**

18
19 **(e) The sources for each of those parameters: futures markets, data vendors, etc.**

20
21 **Response IR-5:**

22
23 **(a-e) Please refer to Confidential Attachment 1 for HFO and LFO and Confidential Attachment**
24 **2 for natural gas.**

Liberty IR-5 Attachment 1 has been removed due to confidentiality.

Liberty IR-5 Attachment 2 has been removed due to confidentiality.

NON-CONFIDENTIAL

1 **Request IR-6:**

2

3 **Please provide all solid fuel, natural gas, and fuel oil price forecasts examined, reviewed, or**
4 **in the possession of the applicant or NSPI, whether relied upon or not, and whether**
5 **referenced in the application or not.**

6

7 Response IR-6:

8

9 A variety of commercial sources are available in respect of fuel cost forecasts. Detailed
10 information about the fuel forecast assumptions is available in the Application and appendices to
11 the Application, as well as in various IR responses. For example, refer to Liberty IR-1 for a
12 listing of the forecasts that were examined when developing the solid fuel forecasts and the
13 rationale for including or discarding the content of these individual forecasts. NS Power requires
14 product specific prices (NAPP, Low Sulfur Colombian, Petcoke) which limits the number of
15 long-term “off-the-shelf” forecasts. If there are specific sources that should be considered or
16 provided to the Board, NS Power and NSPML would be pleased to consider them and, as
17 necessary, identify any costs or steps to secure those sources.

NON-CONFIDENTIAL

1 **Request IR-7:**

2

3 **Please identify: (a) whether the applicant or NSPI has access to any other solid fuel, natural**
4 **gas, and fuel oil price forecasts, and (b) what (including but not limited to cost) would be**
5 **required to secure them.**

6

7 Response IR-7:

8

9 Please refer to Liberty IR-6.