

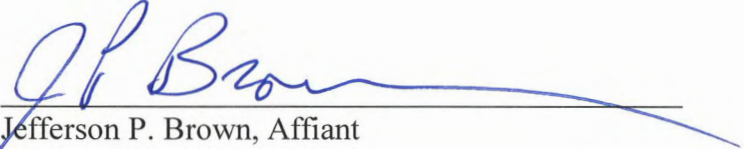
KyPSC Case No. 2025-00299
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VERIFICATION

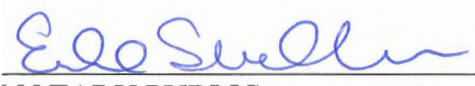
STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

The undersigned, Jefferson P. Brown, Director of Rates & Regulatory Planning, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information, and belief.



Jefferson P. Brown, Affiant

Subscribed and sworn to before me by Jefferson P. Brown on this 15th day of September, 2025.



NOTARY PUBLIC

My Commission Expires: July 8, 2027

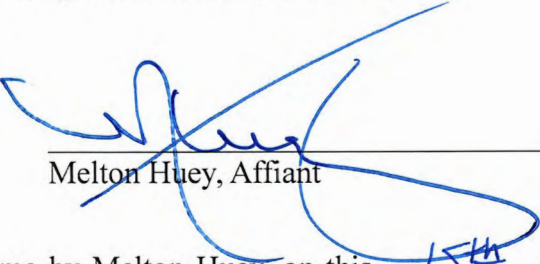


EMILIE SUNDERMAN
Notary Public
State of Ohio
My Comm. Expires
July 8, 2027

VERIFICATION

STATE OF NORTH CAROLINA)
) **SS:**
COUNTY OF MECKLENBURG)

The undersigned, Melton Huey, General Manager, Engineering, Planning and Pipeline Integrity, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data request and that the answers contained therein are true and correct to the best of his knowledge, information, and belief.



Melton Huey, Affiant

Subscribed and sworn to before me by Melton Huey, on this 15th day of September, 2025.

SHANNON L. WALL
Notary Public, North Carolina
Mecklenburg County
My Commission Expires
June 28, 2027



NOTARY PUBLIC

My Commission Expires: 6/28/2027

VERIFICATION

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

The undersigned, Bradley A. Seiter, Senior Project Manager for Duke Energy Kentucky, Inc., being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information, and belief.



Bradley S. Seiter, Affiant

Subscribed and sworn to before me by Bradley S. Seiter on this, 29th day of September, 2025.



NOTARY PUBLIC

My Commission Expires: July 8, 2027



EMILIE SUNDERMAN
Notary Public
State of Ohio
My Comm. Expires
July 8, 2027

Duke Energy Kentucky
Case No. 2025-00229
STAFF's First Request for Information
Date Received: September 10, 2025

STAFF-DR-01-001

REQUEST:

Refer to the Application, Exhibit 3, Schedule 2.0, page 5. Duke Kentucky used an end of year 2025 capital additions estimate of \$144.509 million. Reconcile the \$20.023 million difference between this case and the information used in Case No. 2024-00191, Application, Exhibit 3, Schedule 2.2,² where the end-of-year 2025 capital additions were estimated to be approximately \$124.486 million.

RESPONSE:

While responding to this data request, the Company discovered an inadvertent error. Phase 3 actuals were included incorrectly, and \$1.875 million capex (13-month average) should be removed from the filing. Please see STAFF-DR-01-001 Attachment for an update filing with the correct additions. The error is only related to this proceeding, and the rate has not gone into effect.

PERSON RESPONSIBLE: Jefferson "Jay" P. Brown

² Case No. 2024-00191, *Electronic Application of Duke Energy Kentucky, Inc. for an Adjustment to Rider PMM Rates and for Tariff Approval* (filed July 1, 2024), Application.

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Forecasted Period Ending December 31, 2026
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4.4	Deferred Taxes on Liberalized Depreciation - True Up
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Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Rider PMM by Rate Schedule

Line No.	Rate Schedule	(A)	Weighted Gross Distribution Plant Approved KyPSC Case No. 2021-00190 (B)	2026 Projected Revenue Requirement (C)	2024 True Up Revenue Requirement (D)	Total (E)	Billing Determinants per CCF (F)	Monthly Rider PMM (G)
1	RS- Residential		86.932%	\$ 13,073,613	\$ 1,304,781	\$ 14,378,394	61,304,219	\$ 0.23 Per CCF
2	GS - General Service		12.506%	1,880,764	187,705	2,068,469	34,133,572	\$ 0.06 Per CCF
3	FT - Firm Transportation (Includes DGS)		0.341%	51,283	5,118	56,401	30,021,837	\$ 0.00188 Per CCF
4	IT - Interruptible Transportation		0.221%	33,236	3,317	36,553	16,549,168	\$ 0.00221 Per CCF
5	Total		100.000%	\$ 15,038,896	\$ 1,500,921	\$ 16,539,817		
				Sch. 1.1	Sch. 4.1		Sch. 3.0	

The cap for the annual PMM revenue requirement is no more than 5% increase in natural gas revenue per year
Natural gas revenue is defined to include base, gas cost and miscellaneous revenue

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Forecasted PMM Revenue Requirement for 2026

<u>Line No.</u>	<u>(A)</u>	<u>PMM Investment December 31, 2026 (B)</u>	<u>Reference (C)</u>
Return on Investment			
<u>Rate Base</u>			
1	Net PMM Investment - Property, Plant and Equipment	\$ 151,257,430	Sch. 2.2
2	Cost of Removal	2,831,227	Sch. 2.2
3	Accumulated Reserve for Depreciation	(3,197,319)	Sch. 2.0
4	Net PP&E	150,891,338	
5	Accumulated Deferred Taxes on Liberalized Depreciation	(5,201,245)	Sch. 2.1
6	Net Rate Base	145,690,093	Line 4 + Line 5
7	Authorized Rate of Return, Adjusted for Income Taxes	8.087%	Sch. 1.2
8	Required Return on PMM Related Investment	\$ 11,781,958	Line 6 * Line 7
<u>Operating Expenses</u>			
9	Depreciation	\$ 2,176,922	Sch. 2.0
10	Property Tax	1,978,487	Line 4 * 1.31120%
11	PSC Assessment	24,805	(Sum Line 8 thru 10) * (0.1554% / (1-0.1554%))
12	Total Operating Expenses	4,180,214	Sum Lines 9 thru 11
13	Total Estimated Annual Revenue Requirement	\$ 15,962,172	Line 8 + Line 12
14	Cap Adjustment	(923,276)	
15	<u>Total Annual Revenue Requirement</u>	\$ 15,038,896	

Notes:

- (1) Property taxes estimated using an effective rate of 1.31120%
- (2) PSC Assessment using Fiscal Year 2024 rate of 0.1554%
- (3) Total Approved Revenue + Prior Period Revenue Requirements cannot exceed 5% increase per 21-00190 Order

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Cost of Capital

Line No.	<u>Capital Structure</u> (A)	<u>Ratio</u> (B)	<u>Cost</u> (C)	<u>Weighted Cost</u> (D)	<u>Pre-Tax @ Effect. Tax Rate of 24.925%</u> (E)
1	Short term Debt	2.617%	1.667%	0.044%	0.044%
2	Long term Debt	46.039%	3.656%	1.683%	1.683%
3	Equity	51.344%	9.300%	4.775%	6.360%
4	Total	100.000%		6.502%	8.087%

Capital structure and cost of debt approved in Case No. 2021-00190

Return on equity approved in Case No. 2021-00190 for use in natural gas capital riders

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Depreciation

Line No.	Description	Acct Number	(C)	EOY	Projected 2026 Additions												EOY
				2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2026
	(A)	(B)		(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
Gas Plant Investments ⁽¹⁾																	
Additions																	
1	Mains - Feeder	376		\$ 115,385,876	\$ 67,986	\$ 103,535	\$ 14,337	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,567,904	\$ 2,607,897	\$ 1,926,246	\$ 152,673,781
2	System M&R Station Equipment	378		\$ 18,757,284	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18,757,284
3	Land and Land Rights	374		\$ 8,491,295	\$ 20,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,964,038	\$ -	\$ -	\$ 13,495,333
4	Total Additions			\$ 142,634,455	\$ 87,986	\$ 123,535	\$ 14,337	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 37,531,943	\$ 2,607,897	\$ 1,926,246	\$ 184,926,398
Retirements																	
5	Mains - Feeder	376		\$ 735,941	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 199,584	\$ -	\$ -	\$ 935,525
6	System M&R Station Equipment	378		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Land and Land Rights	374		\$ 2,407	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,407
8	Total Retirements			\$ 738,348	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 199,584	\$ -	\$ -	\$ 937,932
Cost of Removal																	
9	Mains - Feeder	376		\$ 2,669,815	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 557,700	\$ -	\$ -	\$ 3,227,515
10	System M&R Station Equipment	378		\$ 32,712	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,712
11	Land and Land Rights	374		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Total Cost of removal			\$ 2,702,527	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 557,700	\$ -	\$ -	\$ 3,260,227
Annual Depreciation				EOY	Projected 2026 Depreciation Expense												13 month Average
Accumulated Depreciation Reserve				Rate	2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Additions																	
13	Mains - Feeder	376	1.49%	\$ 1,634,701	\$ 143,271	\$ 143,355	\$ 143,484	\$ 143,502	\$ 143,502	\$ 143,502	\$ 143,502	\$ 143,502	\$ 143,502	\$ 143,502	\$ 183,940	\$ 187,178	
14	System M&R Station Equipment	378	2.04%	\$ 519,078	\$ 31,887	\$ 31,887	\$ 31,887	\$ 31,887	\$ 31,887	\$ 31,887	\$ 31,887	\$ 31,887	\$ 31,887	\$ 31,887	\$ 31,887	\$ 31,887	
15	Land and Land Rights	374	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
16	Total Additions			\$ 2,153,779	\$ 175,158	\$ 175,242	\$ 175,371	\$ 175,389	\$ 175,389	\$ 175,389	\$ 175,389	\$ 175,389	\$ 175,389	\$ 175,389	\$ 215,827	\$ 219,065	
Retirements																	
17	Mains - Feeder	376	1.49%	\$ 12,482	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 1,162	\$ 1,162	
18	System M&R Station Equipment	378	2.04%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
19	Land and Land Rights	374	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
20	Total Additions			\$ 12,482	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 914	\$ 1,162	\$ 1,162	
21	Total Accumulated Depreciation Reserve			\$ 2,141,297	\$ 2,315,541	\$ 2,489,869	\$ 2,664,326	\$ 2,838,801	\$ 3,013,276	\$ 3,187,751	\$ 3,362,226	\$ 3,536,701	\$ 3,711,176	\$ 3,885,651	\$ 4,100,316	\$ 4,318,219	\$ 3,197,319

Notes:
(1) See Schedule 2.2 for detail of 2025 PMM eligible additions.

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Deferred Taxes on Liberalized Depreciation

2026 Projection Filing	A	B	C	A + B + C = D	A * Tax Rate	B * Tax Rate Table	E + F = G	H	G -H = I	J	K	L	(I * L) / K = M	N
					Table = E	= F								
Month	Book Adds/Retires - 15 YR	Book Adds/Retires - 20	Book Adds/Retires -	Total Book	15 Yr MACRS for	20 Yr MACRS for	Total MACRS	Book Depreciation	Book/Tax	Accumulated	Days to	Future Days in	Prorated	Prorated
	MACRS	YR MACRS	Non-Depreciable Land	Additions/Retirements	Tax	Tax	Depreciation							
Dec-23	26,061,210	-	5,857,760	31,918,970	1,303,061	-	1,303,061	-	1,303,061	1,303,061	n/a	n/a	n/a	1,303,061
Dec-24	46,454,631	18,757,284	64,070	65,275,985	4,798,547	703,398	5,501,945	613,039	4,888,906	6,191,966	n/a	n/a	n/a	6,191,966
Dec-25	40,193,784	3,423,012	2,959,400	46,576,196	8,651,113	1,482,451	10,133,564	1,528,258	8,605,306	14,797,272	n/a	n/a	n/a	14,797,272
projected Jan-26	67,986	-	20,000	87,986	816,591	124,961	941,552	177,655	763,897	15,561,169	31	335	701,111	15,498,383
projected Feb-26	103,535	-	20,000	123,535	817,061	124,961	942,022	177,739	764,283	16,325,452	28	307	642,836	16,141,218
projected Mar-26	14,337	-	-	14,337	817,133	124,961	942,094	177,868	764,226	17,089,678	31	276	577,881	16,719,099
projected Apr-26	-	-	-	-	817,133	124,961	942,094	177,885	764,209	17,853,887	30	246	515,056	17,234,155
projected May-26	-	-	-	-	817,133	124,961	942,094	177,885	764,209	18,618,096	31	215	450,151	17,684,305
projected Jun-26	-	-	-	-	817,133	124,961	942,094	177,885	764,209	19,382,305	30	185	387,339	18,071,644
projected Jul-26	-	-	-	-	817,133	124,961	942,094	177,885	764,209	20,146,514	31	154	322,433	18,394,078
projected Aug-26	-	-	-	-	817,133	124,961	942,094	177,885	764,209	20,910,723	31	123	257,528	18,651,606
projected Sep-26	-	-	-	-	817,133	124,961	942,094	177,885	764,209	21,674,932	30	93	194,716	18,846,322
projected Oct-26	32,368,320	-	4,964,038	37,332,358	1,356,605	124,961	1,481,566	177,885	1,303,681	22,978,613	31	62	221,447	19,067,769
projected Nov-26	2,607,897	-	-	2,607,897	1,421,803	124,961	1,546,763	218,076	1,328,687	24,307,301	30	32	116,488	19,184,257
projected Dec-26	1,926,246	-	-	1,926,246	1,518,115	124,961	1,643,076	221,314	1,421,762	25,729,063	31	1	3,895	19,188,152
Total	149,797,946	22,180,296	13,885,268	185,863,510	26,402,826	3,685,381	30,088,207	4,359,144	25,729,063		365		4,390,880	
Sch. 2.0	Sch. 2.0	Sch. 2.0	Sch. 2.0	Sch. 2.0	Sch. 2.0								Tax Rate	24.925%

Forecasted ADIT 4,782,647 Book vs Tax Depreciation

Month	Cost of Removal	Accumulated	Days to	Future Days in	Prorated	Prorated
	Book/Tax	Book/Tax				
Dec-23	125,221	125,221	n/a	n/a	n/a	125,221
Dec-24	1,459,475	1,584,696	n/a	n/a	n/a	1,584,696
Dec-25	1,117,830	2,702,527	n/a	n/a	n/a	2,702,527
projected Jan-26	-	2,702,527	31	335	-	1,584,696
projected Feb-26	-	2,702,527	28	307	-	1,584,696
projected Mar-26	-	2,702,527	31	276	-	1,584,696
projected Apr-26	-	2,702,527	30	246	-	1,584,696
projected May-26	-	2,702,527	31	215	-	1,584,696
projected Jun-26	-	2,702,527	30	185	-	1,584,696
projected Jul-26	-	2,702,527	31	154	-	1,584,696
projected Aug-26	-	2,702,527	31	123	-	1,584,696
projected Sep-26	-	2,702,527	30	93	-	1,584,696
projected Oct-26	557,700	3,260,227	31	62	94,733	1,679,429
projected Nov-26	-	3,260,227	30	32	-	1,679,429
projected Dec-26	-	3,260,227	31	1	-	1,679,429
Total	3,260,227		365		350,118	
Sch. 2.0						
Tax Rate						24.925%

Forecasted ADIT 418,598 Cost of Removal

Total Forecasted ADIT 5,201,245

TAX RATE TABLE				
	Year 1	Year 2	Year 3	Year 4
MACRS 15	0.05	0.095	0.0855	0.07695

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Thirteen Month Average Additions and Retirements

Test Year 12/31/26 PMM Investment Summary

Line No.	Month (A)	Number of Months (B)	PMM Capex		Retirements		Cost of Removal	
			By Month (C)	Cumulative (D)	By Month (E)	Cumulative (F)	By Month (G)	Cumulative (H)
1	Balance @ 12/31/2025	13		\$ 142,634,455		\$ 738,348		\$ 2,702,527
2	Jan-26	12	\$ 87,985.50	142,722,441	\$ -	738,348	\$ -	2,702,527
3	Feb-26	11	123,535	142,845,976	-	738,348	-	2,702,527
4	Mar-26	10	14,337	142,860,313	-	738,348	-	2,702,527
5	Apr-26	9	-	142,860,313	-	738,348	-	2,702,527
6	May-26	8	-	142,860,313	-	738,348	-	2,702,527
7	Jun-26	7	-	142,860,313	-	738,348	-	2,702,527
8	Jul-26	6	-	142,860,313	-	738,348	-	2,702,527
9	Aug-26	5	-	142,860,313	-	738,348	-	2,702,527
10	Sep-26	4	-	142,860,313	-	738,348	-	2,702,527
11	Oct-26	3	37,531,943	180,392,255	199,584	937,932	557,700	3,260,227
12	Nov-26	2	2,607,897	183,000,152	-	937,932	-	3,260,227
13	Dec-26	1	1,926,246	184,926,398	-	937,932	-	3,260,227
				\$ 1,976,543,865		\$ 10,197,276		\$ 36,805,945
14	Number of months			13		13		13
15	13 Month Average			\$ 152,041,836		\$ 784,406		\$ 2,831,227

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
PMM Rider Billing Determinants by Rate Schedule
for the Twelve Month Ending December, 2026

Line No.	Rate Schedule (A)	<u>Jan-26</u> (B)	<u>Feb-26</u> (C)	<u>Mar-26</u> (D)	<u>Apr-26</u> (E)	<u>May-26</u> (F)	<u>Jun-26</u> (G)	<u>Jul-26</u> (H)	<u>Aug-26</u> (I)	<u>Sep-26</u> (J)	<u>Oct-26</u> (K)	<u>Nov-26</u> (L)	<u>Dec-26</u> (M)	<u>Total</u> (N)
1	RS - Residential (CCF) ⁽²⁾	12,749,669	12,678,711	9,432,785	5,300,318	2,295,829	1,375,342	993,099	911,647	983,527	1,336,066	4,110,911	9,136,315	61,304,219
2	GS - General Service (CCF) ^{(1) (2)}	7,114,118	6,900,565	5,604,537	2,717,593	1,586,198	757,666	540,501	500,235	640,190	638,935	2,119,311	5,013,723	34,133,572
3	FT - Firm Transportation (CCF)	4,072,354	3,475,719	3,291,115	2,255,572	1,923,727	1,734,781	1,662,615	1,735,367	1,771,425	2,058,859	2,712,575	3,327,728	30,021,837
4	IT - Interruptible Transportation (CCF)	1,457,628	1,384,099	1,392,488	1,312,602	1,319,986	1,311,196	1,310,809	1,310,895	1,315,329	1,487,097	1,457,314	1,489,725	16,549,168

(1) General Service includes Commercial, Industrial, OPA, Street Lighting and Interdepartmental.

(2) Per Order 2022-00229, all Rider PMM rates should be in volumetric format for the 2025 calendar year.

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
PMM Revenue Requirement for 2024

<u>Line No.</u>	<u>(A)</u>	<u>PMM Investment December 31, 2024 (B)</u>	<u>Reference (C)</u>
	Return on Investment		
	<u>Rate Base</u>		
1	Net PMM Investment - Property, Plant and Equipment	\$ 47,811,192	Sch. 4.5
2	Cost of Removal	445,205	Sch. 4.5
3	Accumulated Reserve for Depreciation	(243,638)	Sch. 4.3
4	Net PP&E	48,012,759	
5	Accumulated Deferred Taxes on Liberalized Depreciation	(709,805)	Sch. 4.4
6	Net Rate Base	47,302,954	Line 4 + Line 5
7	Authorized Rate of Return, Adjusted for Income Taxes	8.087%	Sch. 4.2
8	Required Return on PMM Related Investment	\$ 3,825,390	Line 6 * Line 7
	<u>Operating Expenses</u>		
9	Depreciation	\$ 613,039	Sch. 4.3
10	Property Tax	605,114	Line 4 * 1.26032%
11	PSC Assessment	7,541	(Sum Line 8 thru 10) * (0.1493% / (1-0.1493%))
12	Total Operating Expenses	\$ 1,225,694	Sum Lines 9 thru 11
13	<u>Total Annual Revenue Requirement</u>	\$ 5,051,084	Line 8 + Line 12
14	Collections/(Refunds) for prior years	-	
15	Adjusted Revenue Requirement	\$ 5,051,084	
16	2024 Billed Revenues	3,550,163	
17	Total (Over)/Under Collections	\$ 1,500,921	

Notes:

- (1) In 2023 filing, Property taxes using an effective rate of 1.26032%
- (2) In 2023 filing, PSC Assessment using Fiscal Year 2021 rate of 0.1493%
- (3) Under collection is driven by the actual in-service date later than the projected in-service date

**Duke Energy Kentucky
Rider PMM by Rate Schedule
Cost of Capital**

Line No.	<u>Capital Structure</u> (A)	<u>Ratio</u> (B)	<u>Cost</u> (C)	<u>Weighted Cost</u> (D)	<u>Pre-Tax @ Effect. Tax Rate of 24.925%</u> (E)
1	Short term Debt	2.617%	1.667%	0.044%	0.044%
2	Long term Debt	46.039%	3.656%	1.683%	1.683%
3	Equity	51.344%	9.300%	4.775%	6.360%
4	Total	100.000%		6.502%	8.087%

Capital structure approved in Case No. 2021-00190
ROE represents rate approved for use in natural gas capital riders.

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Depreciation

Line No.	Description	Acct Number		EOY 2023	Actual 2024 Additions												EOY 2024
	(A)	(B)	(C)	(D)	Jan (E)	Feb (F)	Mar (G)	Apr (H)	May (I)	Jun (J)	Jul (K)	Aug (L)	Sep (M)	Oct (N)	Nov (O)	Dec (P)	(Q)
Gas Plant Investments ⁽¹⁾																	
Additions																	
1	Mains - Feeder	376		\$ 26,203,210	\$ 908,454	\$ (122,212)	\$ (581,595)	\$ (878,861)	\$ (437,445)	\$ 898,296	\$ (330,532)	\$ (14,330)	\$ (169,784)	\$ (116,320)	\$ 45,046,326	\$ 2,772,894	\$ 73,178,102
2	System M&R Station Equipment	378		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,747,865	\$ 316,627	\$ 1,045,917	\$ 280,440	\$ 269,691	\$ 485,323	\$ 611,421	\$ 18,757,284
3	Land and Land Rights	374		\$ 5,857,760	\$ 924	\$ 13,358	\$ 28,923	\$ (352,922)	\$ 4,256	\$ 5,920	\$ 4,626	\$ -	\$ 1,493	\$ 1,422	\$ 358,250	\$ 226	\$ 5,924,237
4	Total Additions			\$ 32,060,970	\$ 909,379	\$ (108,853)	\$ (552,671)	\$ (1,231,783)	\$ (433,189)	\$ 16,652,081	\$ (9,280)	\$ 1,031,587	\$ 112,149	\$ 154,793	\$ 45,889,899	\$ 3,384,541	\$ 97,859,623
Retirements																	
5	Mains - Feeder	376		\$ 142,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 259,459	\$ 260,801	\$ 662,260
6	System M&R Station Equipment	378		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Land and Land Rights	374		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,407	\$ 2,407
8	Total Retirements			\$ 142,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 259,459	\$ 263,208	\$ 664,667
Cost of Removal																	
9	Mains - Feeder	376		\$ 125,221	\$ 7,895	\$ 95,803	\$ 1,828	\$ 13,221	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,297,278	\$ 10,739	\$ 1,551,985
10	System M&R Station Equipment	378		\$ -	\$ -	\$ -	\$ -	\$ 24,127	\$ -	\$ -	\$ 8,585	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,712
11	Land and Land Rights	374		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Total Cost of removal			\$ 125,221	\$ 7,895	\$ 95,803	\$ 1,828	\$ 37,348	\$ -	\$ -	\$ 8,585	\$ -	\$ -	\$ -	\$ 1,297,278	\$ 10,739	\$ 1,584,696
Accumulated Depreciation Reserve																	
Additions																	
13	Mains - Feeder	376	1.49%	\$ -	\$ 32,536	\$ 33,664	\$ 33,512	\$ 32,790	\$ 31,699	\$ 31,155	\$ 32,271	\$ 31,860	\$ 31,843	\$ 31,632	\$ 31,487	\$ 87,420	
14	System M&R Station Equipment	378	2.04%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 26,771	\$ 27,310	\$ 29,088	\$ 29,564	\$ 30,023	\$ 30,848	
15	Land and Land Rights	374	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
16	Total Additions			\$ -	\$ 32,536	\$ 33,664	\$ 33,512	\$ 32,790	\$ 31,699	\$ 31,155	\$ 59,042	\$ 59,170	\$ 60,931	\$ 61,196	\$ 61,510	\$ 118,268	
Retirements																	
17	Mains - Feeder	376	1.49%	\$ -	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 498	
18	System M&R Station Equipment	378	2.04%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
19	Land and Land Rights	374	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
20	Total Retirements			\$ -	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 176	\$ 498	
21	Total Accumulated Depreciation Reserve			\$ -	\$ 32,360	\$ 65,848	\$ 99,184	\$ 131,798	\$ 163,321	\$ 194,300	\$ 253,166	\$ 312,160	\$ 372,915	\$ 433,935	\$ 495,269	\$ 613,039	\$ 243,638

Notes:

(1) See Sch 4.5 for detail of 2024 PMM eligible additions.

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Deferred Taxes on Liberalized Depreciation

2024 Projection Filing	A	B	C	A + B + C = D	A * 5% = E	B * 3.75% = F	E + F = G	H	G - H = I	J	K	L	(I * L) / K = M	N
	Book Adds/Retires - 15	Book Adds/Retires - 20	Book Adds/Retires -	Total Book	1st Yr 15 Yr					Accumulated				
Month	YR MACRS	YR MACRS	Non-Depreciable Land	Additions/Retirements	MACRS for Tax - 5%	1st Yr 20 Yr MACRS for Tax - 3.75%	Total MACRS Depreciation	Book Depreciation	Book/Tax Difference	Book/Tax Difference	Days to Prorate	Future Days in Period	Prorated Book/Tax Difference	Prorated Accumulated Book/Tax Difference
Dec-23	26,061,210	-	5,857,760	31,918,970	1,303,061	-	1,303,061	-	1,303,061	1,303,061				1,303,061
Actuals Jan-24	908,454	-	924	909,379	210,103	-	210,103	32,360	177,743	1,480,804	31	335	163,134	1,466,195
Actuals Feb-24	(122,212)	-	13,358	(108,853)	209,548	-	209,548	33,488	176,060	1,656,863	28	307	148,083	1,614,278
Actuals Mar-24	(581,595)	-	28,923	(552,671)	206,640	-	206,640	33,336	173,304	1,830,167	31	276	131,046	1,745,324
Actuals Apr-24	(878,861)	-	(352,922)	(1,231,783)	201,757	-	201,757	32,614	169,143	1,999,310	30	246	113,998	1,859,322
Actuals May-24	(437,445)	-	4,256	(433,189)	199,023	-	199,023	31,523	167,500	2,166,810	31	215	98,664	1,957,986
Actuals Jun-24	898,296	15,747,865	5,920	16,652,081	205,439	84,364	289,803	30,979	258,824	2,425,634	30	185	131,185	2,089,171
Actuals Jul-24	(330,532)	316,627	4,626	(9,280)	202,685	86,342	289,028	58,866	230,162	2,655,796	31	154	97,109	2,186,280
Actuals Aug-24	(14,330)	1,045,917	-	1,031,587	202,542	94,187	296,729	58,994	237,735	2,893,530	31	123	80,113	2,266,393
Actuals Sep-24	(169,784)	280,440	1,493	112,149	200,419	96,816	297,235	60,755	236,480	3,130,011	30	93	60,254	2,326,647
Actuals Oct-24	(116,320)	269,691	1,422	154,793	198,481	100,187	298,668	61,020	237,648	3,367,658	31	62	40,368	2,367,015
Actuals Nov-24	44,786,867	485,323	358,250	45,630,440	1,318,152	109,287	1,427,439	61,334	1,366,105	4,733,764	30	32	119,768	2,486,783
Actuals Dec-24	2,512,093	611,421	(2,181)	3,121,333	1,443,757	132,215	1,575,972	117,770	1,458,202	6,191,966	31	1	3,995	2,490,778
Total	72,515,841	18,757,284	5,921,830	97,194,955	4,798,547	703,398	5,501,945	613,039	4,888,906		365		1,187,717	
	Sch. 4.3	Sch. 4.3	Sch. 4.3	Sch. 4.3				Sch. 4.3					Tax Rate	24.925%

Forecasted ADIT 620,826 Book vs Tax Depreciation

	Month	Cost of Removal Book/Tax Difference	Accumulated Book/Tax Difference	Days to Prorate	Future Days in Period	Prorated 2024 Book/Tax Difference	Prorated Accumulated Book/Tax Difference
	Dec-23	125,221	125,221	n/a	n/a	n/a	125,221
Actuals Jan-24		7,895	133,116	31	335	7,246	132,467
Actuals Feb-24		95,803	228,920	28	307	80,580	213,047
Actuals Mar-24		1,828	230,747	31	276	1,382	214,429
Actuals Apr-24		37,348	268,095	30	246	25,171	239,600
Actuals May-24		-	268,095	31	215	-	239,600
Actuals Jun-24		-	268,095	30	185	-	239,600
Actuals Jul-24		8,585	276,680	31	154	3,622	243,223
Actuals Aug-24		-	276,680	31	123	-	243,223
Actuals Sep-24		-	276,680	30	93	-	243,223
Actuals Oct-24		-	276,680	31	62	-	243,223
Actuals Nov-24		1,297,278	1,573,958	30	32	113,734	356,957
Actuals Dec-24		10,739	1,584,696	31	1	29	356,986
Total		1,584,696		365		231,765	
						Tax Rate	24.925%

Forecasted ADIT 88,979 Cost of Removal

Total Forecasted ADIT 709,805

TAX RATE TABLE

	Year 1	Year 2	Year 3	Year 4
MACRS 15	0.05	0.095	0.0855	
MACRS 20	0.0375	0.07219	0.06677	

Duke Energy Kentucky
Pipeline Modernization Mechanism ("Rider PMM")
Thirteen Month Average Additions and Retirements

Test Year 12/31/24 PMM Investment Summary

Line No.	Month (A)	Number of Months (B)	PMM Capex		Retirements		Cost of Removal	
			By Month (C)	Cumulative (D)	By Month (E)	Cumulative (F)	By Month (G)	Cumulative (H)
1	Balance @ 12/31/2023	13	\$ 32,060,970	\$ 32,060,970	\$ 142,000	\$ 142,000	\$ 125,221	\$ 125,221
2	Jan-24	12	909,379	32,970,349	-	142,000	7,895	133,116
3	Feb-24	11	(108,853)	32,861,495	-	142,000	95,803	228,920
4	Mar-24	10	(552,671)	32,308,824	-	142,000	1,828	230,747
5	Apr-24	9	(1,231,783)	31,077,041	-	142,000	37,348	268,095
6	May-24	8	(433,189)	30,643,852	-	142,000	-	268,095
7	Jun-24	7	16,652,081	47,295,933	-	142,000	-	268,095
8	Jul-24	6	(9,280)	47,286,653	-	142,000	8,585	276,680
9	Aug-24	5	1,031,587	48,318,240	-	142,000	-	276,680
10	Sep-24	4	112,149	48,430,388	-	142,000	-	276,680
11	Oct-24	3	154,793	48,585,182	-	142,000	-	276,680
12	Nov-24	2	45,889,899	94,475,081	259,459	401,459	1,297,278	1,573,958
13	Dec-24	1	3,384,541	97,859,623	263,208	664,667	10,739	1,584,696
				624,173,630		2,628,126		5,787,662
14	Number of months			13		13		13
15	13 Month Average		\$	48,013,356	\$	202,164	\$	445,205

Duke Energy Kentucky
Case No. 2025-00229
STAFF's First Request for Information
Date Received: September 10, 2025

STAFF-DR-01-002

REQUEST:

Refer to the Application, Exhibit 3, Schedule 2.2, page 7. Confirm if the Month (A) column is labeled with the correct dates. If confirmed, provide an explanation on why the amounts are different in this case compared to Case No. 2024-00191.³

RESPONSE:

The dates on Schedule 2.2 were inadvertently mislabeled and should range from December 2025 – December 2026. Please see STAFF-DR-01-001 Attachment, Schedule 2.2 for updated dates.

PERSON RESPONSIBLE: Jefferson “Jay” P. Brown

³ Case No. 2024-00191, July 1, 2024 Application, Exhibit 3, Schedule 2.2, at 7 of 13.

Duke Energy Kentucky
Case No. 2025-00229
STAFF's First Request for Information
Date Received: September 10, 2025

STAFF-DR-01-003

REQUEST:

Refer to the Application, Request B, Items 21-25.

- a. Provide an explanation for the components of the \$923,276 proposed regulatory asset in this case.
- b. Provide the expected amortization life and explanation as to the time period for the regulatory asset proposed in this case.

RESPONSE:

- a. Please see STAFF-DR-01-001 Attachment. Based on the revised filing, the Company no longer needs to request a regulatory asset in this case and withdraws that request.
- b. Please see response to (a) above.

PERSON RESPONSIBLE: Jefferson "Jay" P. Brown

**Duke Energy Kentucky
Case No. 2025-00229
STAFF's First Request for Information
Date Received: September 10, 2025**

STAFF-DR-01-004

REQUEST:

Provide an explanation for how the \$923,276 in expenses is significant and materially impacts Duke Kentucky's financials and/or operations.

RESPONSE:

Please see responses to STAFF-DR-01-001 and STAFF-DR-01-003. The Company is withdrawing its request for a regulatory asset.

PERSON RESPONSIBLE: Jefferson "Jay" P. Brown

Duke Energy Kentucky
Case No. 2025-00229
STAFF's First Request for Information
Date Received: September 10, 2025

STAFF-DR-01-005

REQUEST:

Refer to the Case No. 2022-00084.⁴

a. Application, Exhibit 4, page 6. Provide the same data for all phases of the proposed project in this application in the Excel spreadsheet file with all calculations and formulas intact and cells unlocked.

b. Application, Exhibit 6, page 4. Break the cost of each phase down to design, land, construction and material in the Excel spreadsheet file with all calculations and formulas intact and cells unlocked.

RESPONSE:

a. The Company assumes that this data request refers to the application in Case No. 2025-00057. The Company did not provide a similar table in the application for this proceeding (Case No. 2025-00229). Please see STAFF-DR-01-005(a) Attachment for the Excel version of the table found on page 10 in the direct testimony of Mr. Melton A. Huey filed in Case No. 2025-00057 for the Phase 4 AM-07 CPCN application.

b. Please see STAFF-DR-01-005(b) Attachments 1 through 5, which provide backup support for the forecasted data submitted as part of Case No. 2025-00057. These exhibits include actual costs from phases one and two, along with the most current

⁴ Case No. 2022-00084, *Electronic Application of Duke Energy Kentucky, Inc. for a Certificate of Public Convenience and Necessity Authorizing the Phase One Replacement of the AM07 Pipeline* (filed Mar. 29, 2022)

estimates for phases three, four, and five. Regarding Exhibit 4 of Case No 2022-00084 as noted in the request, please see STAFF-DR-01-005(b) Attachments 6 through 10, which provide the original estimates done at the time of submittal for the CPCN of Phase 1. Please note that at that time, there were still unknowns regarding the future phases as scope may have shifted around.

PERSON RESPONSIBLE: Melton A. Huey – a.
Bradley A. Seiter – b.

PHASE	Est. Miles Replaced	Est. in-service date	Estimated Cost of Construction
1	2	December 2023	\$49,900,000
2	3.2	October 2024	\$51,050,000
3	4.3	October 2025	\$51,400,000
4	2.5	October 2026	\$43,136,000
5	1.7	October 2027	\$32,160,000
TOTAL	13.7		\$227,646,000

AM07 Phase 1

Actual Spend Project Cost Breakdown

Revision: 9/23/2025

WBS 1 Description		Capital Improvement and Retirement			Retirement
				24" Line AM07 PH 1 /25,153	
			Station	Pipelay 1	Pipe Abandonment
NGENGNC	Engineering	\$ 2,282,479	\$ 11,751	\$ 2,270,728	
NGLANDC	Land Acquisition & Support	\$ 5,226,607		\$ 5,226,607	
NGMATEC	Materials/Equipment	\$ 7,055,920	\$ 4,093,283	\$ 2,962,637	
NGCONPC	Construction Serv - Pipeline	\$ 15,600,215	\$ 1,229,258	\$ 13,797,420	\$ 573,537
NGCONFC	Construction Serv - Facility	\$ 8,147,144	\$ 8,147,144		
NGFITSC	Field Inspections	\$ 2,989,439	\$ 1,489,603	\$ 1,499,836	
NGMPGL	PNG Labor	\$ 1,285,267	\$ 585,780	\$ 699,487	
NGMOTH	Other Direct Costs	\$ 17,104	\$ 17,104		
Subtotal Direct Cost		\$ 42,604,175	\$ 15,573,923	\$ 26,456,715	\$ 573,537
	Project Contingency				
	Project Escalation				
Total Contingency & Escalation		\$ -		\$ -	\$ -
Total Direct Cost		\$ 42,604,175		\$ 26,456,715	\$ 573,537
NGMPGL	AFUDC Debt	\$ 4,569,382	\$ 712,041	\$ 3,857,341	
NGMOVH	Overhead and Allocations	\$ 2,841,019	\$ 2,122,392	\$ 718,627	
Total PNG Overhead Cost		\$ 7,410,401	\$ 2,834,433	\$ 4,575,968	\$ -
Project Total		\$ 50,014,576	\$ 18,408,356	\$ 31,032,683	\$ 573,537

Notes:

Exported from EcoSys on 09/24/2025 09:45:43

Actuals Summary

Project: G7AM07ILI Posted to CPR Line AM07 Pipeline Replacement Phase 1 Project Period: 202508

Path ID	Name	PTD Production Cost
G7AM07ILI	(Posted to CPR) Line AM07 - Pipeline Replacement - Phase 1	50,014,748
G7AM07ILI.AW3074	Line AM07 - Pipeline Replacement - Land	5,584,894
G7AM07ILI.AW3074.NGENGNC	010 - ENGINEERING	29,404
G7AM07ILI.AW3074.NGENGNC.G630	G630 - Field Environmental Costs	3,168
G7AM07ILI.AW3074.NGENGNC.G663	G663 - Transmission – Temporary Land	23,490
G7AM07ILI.AW3074.NGENGNC.G801	G801 - Pre-Design Activities	0
G7AM07ILI.AW3074.NGENGNC.G802	G802 - Route Development	0
G7AM07ILI.AW3074.NGENGNC.G803	G803 - Project Management	0
G7AM07ILI.AW3074.NGENGNC.G804	G804 - Records Research	0
G7AM07ILI.AW3074.NGENGNC.G805	G805 - Estimate and Scoping	0
G7AM07ILI.AW3074.NGENGNC.G806	G806 - Land Survey	0
G7AM07ILI.AW3074.NGENGNC.G807	G807 - Land Acquisition Support (Engineering)	0
G7AM07ILI.AW3074.NGENGNC.G808	G808 - Other Permitting	0
G7AM07ILI.AW3074.NGENGNC.G809	G809 - Geotechnical Services	0
G7AM07ILI.AW3074.NGENGNC.G810	G810 - Design - Pipeline	0
G7AM07ILI.AW3074.NGENGNC.G811	G811 - Design - Facility	0
G7AM07ILI.AW3074.NGENGNC.G812	G812 - Cathodic Protection	0
G7AM07ILI.AW3074.NGENGNC.G813	G813 - Bid Package Development	0
G7AM07ILI.AW3074.NGENGNC.G814	G814 - Construction Support (Engineering)	1,305
G7AM07ILI.AW3074.NGENGNC.G815	G815 - As-Built Survey	0
G7AM07ILI.AW3074.NGENGNC.G816	G816 - Project Close-Out	0
G7AM07ILI.AW3074.NGENGNC.G900	G900 - Engineering - White	0
G7AM07ILI.AW3074.NGENGNC.ENGNA	Not Assigned - Engineering	0
G7AM07ILI.AW3074.NGLANDC	020 - LAND SERVICES	5,160,411
G7AM07ILI.AW3074.NGLANDC.G301	G301 - Contract Labor - Legal	392,117
G7AM07ILI.AW3074.NGLANDC.G656	G656 - Construction Support - Land	109,792
G7AM07ILI.AW3074.NGLANDC.G661	G661 - Transmission - Land Purchase	(312,076)
G7AM07ILI.AW3074.NGLANDC.G662	G662 - Transmission - Land Rights	115,701
G7AM07ILI.AW3074.NGLANDC.G901	G901 - Land Services - White	0
G7AM07ILI.AW3074.NGLANDC.LANNA	Not Assigned - Land Services	4,800,698
G7AM07ILI.AW3074.NGCONPC	030 - CONSTRUCTION SERVICES – PIPELINE	0
G7AM07ILI.AW3074.NGCONPC.G631	G631 - Field Environmental and Erosion Control	0
G7AM07ILI.AW3074.NGCONPC.G820	G820 - Mob/Demob	0
G7AM07ILI.AW3074.NGCONPC.G821	G821 - Clearing and Grubbing	0
G7AM07ILI.AW3074.NGCONPC.G822	G822 - Rock Excavation	0
G7AM07ILI.AW3074.NGCONPC.G825	G825 - Conventional Bore - Dirt	0
G7AM07ILI.AW3074.NGCONPC.G826	G826 - Conventional Bore - Rock	0
G7AM07ILI.AW3074.NGCONPC.G827	G827 - Directional Drill – Dirt	0
G7AM07ILI.AW3074.NGCONPC.G828	G828 - Directional Drill – Rock	0
G7AM07ILI.AW3074.NGCONPC.G829	G829 - Conventional Upland Lay	0
G7AM07ILI.AW3074.NGCONPC.G830	G830 - Conventional Wetland Lay	0
G7AM07ILI.AW3074.NGCONPC.G831	G831 - High Water Table	0
G7AM07ILI.AW3074.NGCONPC.G832	G832 - Civil or General Conditions	0
G7AM07ILI.AW3074.NGCONPC.G833	G833 - Hydro Test and Caliper Tool Run	0
G7AM07ILI.AW3074.NGCONPC.G834	G834 - Commissioning	0
G7AM07ILI.AW3074.NGCONPC.G835	G835 - Clean-up	0
G7AM07ILI.AW3074.NGCONPC.G836	G836 - Stand-By - Pipeline	0
G7AM07ILI.AW3074.NGCONPC.G837	G837 - AC/CP	0
G7AM07ILI.AW3074.NGCONPC.G902	G902 - CS Pipeline - White	0

0	Not Assigned - Construction Services - Pipeline	G7AM07ILI.AW3074.NGCONFC.CONPNA	
27,445	040 - CONSTRUCTION SERVICES – FACILITY	G7AM07ILI.AW3074.NGCONFC	
0	G632 - Field Environmental and Erosion Control	G7AM07ILI.AW3074.NGCONFC.G632	
27,445	G850 - Mob/Demob	G7AM07ILI.AW3074.NGCONFC.G850	
0	G851 - Site Preparation	G7AM07ILI.AW3074.NGCONFC.G851	
0	G852 - Concrete, Paving and Gravel	G7AM07ILI.AW3074.NGCONFC.G852	
0	G853 - Building Erection	G7AM07ILI.AW3074.NGCONFC.G853	
0	G854 - Fabrication	G7AM07ILI.AW3074.NGCONFC.G854	
0	G855 - Installation	G7AM07ILI.AW3074.NGCONFC.G855	
0	G856 - Security, Fire Alarm, Instrumentation and Controls	G7AM07ILI.AW3074.NGCONFC.G856	
0	G857 - Fencing	G7AM07ILI.AW3074.NGCONFC.G857	
0	G858 - Tie-In	G7AM07ILI.AW3074.NGCONFC.G858	
0	G859 - Hydro Test	G7AM07ILI.AW3074.NGCONFC.G859	
0	G860 - AC/CP	G7AM07ILI.AW3074.NGCONFC.G860	
0	G861 - Commissioning	G7AM07ILI.AW3074.NGCONFC.G861	
0	G862 - Stand-By - Facility	G7AM07ILI.AW3074.NGCONFC.G862	
0	G903 - CS Facility - White	G7AM07ILI.AW3074.NGCONFC.G903	
0	Not Assigned - Construction Services - Facility	G7AM07ILI.AW3074.NGCONFC.CONFNA	
0	050 - CONSTRUCTION RETIREMENT	G7AM07ILI.AW3074.NGREMPC	
0	G823 - Abandon in Place Pipe	G7AM07ILI.AW3074.NGREMPC.G823	
0	G824 - Removal of Pipe	G7AM07ILI.AW3074.NGREMPC.G824	
0	G863 - Station Retirement	G7AM07ILI.AW3074.NGREMPC.G863	
0	G904 - Construction Retirement - White	G7AM07ILI.AW3074.NGREMPC.G904	
0	Not Assigned - Construction Retirement	G7AM07ILI.AW3074.NGREMPC.CONRNA	
0	060 - INLINE INSPECTION PROGRAM	G7AM07ILI.AW3074.NGILIPC	
0	G870 - Row Clearing	G7AM07ILI.AW3074.NGILIPC.G870	
0	G871 - Validation Digs	G7AM07ILI.AW3074.NGILIPC.G871	
0	G872 - Retrofits	G7AM07ILI.AW3074.NGILIPC.G872	
0	G873 - Anomalies	G7AM07ILI.AW3074.NGILIPC.G873	
0	G906 - Inline Inspection Program - White	G7AM07ILI.AW3074.NGILIPC.G906	
0	G7AM07ILI.AW3074.NGILIPC.ILINA	G7AM07ILI.AW3074.NGILIPC.ILINA	
17,664	070 - FIELD INSPECTION AND TESTING	G7AM07ILI.AW3074.NGFTSC	
0	G880 - Construction Inspection	G7AM07ILI.AW3074.NGFTSC.G880	
0	G881 - Non-Destructive Testing	G7AM07ILI.AW3074.NGFTSC.G881	
0	G882 - Safety	G7AM07ILI.AW3074.NGFTSC.G882	
0	G883 - Environmental	G7AM07ILI.AW3074.NGFTSC.G883	
14,859	G905 - Field Inspection and Testing - White	G7AM07ILI.AW3074.NGFTSC.G905	
0	Not Assigned - Field Inspection and Testing	G7AM07ILI.AW3074.NGFTSC.FITNA	
11,029	080 - MATERIALS AND EQUIPMENT	G7AM07ILI.AW3074.NGMATEC	
0	G201 - Inventory – Materials	G7AM07ILI.AW3074.NGMATEC.G201	
0	G202 - Non-Inventory Parts / Materials	G7AM07ILI.AW3074.NGMATEC.G202	
0	G204 - Materials – Contractors	G7AM07ILI.AW3074.NGMATEC.G204	
0	G205 - Materials – MRC	G7AM07ILI.AW3074.NGMATEC.G205	
11,029	G907 - Material & Inspection - White	G7AM07ILI.AW3074.NGMATEC.G907	
0	MAT001 - Material Allocations	G7AM07ILI.AW3074.NGMATEC.MAT001	
0	MAT002 - Stores Loading	G7AM07ILI.AW3074.NGMATEC.MAT002	
0	Not Assigned - Materials and Equipment	G7AM07ILI.AW3074.NGMATEC.MATNA	
27,403	090 - DUKE LABOR	G7AM07ILI.AW3074.NGMPGL	
10,533	DL001 - Labor	G7AM07ILI.AW3074.NGMPGL.DL001	
0	DL002 - Labor Loader	G7AM07ILI.AW3074.NGMPGL.DL002	
0	DL003 - Overtime	G7AM07ILI.AW3074.NGMPGL.DL003	
12,586	DL004 - Overhead Labor - Allocation	G7AM07ILI.AW3074.NGMPGL.DL004	
4,284	G101 - Project Support Labor	G7AM07ILI.AW3074.NGMPGL.G101	
0	Not Assigned - Internal Labor	G7AM07ILI.AW3074.NGMPGL.DLNA	
2,258	100 - OTHER	G7AM07ILI.AW3074.NGMOTH	
0	Not Assigned - Other	G7AM07ILI.AW3074.NGMOTH.OTHNA	

G7AM07ILI.AW3074.NGMOTH.OTH001	OTH001 - Other	2,258
G7AM07ILI.AW3074.NGMOVH	110 - OVERHEAD	129,664
G7AM07ILI.AW3074.NGMOVH.OVHNA	Not Assigned - Overhead	0
G7AM07ILI.AW3074.NGMOVH.OVH001	OVH001 - Overhead	129,664
G7AM07ILI.AW3074.NGMAFD	120 - AFUDC	179,506
G7AM07ILI.AW3074.NGMAFD.ACCTG	ACCTG - AFUDC	170,619
G7AM07ILI.AW3074.NGMAFD.AFUDCNA	Not Assigned - AFUDC	0
G7AM07ILI.AW3074.NGCONT	130 - CONTINGENCY	0
G7AM07ILI.AW3074.NGCONT.CONT001	CONT001 - Contingency	0
G7AM07ILI.AW3074.NGEXCEP	140 - EXCEPTION	0
G7AM07ILI.AW3074.NGEXCEP.EXCEP001	EXCEP001 - Exception	0
G7AM07ILI.0233100	Line AM07 - Pipeline Replacement - Pipe	26,106,514
G7AM07ILI.0233100.NGENGNC	010 - ENGINEERING	2,241,324
G7AM07ILI.0233100.NGENGNC.G630	G630 - Field Environmental Costs	111,458
G7AM07ILI.0233100.NGENGNC.G663	G663 - Transmission - Temporary Land	0
G7AM07ILI.0233100.NGENGNC.G801	G801 - Pre-Design Activities	5,070
G7AM07ILI.0233100.NGENGNC.G802	G802 - Route Development	(1,864)
G7AM07ILI.0233100.NGENGNC.G803	G803 - Project Management	26,607
G7AM07ILI.0233100.NGENGNC.G804	G804 - Records Research	0
G7AM07ILI.0233100.NGENGNC.G805	G805 - Estimate and Scoping	0
G7AM07ILI.0233100.NGENGNC.G806	G806 - Land Survey	142,752
G7AM07ILI.0233100.NGENGNC.G807	G807 - Land Acquisition Support (Engineering)	7,111
G7AM07ILI.0233100.NGENGNC.G808	G808 - Other Permitting	50,117
G7AM07ILI.0233100.NGENGNC.G809	G809 - Geotechnical Services	69,387
G7AM07ILI.0233100.NGENGNC.G810	G810 - Design - Pipeline	304,769
G7AM07ILI.0233100.NGENGNC.G811	G811 - Design - Facility	182,064
G7AM07ILI.0233100.NGENGNC.G812	G812 - Cathodic Protection	13,297
G7AM07ILI.0233100.NGENGNC.G813	G813 - Bid Package Development	28,816
G7AM07ILI.0233100.NGENGNC.G814	G814 - Construction Support (Engineering)	426,857
G7AM07ILI.0233100.NGENGNC.G815	G815 - As-Built Survey	800,798
G7AM07ILI.0233100.NGENGNC.G816	G816 - Project Close-Out	7,921
G7AM07ILI.0233100.NGENGNC.G900	G900 - Engineering - White	0
G7AM07ILI.0233100.NGENGNC.ENGNA	Not Assigned - Engineering	0
G7AM07ILI.0233100.NGLANDC	020 - LAND SERVICES	66,196
G7AM07ILI.0233100.NGLANDC.G301	G301 - Contract Labor - Legal	0
G7AM07ILI.0233100.NGLANDC.G656	G656 - Construction Support - Land	66,196
G7AM07ILI.0233100.NGLANDC.G661	G661 - Transmission - Land Purchase	0
G7AM07ILI.0233100.NGLANDC.G662	G662 - Transmission - Land Rights	0
G7AM07ILI.0233100.NGLANDC.G901	G901 - Land Services - White	0
G7AM07ILI.0233100.NGLANDC.LANNA	Not Assigned - Land Services	0
G7AM07ILI.0233100.NGCONPC	030 - CONSTRUCTION SERVICES - PIPELINE	13,889,244
G7AM07ILI.0233100.NGCONPC.G631	G631 - Field Environmental and Erosion Control	351,279
G7AM07ILI.0233100.NGCONPC.G820	G820 - Mob/Demob	615,676
G7AM07ILI.0233100.NGCONPC.G821	G821 - Clearing and Grubbing	517,060
G7AM07ILI.0233100.NGCONPC.G822	G822 - Rock Excavation	27,274
G7AM07ILI.0233100.NGCONPC.G825	G825 - Conventional Bore - Dirt	842,074
G7AM07ILI.0233100.NGCONPC.G826	G826 - Conventional Bore - Rock	0
G7AM07ILI.0233100.NGCONPC.G827	G827 - Directional Drill - Dirt	1,332,081
G7AM07ILI.0233100.NGCONPC.G828	G828 - Directional Drill - Rock	0
G7AM07ILI.0233100.NGCONPC.G829	G829 - Conventional Upland Lay	7,241,112
G7AM07ILI.0233100.NGCONPC.G830	G830 - Conventional Wetland Lay	0
G7AM07ILI.0233100.NGCONPC.G831	G831 - High Water Table	16,926
G7AM07ILI.0233100.NGCONPC.G832	G832 - Civil or General Conditions	1,823,172
G7AM07ILI.0233100.NGCONPC.G833	G833 - Hydro Test and Caliper Tool Run	883,045
G7AM07ILI.0233100.NGCONPC.G834	G834 - Commissioning	226,554
G7AM07ILI.0233100.NGCONPC.G835	G835 - Clean-up	0

G7AM07ILI.0233100.NGCONPC.G836	G836 - Stand-By - Pipeline	0
G7AM07ILI.0233100.NGCONPC.G837	G837 - AC/CP	12,992
G7AM07ILI.0233100.NGCONPC.G902	G902 - CS Pipeline - White	0
G7AM07ILI.0233100.NGCONPC.CONPNA	Not Assigned - Construction Services - Pipeline	0
G7AM07ILI.0233100.NGCONFC	040 - CONSTRUCTION SERVICES – FACILITY	57,730
G7AM07ILI.0233100.NGCONFC.G632	G632 - Field Environmental and Erosion Control	0
G7AM07ILI.0233100.NGCONFC.G850	G850 - Mob/Demob	0
G7AM07ILI.0233100.NGCONFC.G851	G851 - Site Preparation	57,730
G7AM07ILI.0233100.NGCONFC.G852	G852 - Concrete, Paving and Gravel	0
G7AM07ILI.0233100.NGCONFC.G853	G853 - Building Erection	0
G7AM07ILI.0233100.NGCONFC.G854	G854 - Fabrication	0
G7AM07ILI.0233100.NGCONFC.G855	G855 - Installation	0
G7AM07ILI.0233100.NGCONFC.G856	G856 - Security, Fire Alarm, Instrumentation and Controls	0
G7AM07ILI.0233100.NGCONFC.G857	G857 - Fencing	0
G7AM07ILI.0233100.NGCONFC.G858	G858 - Tie-In	0
G7AM07ILI.0233100.NGCONFC.G859	G859 - Hydro Test	0
G7AM07ILI.0233100.NGCONFC.G860	G860 - AC/CP	0
G7AM07ILI.0233100.NGCONFC.G861	G861 - Commissioning	0
G7AM07ILI.0233100.NGCONFC.G862	G862 - Stand-By - Facility	0
G7AM07ILI.0233100.NGCONFC.G903	G903 - CS Facility - White	0
G7AM07ILI.0233100.NGCONFC.CONFNA	Not Assigned - Construction Services - Facility	0
G7AM07ILI.0233100.NGREMPC	050 - CONSTRUCTION RETIREMENT	573,537
G7AM07ILI.0233100.NGREMPC.G823	G823 - Abandon in Place Pipe	57,839
G7AM07ILI.0233100.NGREMPC.G824	G824 - Removal of Pipe	39,305
G7AM07ILI.0233100.NGREMPC.G863	G863 - Station Retirement	0
G7AM07ILI.0233100.NGREMPC.G904	G904 - Construction Retirement - White	0
G7AM07ILI.0233100.NGREMPC.CONRNA	Not Assigned - Construction Retirement	476,393
G7AM07ILI.0233100.NGILIPC	060 - INLINE INSPECTION PROGRAM	0
G7AM07ILI.0233100.NGILIPC.G870	G870 - Row Clearing	0
G7AM07ILI.0233100.NGILIPC.G871	G871 - Validation Digs	0
G7AM07ILI.0233100.NGILIPC.G872	G872 - Retrofits	0
G7AM07ILI.0233100.NGILIPC.G873	G873 - Anomalies	0
G7AM07ILI.0233100.NGILIPC.G906	G906 - Inline Inspection Program - White	0
G7AM07ILI.0233100.NGILIPC.ILINA	Not Assigned - Inline Inspection Program	0
G7AM07ILI.0233100.NGFITSC	070 - FIELD INSPECTION AND TESTING	1,482,172
G7AM07ILI.0233100.NGFITSC.G880	G880 - Construction Inspection	1,112,434
G7AM07ILI.0233100.NGFITSC.G881	G881 - Non-Destructive Testing	369,738
G7AM07ILI.0233100.NGFITSC.G882	G882 - Safety	0
G7AM07ILI.0233100.NGFITSC.G883	G883 - Environmental	0
G7AM07ILI.0233100.NGFITSC.G905	G905 - Field Inspection and Testing - White	0
G7AM07ILI.0233100.NGFITSC.FITNA	Not Assigned - Field Inspection and Testing	0
G7AM07ILI.0233100.NGMATEC	080 - MATERIALS AND EQUIPMENT	2,951,608
G7AM07ILI.0233100.NGMATEC.G201	G201 - Inventory – Materials	78,607
G7AM07ILI.0233100.NGMATEC.G202	G202 - Non-Inventory Parts / Materials	2,828,143
G7AM07ILI.0233100.NGMATEC.G204	G204 - Materials – Contractors	0
G7AM07ILI.0233100.NGMATEC.G205	G205 - Materials – MRC	(75,626)
G7AM07ILI.0233100.NGMATEC.G907	G907 - Material & Inspection - White	0
G7AM07ILI.0233100.NGMATEC.MAT001	MAT001 - Material Allocations	(330)
G7AM07ILI.0233100.NGMATEC.MAT002	MAT002 - Stores Loading	3,457
G7AM07ILI.0233100.NGMATEC.MATNA	Not Assigned - Materials and Equipment	117,358
G7AM07ILI.0233100.NGMPGL	090 - DUKE LABOR	672,084
G7AM07ILI.0233100.NGMPGL.DL001	DL001 - Labor	70,230
G7AM07ILI.0233100.NGMPGL.DL002	DL002 - Labor Loader	0
G7AM07ILI.0233100.NGMPGL.DL003	DL003 - Overtime	0
G7AM07ILI.0233100.NGMPGL.DL004	DL004 - Overhead Labor - Allocation	346,027
G7AM07ILI.0233100.NGMPGL.G101	G101 - Project Support Labor	252,187

G7AM07ILI.0233100.NGMPGL.DLNA	Not Assigned - Internal Labor	3,640
G7AM07ILI.0233100.NGMOTH	100 - OTHER	(94,194)
G7AM07ILI.0233100.NGMOTH.OTHNA	Not Assigned - Other	0
G7AM07ILI.0233100.NGMOTH.OTH001	OTH001 - Other	(94,194)
G7AM07ILI.0233100.NGMOVH	110 - OVERHEAD	3,727,691
G7AM07ILI.0233100.NGMOVH.OVHNA	Not Assigned - Overhead	0
G7AM07ILI.0233100.NGMOVH.OVH001	OVH001 - Overhead	3,727,691
G7AM07ILI.0233100.NGMAFD	120 - AFUDC	539,121
G7AM07ILI.0233100.NGMAFD.ACCTG	ACCTG - AFUDC	539,121
G7AM07ILI.0233100.NGMAFD.AFUDCNA	Not Assigned - AFUDC	0
G7AM07ILI.0233100.NGCONT	130 - CONTINGENCY	0
G7AM07ILI.0233100.NGCONT.CONT001	CONT001 - Contingency	0
G7AM07ILI.0233100.NGEXCEP	140 - EXCEPTION	0
G7AM07ILI.0233100.NGEXCEP.EXCEP001	EXCEP001 - Exception	0
G7AM07ILI.AW3138	Line AM07 - Pipeline Replacement - Station	18,323,340
G7AM07ILI.AW3138.NGENGNC	010 - ENGINEERING	11,751
G7AM07ILI.AW3138.NGENGNC.G630	G630 - Field Environmental Costs	1,803
G7AM07ILI.AW3138.NGENGNC.G663	G663 - Transmission – Temporary Land	0
G7AM07ILI.AW3138.NGENGNC.G801	G801 - Pre-Design Activities	0
G7AM07ILI.AW3138.NGENGNC.G802	G802 - Route Development	6,597
G7AM07ILI.AW3138.NGENGNC.G803	G803 - Project Management	0
G7AM07ILI.AW3138.NGENGNC.G804	G804 - Records Research	0
G7AM07ILI.AW3138.NGENGNC.G805	G805 - Estimate and Scoping	0
G7AM07ILI.AW3138.NGENGNC.G806	G806 - Land Survey	0
G7AM07ILI.AW3138.NGENGNC.G807	G807 - Land Acquisition Support (Engineering)	0
G7AM07ILI.AW3138.NGENGNC.G808	G808 - Other Permitting	0
G7AM07ILI.AW3138.NGENGNC.G809	G809 - Geotechnical Services	0
G7AM07ILI.AW3138.NGENGNC.G810	G810 - Design - Pipeline	0
G7AM07ILI.AW3138.NGENGNC.G811	G811 - Design - Facility	1,405
G7AM07ILI.AW3138.NGENGNC.G812	G812 - Cathodic Protection	0
G7AM07ILI.AW3138.NGENGNC.G813	G813 - Bid Package Development	0
G7AM07ILI.AW3138.NGENGNC.G814	G814 - Construction Support (Engineering)	0
G7AM07ILI.AW3138.NGENGNC.G815	G815 - As-Built Survey	0
G7AM07ILI.AW3138.NGENGNC.G816	G816 - Project Close-Out	1,946
G7AM07ILI.AW3138.NGENGNC.G900	G900 - Engineering - White	0
G7AM07ILI.AW3138.NGENGNC.ENGNA	Not Assigned - Engineering	0
G7AM07ILI.AW3138.NGLANDC	020 - LAND SERVICES	0
G7AM07ILI.AW3138.NGLANDC.G301	G301 - Contract Labor - Legal	0
G7AM07ILI.AW3138.NGLANDC.G656	G656 - Construction Support - Land	0
G7AM07ILI.AW3138.NGLANDC.G661	G661 - Transmission - Land Purchase	0
G7AM07ILI.AW3138.NGLANDC.G662	G662 - Transmission - Land Rights	0
G7AM07ILI.AW3138.NGLANDC.G901	G901 - Land Services - White	0
G7AM07ILI.AW3138.NGLANDC.LANNA	Not Assigned - Land Services	0
G7AM07ILI.AW3138.NGCONPC	030 - CONSTRUCTION SERVICES – PIPELINE	1,229,258
G7AM07ILI.AW3138.NGCONPC.G631	G631 - Field Environmental and Erosion Control	0
G7AM07ILI.AW3138.NGCONPC.G820	G820 - Mob/Demob	0
G7AM07ILI.AW3138.NGCONPC.G821	G821 - Clearing and Grubbing	0
G7AM07ILI.AW3138.NGCONPC.G822	G822 - Rock Excavation	0
G7AM07ILI.AW3138.NGCONPC.G825	G825 - Conventional Bore - Dirt	0
G7AM07ILI.AW3138.NGCONPC.G826	G826 - Conventional Bore - Rock	0
G7AM07ILI.AW3138.NGCONPC.G827	G827 - Directional Drill – Dirt	0
G7AM07ILI.AW3138.NGCONPC.G828	G828 - Directional Drill – Rock	0
G7AM07ILI.AW3138.NGCONPC.G829	G829 - Conventional Upland Lay	16,580
G7AM07ILI.AW3138.NGCONPC.G830	G830 - Conventional Wetland Lay	0
G7AM07ILI.AW3138.NGCONPC.G831	G831 - High Water Table	0
G7AM07ILI.AW3138.NGCONPC.G832	G832 - Civil or General Conditions	1,212,678

G7AM07ILI.AW3138.NGCONPC.G833	G833 - Hydro Test and Caliper Tool Run	0
G7AM07ILI.AW3138.NGCONPC.G834	G834 - Commissioning	0
G7AM07ILI.AW3138.NGCONPC.G835	G835 - Clean-up	0
G7AM07ILI.AW3138.NGCONPC.G836	G836 - Stand-By - Pipeline	0
G7AM07ILI.AW3138.NGCONPC.G837	G837 - AC/CP	0
G7AM07ILI.AW3138.NGCONPC.G902	G902 - CS Pipeline - White	0
G7AM07ILI.AW3138.NGCONPC.CONPNA	Not Assigned - Construction Services - Pipeline	0
G7AM07ILI.AW3138.NGCONFC	040 - CONSTRUCTION SERVICES – FACILITY	8,061,969
G7AM07ILI.AW3138.NGCONFC.G632	G632 - Field Environmental and Erosion Control	397,819
G7AM07ILI.AW3138.NGCONFC.G850	G850 - Mob/Demob	221,314
G7AM07ILI.AW3138.NGCONFC.G851	G851 - Site Preparation	274,321
G7AM07ILI.AW3138.NGCONFC.G852	G852 - Concrete, Paving and Gravel	315,230
G7AM07ILI.AW3138.NGCONFC.G853	G853 - Building Erection	0
G7AM07ILI.AW3138.NGCONFC.G854	G854 - Fabrication	1,048,164
G7AM07ILI.AW3138.NGCONFC.G855	G855 - Installation	4,752,194
G7AM07ILI.AW3138.NGCONFC.G856	G856 - Security, Fire Alarm, Instrumentation and Controls	334,011
G7AM07ILI.AW3138.NGCONFC.G857	G857 - Fencing	159,035
G7AM07ILI.AW3138.NGCONFC.G858	G858 - Tie-In	53,104
G7AM07ILI.AW3138.NGCONFC.G859	G859 - Hydro Test	453,673
G7AM07ILI.AW3138.NGCONFC.G860	G860 - AC/CP	0
G7AM07ILI.AW3138.NGCONFC.G861	G861 - Commissioning	53,104
G7AM07ILI.AW3138.NGCONFC.G862	G862 - Stand-By - Facility	0
G7AM07ILI.AW3138.NGCONFC.G903	G903 - CS Facility - White	0
G7AM07ILI.AW3138.NGCONFC.CONFNA	Not Assigned - Construction Services - Facility	0
G7AM07ILI.AW3138.NGREMPG	050 - CONSTRUCTION RETIREMENT	0
G7AM07ILI.AW3138.NGREMPG.G823	G823 - Abandon in Place Pipe	0
G7AM07ILI.AW3138.NGREMPG.G824	G824 - Removal of Pipe	232,401
G7AM07ILI.AW3138.NGREMPG.G863	G863 - Station Retirement	0
G7AM07ILI.AW3138.NGREMPG.G904	G904 - Construction Retirement - White	0
G7AM07ILI.AW3138.NGREMPG.CONRNA	Not Assigned - Construction Retirement	(232,401)
G7AM07ILI.AW3138.NGILIPC	060 - INLINE INSPECTION PROGRAM	0
G7AM07ILI.AW3138.NGILIPC.G870	G870 - Row Clearing	0
G7AM07ILI.AW3138.NGILIPC.G871	G871 - Validation Digs	0
G7AM07ILI.AW3138.NGILIPC.G872	G872 - Retrofits	0
G7AM07ILI.AW3138.NGILIPC.G873	G873 - Anomalies	0
G7AM07ILI.AW3138.NGILIPC.G906	G906 - Inline Inspection Program - White	0
G7AM07ILI.AW3138.NGILIPC.ILINA	Not Assigned - Inline Inspection Program	0
G7AM07ILI.AW3138.NGFITSC	070 - FIELD INSPECTION AND TESTING	1,489,603
G7AM07ILI.AW3138.NGFITSC.G880	G880 - Construction Inspection	1,489,603
G7AM07ILI.AW3138.NGFITSC.G881	G881 - Non-Destructive Testing	0
G7AM07ILI.AW3138.NGFITSC.G882	G882 - Safety	0
G7AM07ILI.AW3138.NGFITSC.G883	G883 - Environmental	0
G7AM07ILI.AW3138.NGFITSC.G905	G905 - Field Inspection and Testing - White	0
G7AM07ILI.AW3138.NGFITSC.FITNA	Not Assigned - Field Inspection and Testing	0
G7AM07ILI.AW3138.NGMATEC	080 - MATERIALS AND EQUIPMENT	4,093,283
G7AM07ILI.AW3138.NGMATEC.G201	G201 - Inventory – Materials	94,005
G7AM07ILI.AW3138.NGMATEC.G202	G202 - Non-Inventory Parts / Materials	1,156,329
G7AM07ILI.AW3138.NGMATEC.G204	G204 - Materials – Contractors	0
G7AM07ILI.AW3138.NGMATEC.G205	G205 - Materials – MRC	(75,757)
G7AM07ILI.AW3138.NGMATEC.G907	G907 - Material & Inspection - White	0
G7AM07ILI.AW3138.NGMATEC.MAT001	MAT001 - Material Allocations	(163)
G7AM07ILI.AW3138.NGMATEC.MAT002	MAT002 - Stores Loading	92,926
G7AM07ILI.AW3138.NGMATEC.MATNA	Not Assigned - Materials and Equipment	2,740,725
G7AM07ILI.AW3138.NGMPGL	090 - DUKE LABOR	585,780
G7AM07ILI.AW3138.NGMPGL.DL001	DL001 - Labor	233,083
G7AM07ILI.AW3138.NGMPGL.DL002	DL002 - Labor Loader	0

G7AM07ILI.AW3138.NGMPGL.DL003	DL003 - Overtime	0
G7AM07ILI.AW3138.NGMPGL.DL004	DL004 - Overhead Labor - Allocation	264,703
G7AM07ILI.AW3138.NGMPGL.G101	G101 - Project Support Labor	70,924
G7AM07ILI.AW3138.NGMPGL.DLNA	Not Assigned - Internal Labor	16,759
G7AM07ILI.AW3138.NGMOTH	100 - OTHER	17,104
G7AM07ILI.AW3138.NGMOTH.OTHNA	Not Assigned - Other	0
G7AM07ILI.AW3138.NGMOTH.OTH001	OTH001 - Other	17,104
G7AM07ILI.AW3138.NGMOVH	110 - OVERHEAD	2,122,550
G7AM07ILI.AW3138.NGMOVH.OVHNA	Not Assigned - Overhead	0
G7AM07ILI.AW3138.NGMOVH.OVH001	OVH001 - Overhead	2,122,550
G7AM07ILI.AW3138.NGMAFD	120 - AFUDC	712,041
G7AM07ILI.AW3138.NGMAFD.ACCTG	ACCTG - AFUDC	712,041
G7AM07ILI.AW3138.NGMAFD.AFUDCNA	Not Assigned - AFUDC	0
G7AM07ILI.AW3138.NGCONT	130 - CONTINGENCY	0
G7AM07ILI.AW3138.NGCONT.CONT001	CONT001 - Contingency	0
G7AM07ILI.AW3138.NGEXCEP	140 - EXCEPTION	0
G7AM07ILI.AW3138.NGEXCEP.EXCEP001	EXCEP001 - Exception	0

AM07 Phase 2					
Actual Spend					
Project Cost Breakdown					
Revision: 9/23/2025		Capital Improvement and Retirement		Retirement	
WBS 1 Description			Pipeline	Pipe Abandonment	
NGENGNC	Engineering	\$ 3,086,611	\$ 3,086,611		
NGLANDC	Land Acquisition & Support	\$ 4,687,594	\$ 4,687,594		
NGMATEC	Materials/Equipment	\$ 4,973,512	\$ 4,973,512		
NGCONPC	Construction Serv - Pipeline	\$ 24,899,242	\$ 23,579,195	\$ 1,320,047	
NGCONFC	Construction Serv - Facility	\$ 665,827	\$ 665,827		
NGFITSC	Field Inspections	\$ 3,082,243	\$ 3,082,243		
NGMPGL	PNG Labor	\$ 1,013,241	\$ 1,013,241		
NGMOTH	Other Direct Costs	\$ 16,840	\$ 16,840		
Subtotal Direct Cost		\$ 42,425,110	\$ 41,105,063	\$ 1,320,047	
	Project Contingency				
	Project Escalation				
Total Contingency & Escalation		\$ -	\$ -	\$ -	
Total Direct Cost		\$ 42,425,110	\$ 41,105,063	\$ 1,320,047	
NGMPGL	AFUDC Debt	\$ 1,564,265	\$ 1,564,265		
NGMOVH	Overhead and Allocations	\$ 5,563,527	\$ 5,563,527		
Total PNG Overhead Cost		\$ 7,127,792	\$ 7,127,792	\$ -	
Project Total		\$ 49,552,902	\$ 48,232,855	\$ 1,320,047	

Notes:

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Actuals Summary

Project: G7AM07IL2 Posted to CPR Line AM07 Pipeline Replacement Phase 2 Project Period: 202508

Path ID	Name	Production Cost
G7AM07IL2	(Posted to CPR) Line AM07 - Pipeline Replacement - Phase 2	49,553,913
G7AM07IL2.CP1	Level 1 Placeholder	49,553,913
G7AM07IL2.CP1.NGENGNC	010 - ENGINEERING	3,086,611
G7AM07IL2.CP1.NGENGNC.G630	G630 - Field Environmental Costs	171,313
G7AM07IL2.CP1.NGENGNC.G663	G663 - Transmission – Temporary Land	0
G7AM07IL2.CP1.NGENGNC.G801	G801 - Pre-Design Activities	7,446
G7AM07IL2.CP1.NGENGNC.G802	G802 - Route Development	27,885
G7AM07IL2.CP1.NGENGNC.G803	G803 - Project Management	41,798
G7AM07IL2.CP1.NGENGNC.G804	G804 - Records Research	0
G7AM07IL2.CP1.NGENGNC.G805	G805 - Estimate and Scoping	0
G7AM07IL2.CP1.NGENGNC.G806	G806 - Land Survey	601,546
G7AM07IL2.CP1.NGENGNC.G807	G807 - Land Acquisition Support (Engineering)	83,709
G7AM07IL2.CP1.NGENGNC.G808	G808 - Other Permitting	9,103
G7AM07IL2.CP1.NGENGNC.G809	G809 - Geotechnical Services	110,083
G7AM07IL2.CP1.NGENGNC.G810	G810 - Design - Pipeline	278,197
G7AM07IL2.CP1.NGENGNC.G811	G811 - Design - Facility	(169,961)
G7AM07IL2.CP1.NGENGNC.G812	G812 - Cathodic Protection	265,907
G7AM07IL2.CP1.NGENGNC.G813	G813 - Bid Package Development	9,261
G7AM07IL2.CP1.NGENGNC.G814	G814 - Construction Support (Engineering)	896,392
G7AM07IL2.CP1.NGENGNC.G815	G815 - As-Built Survey	748,789
G7AM07IL2.CP1.NGENGNC.G816	G816 - Project Close-Out	5,143
G7AM07IL2.CP1.NGENGNC.G900	G900 - Engineering - White	0
G7AM07IL2.CP1.NGENGNC.ENGNA	Not Assigned - Engineering	0
G7AM07IL2.CP1.NGLANDC	020 - LAND SERVICES	4,687,594
G7AM07IL2.CP1.NGLANDC.G301	G301 - Contract Labor - Legal	586,136
G7AM07IL2.CP1.NGLANDC.G656	G656 - Construction Support - Land	1,273,736
G7AM07IL2.CP1.NGLANDC.G661	G661 - Transmission - Land Purchase	3,644,989
G7AM07IL2.CP1.NGLANDC.G662	G662 - Transmission - Land Rights	2,116,423
G7AM07IL2.CP1.NGLANDC.G901	G901 - Land Services - White	0
G7AM07IL2.CP1.NGLANDC.LANNA	Not Assigned - Land Services	(2,933,690)
G7AM07IL2.CP1.NGCONPC	030 - CONSTRUCTION SERVICES – PIPELINE	23,556,906
G7AM07IL2.CP1.NGCONPC.G631	G631 - Field Environmental and Erosion Control	66,469
G7AM07IL2.CP1.NGCONPC.G820	G820 - Mob/Demob	474,618
G7AM07IL2.CP1.NGCONPC.G821	G821 - Clearing and Grubbing	291,232
G7AM07IL2.CP1.NGCONPC.G822	G822 - Rock Excavation	1,164,278
G7AM07IL2.CP1.NGCONPC.G825	G825 - Conventional Bore - Dirt	168,661
G7AM07IL2.CP1.NGCONPC.G826	G826 - Conventional Bore - Rock	1,478,901
G7AM07IL2.CP1.NGCONPC.G827	G827 - Directional Drill – Dirt	0
G7AM07IL2.CP1.NGCONPC.G828	G828 - Directional Drill – Rock	3,813,010
G7AM07IL2.CP1.NGCONPC.G829	G829 - Conventional Upland Lay	9,192,903
G7AM07IL2.CP1.NGCONPC.G830	G830 - Conventional Wetland Lay	0
G7AM07IL2.CP1.NGCONPC.G831	G831 - High Water Table	26,413
G7AM07IL2.CP1.NGCONPC.G832	G832 - Civil or General Conditions	4,923,368
G7AM07IL2.CP1.NGCONPC.G833	G833 - Hydro Test and Caliper Tool Run	834,384
G7AM07IL2.CP1.NGCONPC.G834	G834 - Commissioning	810,330
G7AM07IL2.CP1.NGCONPC.G835	G835 - Clean-up	0
G7AM07IL2.CP1.NGCONPC.G836	G836 - Stand-By - Pipeline	0
G7AM07IL2.CP1.NGCONPC.G837	G837 - AC/CP	312,340
G7AM07IL2.CP1.NGCONPC.G902	G902 - CS Pipeline - White	0

G7AM07IL2.CP1.NGCONPC.CONPNA	Not Assigned - Construction Services - Pipeline	0
G7AM07IL2.CP1.NGCONFC	040 - CONSTRUCTION SERVICES – FACILITY	665,827
G7AM07IL2.CP1.NGCONFC.G632	G632 - Field Environmental and Erosion Control	23,187
G7AM07IL2.CP1.NGCONFC.G850	G850 - Mob/Demob	0
G7AM07IL2.CP1.NGCONFC.G851	G851 - Site Preparation	0
G7AM07IL2.CP1.NGCONFC.G852	G852 - Concrete, Paving and Gravel	51,523
G7AM07IL2.CP1.NGCONFC.G853	G853 - Building Erection	0
G7AM07IL2.CP1.NGCONFC.G854	G854 - Fabrication	29,357
G7AM07IL2.CP1.NGCONFC.G855	G855 - Installation	207,304
G7AM07IL2.CP1.NGCONFC.G856	G856 - Security, Fire Alarm, Instrumentation and Controls	40,382
G7AM07IL2.CP1.NGCONFC.G857	G857 - Fencing	63,896
G7AM07IL2.CP1.NGCONFC.G858	G858 - Tie-In	12,602
G7AM07IL2.CP1.NGCONFC.G859	G859 - Hydro Test	80,649
G7AM07IL2.CP1.NGCONFC.G860	G860 - AC/CP	141,475
G7AM07IL2.CP1.NGCONFC.G861	G861 - Commissioning	15,451
G7AM07IL2.CP1.NGCONFC.G862	G862 - Stand-By - Facility	0
G7AM07IL2.CP1.NGCONFC.G903	G903 - CS Facility - White	0
G7AM07IL2.CP1.NGCONFC.CONFNA	Not Assigned - Construction Services - Facility	0
G7AM07IL2.CP1.NGREMPC	050 - CONSTRUCTION RETIREMENT	1,342,336
G7AM07IL2.CP1.NGREMPC.G823	G823 - Abandon in Place Pipe	453,307
G7AM07IL2.CP1.NGREMPC.G824	G824 - Removal of Pipe	207,497
G7AM07IL2.CP1.NGREMPC.G863	G863 - Station Retirement	0
G7AM07IL2.CP1.NGREMPC.G904	G904 - Construction Retirement - White	0
G7AM07IL2.CP1.NGREMPC.CONRNA	Not Assigned - Construction Retirement	681,048
G7AM07IL2.CP1.NGILIPC	060 - INLINE INSPECTION PROGRAM	0
G7AM07IL2.CP1.NGILIPC.G870	G870 - Row Clearing	0
G7AM07IL2.CP1.NGILIPC.G871	G871 - Validation Digs	0
G7AM07IL2.CP1.NGILIPC.G872	G872 - Retrofits	0
G7AM07IL2.CP1.NGILIPC.G873	G873 - Anomalies	0
G7AM07IL2.CP1.NGILIPC.G906	G906 - Inline Inspection Program - White	0
G7AM07IL2.CP1.NGILIPC.ILINA	Not Assigned - Inline Inspection Program	0
G7AM07IL2.CP1.NGFITSC	070 - FIELD INSPECTION AND TESTING	3,082,243
G7AM07IL2.CP1.NGFITSC.G880	G880 - Construction Inspection	2,823,215
G7AM07IL2.CP1.NGFITSC.G881	G881 - Non-Destructive Testing	225,625
G7AM07IL2.CP1.NGFITSC.G882	G882 - Safety	0
G7AM07IL2.CP1.NGFITSC.G883	G883 - Environmental	33,403
G7AM07IL2.CP1.NGFITSC.G905	G905 - Field Inspection and Testing - White	0
G7AM07IL2.CP1.NGFITSC.FITNA	Not Assigned - Field Inspection and Testing	0
G7AM07IL2.CP1.NGMATEC	080 - MATERIALS AND EQUIPMENT	4,973,512
G7AM07IL2.CP1.NGMATEC.G201	G201 - Inventory – Materials	64,345
G7AM07IL2.CP1.NGMATEC.G202	G202 - Non-Inventory Parts / Materials	1,137,527
G7AM07IL2.CP1.NGMATEC.G204	G204 - Materials – Contractors	0
G7AM07IL2.CP1.NGMATEC.G205	G205 - Materials – MRC	3,577,649
G7AM07IL2.CP1.NGMATEC.G907	G907 - Material & Inspection - White	0
G7AM07IL2.CP1.NGMATEC.MAT001	MAT001 - Material Allocations	774
G7AM07IL2.CP1.NGMATEC.MAT002	MAT002 - Stores Loading	226,040
G7AM07IL2.CP1.NGMATEC.MATNA	Not Assigned - Materials and Equipment	(32,823)
G7AM07IL2.CP1.NGMPGL	090 - DUKE LABOR	1,013,241
G7AM07IL2.CP1.NGMPGL.DL001	DL001 - Labor	241,934
G7AM07IL2.CP1.NGMPGL.DL002	DL002 - Labor Loader	0
G7AM07IL2.CP1.NGMPGL.DL003	DL003 - Overtime	0
G7AM07IL2.CP1.NGMPGL.DL004	DL004 - Overhead Labor - Allocation	573,198
G7AM07IL2.CP1.NGMPGL.G101	G101 - Project Support Labor	188,611
G7AM07IL2.CP1.NGMPGL.DLNA	Not Assigned - Internal Labor	9,499
G7AM07IL2.CP1.NGMOTH	100 - OTHER	16,840
G7AM07IL2.CP1.NGMOTH.OTHNA	Not Assigned - Other	269
G7AM07IL2.CP1.NGMOTH.OTH001	OTH001 - Other	16,571
G7AM07IL2.CP1.NGMOVH	110 - OVERHEAD	5,564,538

	G7AM07IL2.CP1.NGMOVH.OVHNA	Not Assigned - Overhead	0
	G7AM07IL2.CP1.NGMOVH.OVH001	OVH001 - Overhead	5,564,538
	G7AM07IL2.CP1.NGMAFD	120 - AFUDC	1,564,265
	G7AM07IL2.CP1.NGMAFD.ACCTG	ACCTG - AFUDC	1,564,265
	G7AM07IL2.CP1.NGMAFD.AFUDCNA	Not Assigned - AFUDC	0
	G7AM07IL2.CP1.NGCONT	130 - CONTINGENCY	0
	G7AM07IL2.CP1.NGCONT.CONT001	CONT001 - Contingency	0
	G7AM07IL2.CP1.NGEXCEP	140 - EXCEPTION	0
	G7AM07IL2.CP1.NGEXCEP.EXCEP001	EXCEP001 - Exception	0

Object Path ID	Resource Type Path ID	Start Date	End Date	Curve ID	Cost	Currency	Transaction Date	External Key
OPP-000XXX.CP1.NGCONFC		1/1/2023	5/1/2026	3Y-NGCONFC	\$ 2,205,000			
OPP-000XXX.CP1.NGCONPC		1/1/2023	5/1/2026	3Y-NGCONPC	\$ 23,420,300			
OPP-000XXX.CP1.NGCONT		1/1/2023	5/1/2026	3Y-NGCONT	\$ 6,419,800			
OPP-000XXX.CP1.NGENGNC		1/1/2023	5/1/2026	3Y-NGENGNC	\$ 2,325,100			
OPP-000XXX.CP1.NGFITSC		1/1/2023	5/1/2026	3Y-NGFITSC	\$ 2,003,200			
OPP-000XXX.CP1.NGLANDC		1/1/2023	5/1/2026	3Y-NGLANDC	\$ 2,756,400			
OPP-000XXX.CP1.NGMAFD		1/1/2023	5/1/2026	3Y-NGMAFD	\$ 1,832,200			
OPP-000XXX.CP1.NGMATEC		1/1/2023	5/1/2026	3Y-NGMATEC	\$ 4,839,200			
OPP-000XXX.CP1.NGMOTH		1/1/2023	5/1/2026	3Y-NGMOTH	\$ 128,000			
OPP-000XXX.CP1.NGMOVH		1/1/2023	5/1/2026	3Y-NGMOVH	\$ 5,182,400			
OPP-000XXX.CP1.NGMPGL		1/1/2023	5/1/2026	3Y-NGMPGL	\$ 514,000			

Master Input Data		
Description	User Input	Notes
Estimate Revision Number	F-Initiate 60% Refresh	Change number on each draft to be sent out
Ecosys Opportunity Number	OPP-000XXX	Need to complete from Ecosys for Charter estimates.
Project Name	Line AM07 Phase 3	
Date:	5/15/2024	Update with each revision
Length of Indicative Schedule in Years	3	This is required for Ecosys spend curves. Need to put 1, 2, or 3.
Customer	Duke Energy/PNG	
City / County / Township	Erlanger	
State	Kentucky	
Project manager	Kelsey Pace/B.Seiter	
Modeler	System Planning	
Lead Estimator	Benton Jones	Person who does the estimate
Total Project Schedule	40	1 Year Project - 17 months 2 Year Project - 35 months 3 Year Project - 46 months
Engineering Project Schedule	22	1 Year Project - 5 months 2 Year Project - 15 months 3 Year Project - 16 months
Construction Project Schedule	10	1 Year Project - 4 months 2 Year Project - 9 months 3 Year Project - 10 months
Estimate Requested By	PM	
Rate Requested		firm, interruptible, etc.
Hourly Flow (MCFH)		change unit of measure as needed
Delivery Pressure (PSIG)		
Resource Center	GD70-Kentucky	Select from the Drop-down list
Estimate Type	Class 4	
Length of Pipeline	15,528 LF	Enter the overall pipe line footage.
Pipe Size	24"	
Escalation (in Years)	0	Years until start date (not in-service date) (Put '0' if project is kicking off within 6 months)
Escalation Rate (%)	2.5%	Rate of Escalation (use '0' only for commit and build gates)
Contingency (%)	15%	Contingency %
Start Date	1/1/2023	*Either start date from Ecosys or leave as 1/1/2022 for 2022 charters
In-Service Date	11/30/2025	*This will auto-populate when total project schedule is completed
Close-Out Date	5/1/2026	*This will auto-populate when total project schedule is completed
Ecosys In-Service Date	2/1/2026	*From Ecosys for Charters **IF HIGHLIGHTED RED THEN NOT FEASIBLE, CONTACT CHARTER GROUP**

PMCoE Estimate Uncertainty

Cell requires user entry

Project Name: Line AM07 Phase 3 Date: 5/15/2024

Next Stage Gate: Initiate Minimum Class: Class 4

PMCoE Estimate Uncertainty Tool					
Informed Range		Cost Description	Best Case	Estimate Value	Worst Case
- %	+ %		(Optimistic: O)	(Most Likely: ML)	(Pessimistic: P)
-30%	50%	Engineering	\$ 1,627,570	\$ 2,325,100	\$ 3,487,650
-30%	50%	Land	\$ 1,929,480	\$ 2,756,400	\$ 4,134,600
-30%	50%	Materials/Equipment	\$ 3,387,440	\$ 4,839,200	\$ 7,258,800
-30%	50%	Construction Services	\$ 17,937,710	\$ 25,625,300	\$ 38,437,950
-30%	50%	Field Inspections & Testing	\$ 1,129,450	\$ 1,613,500	\$ 2,420,250
-30%	50%	PNG Labor	\$ 359,800	\$ 514,000	\$ 771,000
-30%	50%	Other	\$ 89,600	\$ 128,000	\$ 192,000
-30%	50%	AFUDC	\$ 1,282,540	\$ 1,832,200	\$ 2,748,300
-30%	50%	Overhead & Allocations	\$ 3,627,680	\$ 5,182,400	\$ 7,773,600
Sub Total			\$ 31,371,270	\$ 44,816,100	\$ 67,224,150

A. Cumulative Risk EMV	\$ -
B. Estimate Uncertainty PERT ((O+P+(ML*4))/6)-ML	\$ 1,493,870
C. Contingency (A+B)	\$ 1,493,870

	\$ 31,371,270	\$ 46,309,970	\$ 67,224,150
	Best Case	Expected Case	Worst Case
Project Informed Range	-32%		45%
Certainty*	P10	P50	P90

* P10 and P90 are representative values, but not statistically proven by this methodology. These values do not include any Risk EMV and are shown to allow the project to assess if their Project Informed Range is aligned with the AACEI Class of Estimate expectations.

AACEI Estimate Class Reference:

Class	Typical Methodology	Low Range	High Range
5	Capacity Factored. Parametric Models. Judgement, or Analogy	-20%	30%
		-50%	100%
4	Equipment Factored. Parametric Models.	-15%	20%
		-30%	50%
3	Semi-Detailed Unit Costs with Assembly Level Line Items.	-10%	10%
		-20%	30%
2	Detailed Unit Cost with Detailed Take-Off.	-5%	5%
		-15%	20%
1	Detailed Unit Cost with Detailed Take-Off.	-3%	3%
		-10%	15%

Line AM07 Phase 3 Funding Breakdown 5/15/2024		
Description	Budget	
Contract Labor	\$ 31,173,000	External Engineering, Construction Services, Field Inspection & Testing, Escalation
Material Purchased by PNG	\$ 4,839,200	Major Equipment and Testing
PNG Labor	\$ 514,000	Internal Engineering and Construction Management
Land (Permanent Only)	\$ 1,753,100	Permanent Land purchases only
Other	\$ 602,900	Land Rights (temporary land, land services, etc), Other Direct Costs - travel, meals, hotel, misc expenses
Sub-Total	\$ 38,882,200	
Contingency	\$ 5,728,800	Contingency
Sub-Total	\$ 44,611,000	
AFUDC	\$ -	By Finance
Overheads	\$ -	By Finance
Total	\$ 44,611,000	
Start Date	1/1/2023	By Project Manager
In-Service Date	11/30/2025	From Project Charter or Project Mgr.
Completion Date	2/1/2026	From Estimating
*ENSURE DISTRIBUTION COSTS HAVE BEEN REMOVED FROM ABOVE		

Line AM07 Phase 3

Notes and Assumptions

5/15/2024

Estimate Revision:

F-Initiate 60% Refresh

1. Charter SOW:

Phase 3 (of 5 Phases) includes the following:

- *Perform detailed engineering to support replacement of approximately 18,870 feet (3.6 miles) of 24" pipe designed for a pressure of 1000 psig.
- *Install new 24" steel pipeline that starts in the vicinity of coordinates [39° 1'33.74"N, 84°30'29.44"W] and ends at the North side of the I-275 crossing near Licking Pk. and ties into the piping to utilize existing I-275 crossing.
- *Abandon Line AM07 along this section.
- *Address remaining farm taps.
- *Preliminary proposed pipeline route that was field reviewed by Implementation is included in attachment. Right of Way (ROW) reclamation will be required.

The following stations / branches have been identified as being impacted by the new line. Add isolation valves at each tap (as discussed with System Planning in 30/60/90 meetings) to assist in future upgrades of the regulator stations. Any major upgrades needed for these assets (with exceptions noted below) to operate at a 1000 psig MAOP will be handled by separate charters to be submitted at a future date:

1. Station 713 - Reconnect station inlet
2. Station 734 - Reconnect station inlet (UL06)
3. Station 859 - Reconnect station inlet
4. Station 804 - Reconnect station inlet
5. UL26 tap - Reconnect branch or extend distribution main and transfer services off of UL26

2. Estimate assumes AC Mitigation is not required
3. Estimate assumes basic environmental control design.
4. A Routing factor has not been assumed for the pipeline.
5. Estimate assumes SCADA is not included
6. Estimate assumes that a laydown yard is required.
7. Estimate assumes that traffic control is required.
8. Estimate assumes 20% Rock

Rev. C - Charter Refresh

1. Pipe length reduced to 10,491 LF

Rev. D - Initiate Gate

1. Line AM07 Pipe length increased to 15,528 LF
2. 816.24 LF of pipe routing for UL16 has been added to scope
3. 3,222.36 LF of pipe routing for UL06 has been added to scope
4. I-275 Covington Regulator Station has been added to scope

Rev E - Refresh

1. Construction to occur 2025. Escalation is added to the estimate per the push of the schedule. As of the date of this estimate, no Material Purchase Orders have been established.
2. Estimate revision assumes Engineering costs totaling \$1,951,032 per Project PO's on Charge Project AW6387. Burns & McDonnell PO 10973347 (~~\$1,911,498~~), Geotechnology Inc. PO 10686168 (\$4,000), HDR Engineering PO 10703525-CO1 (\$34,535). ~~Estimate assumes a third party contractor for MAOP Verification which is estimated.~~
3. Revision assumes Land Services Costs of \$438,384 per Percheron PO 11055449. Land acquisition costs for easements is estimated.
4. Revision updates rates per schedule push and indicative costs.

Rev F-Initiate Gate Refresh-Scope Adjustments:

Scope of Work Adjustments: The email image on this page details the new Pipeline Footages and modes of Pipelay per Burns & McDonnell 60% Route Study. Wholesale re-routes were required in the Taylor & Taylor Mill Developments (AM07). This estimate revision assumes the results of this Route Study as basis for the new costs in this estimate. Also, changes in scope have developed in Environmental & Control Measures due to slopes in terrain in varied areas including the new Covington Station. This estimate revision assumes Covington Station will require additional costs for Site Prep & Retaining Wall. Material quantities are adjusted per the 60% Design Alignment Set

1. Estimate revision assumes a Burns & McDonnell Engineering Change Order (PO 10973347-CO3) total cost of \$2,285,273.
2. Estimate Revision assumes a Geotechnology Inc. PO #10686168 to total \$5,000 (Original \$4,000).
3. Estimate revision assumes a Material Cost of \$11,581 per Cornerstone PO 11561076 (Relief Valve).
4. Estimate revision assumes a Rail Permitting Cost of \$67,510 per Schneider Engineering PO 11600198.

5. Estimate revision assumes Escalation only applied to Construction Services per existing Engineering at 60% and Material Procurement has started.
6. Estimate revision assumes MAOP Verification is included in the Burns & McDonnell Costs per PO 10973347.
7. Estimate revision assumes 20" UL06 Hydrotest & Commissioning cost to be a part of the 24" AM07 Hydrotest.

This is to document the changes requested in the estimate from reviews.

Piedmont Natural Gas Line AM07 Phase 3 Estimate Change Log								
Revision: F-Initiate 60% Refresh								
Item	Revision	Date	Description	Price Before Change	Price After Change	Change Amount	Change Directed By:	Estimate Changed By:
1	A	6/18/2020	Original Estimate Was for total Length of Line AM07 then it was split into only 3 phases	\$0	\$0	\$0	Charter	G. Long
2	B	8/3/2020	Split into 5 phases: 18,870 LF	\$0	\$47,210,100	\$47,210,100	Charter	K. Gillow
3	C	7/17/2021	10,491 LF	\$47,210,100	\$34,045,100	-\$13,165,000	Charter	K. Gillow
4	D	6/16/2023	Initiate Gate: Line AM07 Pipe length increased to 15,528 LF. UL06 and UL16 routes were added. Station was added.	\$34,045,100	\$50,894,400	\$16,849,300	Charter	G. Long
5	E	12/13/2023	Initiate Gate Refresh: Rates adjusted per push in schedule. Escalation is added for 1 Year.	\$50,894,400	\$58,051,500	\$7,157,100	B. Seiter	Benton Jones
6	F	5/15/2024	Initiate Gate Scope Change-Amended route with additional station construction requirements-quantities per 60% Design Alignment Set. Adjustments per assumptions that some Construction Services with Laydown, Hydro and Commisioning are covered with other Phases of AM07 Projects.	\$58,051,500	\$51,625,600	-\$6,425,900	B. Seiter/K. Pace	Benton Jones
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Line AM07 Phase 3									
Erlanger									
Project Cost Breakdown									
GD70-Kentucky									
5/15/2024									
Revision: F-Initiate 60% Refresh		Capital Improvement and Retirement	Capital Improvement					Retirement	
			Size / Name	24" / Line AM07	20" / UL06	8" / UL16	Covington I-275 Regulator Station	Existing Line AM07	
			Length / Qty	17,770 LF	1,430 LF	548 LF		10,419'	
			WBS 1	Description	Total	Pipelay 1	Pipelay 2	Pipelay 3	Station 1
NGENGNC	Engineering	\$ 2,325,100	\$ 2,182,200	\$ 1,182,200	\$ 285,700	\$ 142,900	\$ 571,400	\$ 142,900	
NGLANDC	Land - Permanent	\$ 1,753,100	\$ 1,753,100	\$ 1,500,000	\$ 144,000	\$ 21,600	\$ 87,500	\$ -	
NGLANDC	Land - Temporary	\$ 474,900	\$ 474,900	\$ 406,200	\$ 30,000	\$ 17,500	\$ 21,200	\$ -	
NGLANDC	Land - Support	\$ 438,400	\$ 438,400	\$ 238,400	\$ 90,000	\$ 10,000	\$ 100,000	\$ -	
NGLANDC	Land Legal	\$ 90,000	\$ 90,000	\$ 60,000	\$ 30,000	\$ -	\$ -	\$ -	
NGMATEC	Materials/Equipment	\$ 4,839,200	\$ 4,833,200	\$ 3,910,700	\$ 407,500	\$ 78,100	\$ 436,900	\$ 6,000	
NGCONPC	Construction Serv - Pipeline	\$ 23,420,300	\$ 23,024,300	\$ 20,960,100	\$ 1,368,100	\$ 696,100		\$ 396,000	
NGCONFC	Construction Serv - Facility	\$ 2,205,000	\$ 2,205,000				\$ 2,205,000		
NGFITSC	Field Inspections	\$ 1,613,500	\$ 1,558,000	\$ 1,257,700	\$ 82,100	\$ 41,800	\$ 176,400	\$ 55,500	
NGFITSC	Field Testing	\$ 389,700	\$ 389,700	\$ 314,500	\$ 20,600	\$ 10,500	\$ 44,100	\$ -	
NGMPGL	Duke Labor	\$ 514,000	\$ 494,000	\$ 174,000	\$ 120,000	\$ 120,000	\$ 80,000	\$ 20,000	
NGMOTH	Other Direct Costs	\$ 128,000	\$ 124,000	\$ 44,000	\$ 20,000	\$ 20,000	\$ 40,000	\$ 4,000	
	Subtotal Direct Cost	\$ 38,191,200	\$ 37,566,800	\$ 30,047,800	\$ 2,598,000	\$ 1,158,500	\$ 3,762,500	\$ 624,400	
	Project Contingency	\$ 5,728,800	\$ 5,635,100	\$ 4,507,200	\$ 389,700	\$ 173,800	\$ 564,400	\$ 93,700	
	Project Escalation	\$ 691,000	\$ 679,700	\$ 563,400	\$ 36,800	\$ 18,800	\$ 60,700	\$ 11,300	
	Total Contingency & Escalation	\$ 6,419,800	\$ 6,314,800	\$ 5,070,600	\$ 426,500	\$ 192,600	\$ 625,100	\$ 105,000	
	Total Direct Cost	\$ 44,611,000	\$ 43,881,600	\$ 35,118,400	\$ 3,024,500	\$ 1,351,100	\$ 4,387,600	\$ 729,400	
NGMAFD	AFUDC Debt	\$ 1,832,200	\$ 1,832,200	\$ 1,465,400	\$ 126,800	\$ 56,500	\$ 183,500	\$ -	
NGMOVH	Overhead and Allocations	\$ 5,182,400	\$ 5,081,100	\$ 4,060,500	\$ 325,300	\$ 171,400	\$ 523,900	\$ 101,300	
	Total PNG Overhead Cost	\$ 7,014,600	\$ 6,913,300	\$ 5,525,900	\$ 452,100	\$ 227,900	\$ 707,400	\$ 101,300	
	Project Total	\$ 51,625,600	\$ 50,794,900	\$ 40,644,300	\$ 3,476,600	\$ 1,579,000	\$ 5,095,000	\$ 830,700	

- Notes:
1. Contingency is not included on escalation.
 2. Overheads and Allocations calculated using 14% of Total Direct Cost less Land Purchase, Materials/Equipment and FERC cost.
 3. AFUDC calculated using 5.75% of total Direct Cost. (No AFUDC on Retirement Cost.)
 4. Project Escalation is assumed for 1 Year at 2.5%.

Line AM07 Phase 3						
5/15/2024		24"		Revision # F-Initiate 60% Refresh		
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	PNG Labor	40	Month	\$ 4,350	\$ 174,000	
OTH001	Other Direct Cost	40	Month	\$ 1,100	\$ 44,000	
Sub-Total - Internal E&CM					\$	218,000
External Engineering						
G801	Burns & McDonnell PO 10973347 CO3 (Partial)	1	Lump Sum	\$ 1,142,637	\$ 1,142,637	
G803	HDR Engineering PO 10703525	1	Lump Sum	\$ 34,535	\$ 34,535	
G804	Records Research	0	Hour	\$ 125	\$ -	
G805	Estimating & Scoping	0	Hour	\$ 125	\$ -	
G806	Land Survey	0	Hour	\$ 125	\$ -	
G807	Land Acquisition Support (Engineering)	0	Hour	\$ 125	\$ -	
G808	Environmental Services & Permitting	0	Hour	\$ 125	\$ -	
G809	Geotechnology Inc. PO 10686168 (HDD Study)	1	Lump Sum	\$ 5,000	\$ 5,000	
G810	Design - Pipeline	0	Hour	\$ 125	\$ -	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G812	Cathodic Protection	0	Hour	\$ 125	\$ -	
G813	Bid Package Development	0	Hour	\$ 125	\$ -	
G814	Construction Support	0	Hour	\$ 125	\$ -	
G815	As-Built Survey	0	Hour	\$ 125	\$ -	
G815	Project Close-out	0	Hour	\$ 125	\$ -	
G663	MAOP	0	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	1,182,200
Land Services						
G661	Transmission - Fee Purchase - Rural	0	Acre	\$ -	\$ -	
G661	Transmission - Fee Purchase - Urban		Acre	\$ 125,000	\$ -	
G662	Transmission - Permanent Easements - Rural	0	Acre	\$ -	\$ -	
G662	Transmission - Permanent Easements - Urban	10	Acre	\$ 150,000	\$ 1,500,000	
G662	Transmission - Stations Easements - Rural	0	Acre	\$ -	\$ -	
G662	Transmission - Stations Easements - Urban	0	Acre	\$ 175,000	\$ -	
G663	Transmission - Temporary Easements - Rural	0	Acre	\$ -	\$ -	
G663	Transmission - Temporary Easements - Urban	10	Acre	\$ 31,250	\$ 312,500	
G662 PA	Transmission - Access Roads	4	Each	\$ 10,000	\$ 40,000	
G663	Transmission - Laydown Yard	12	Months	\$ 4,200	\$ 50,400	
G656	Transmission - Damages	1	Per Parcel	\$ 3,250	\$ 3,300	
G656	Transmission - Additional Damages	0	Acre	\$ -	\$ -	
G301	Contract Labor - Land Services (Percheron PO)	1	Lump Sum	\$ 238,384	\$ 238,400	
G301	Contract Labor - Legal	2	Per Parcel	\$ 30,000	\$ 60,000	
Sub-Total - Land Services					\$	2,204,600
Construction Services - Pipeline						
		17770	Overall LF of Pipe installed			
820	Mob/Demob	1	Lump Sum	\$ 1,905,462	\$ 1,905,462	
821	Clearing and Grubbing	20	acre	\$ 40,250	\$ 805,000	
821	Tree Cutting Only/No Grubbing	0	acre	\$ -	\$ -	
829	Conventional Upland Lay	15726	Linear Foot	\$ 565	\$ 8,885,190	
829	Conventional Upland Lay (Residential)	0	Linear Foot	\$ -	\$ -	
830	Conventional Wetland Lay	0	Linear Foot	\$ -	\$ -	
825	Conventional Bore - Dirt	0	Linear Foot	\$ -	\$ -	
826	Conventional Bore - Rock	296	Linear Foot	\$ 4,325	\$ 1,280,200	
827	Directional Drill - Dirt		Linear Foot	\$ -	\$ -	

828	Directional Drill – Rock (Updated Rate per Phase 2 Cost)	1748	Linear Foot	\$ 1,900	\$ 3,321,200	
828	SCAR Guard Application	1748	Linear Foot	\$ 170	\$ 297,160	
822	Rock Excavation – Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation – Mechanical	771	Cubic Yard	\$ 275	\$ 212,025	
829	Anomoly Dig	0	Each	\$ -	\$ -	
829	Retrofit Cost	0	Linear Foot	\$ -	\$ -	
829	Material Verification	0	Each	\$ 18,000	\$ -	
829	Bore Pit	2	Each	\$ 54,139	\$ 108,278	
829	Extra Depth Ditch	0	Per 1 ft depth / LF	\$ 40	\$ -	
829	Padding – Job Site	0	Linear Foot	\$ -	\$ -	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	1543	Linear Foot	\$ 20	\$ 30,860	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon (AC Mitigation)	17770	Linear Foot	\$ 19	\$ 337,630	
837	Anode Bed	1	Each	\$ 20,400	\$ 20,400	
835	Temporary Clean-up / Temporary Stabilization	15726	Linear Foot	\$ 14	\$ 220,164	
833	Hydro Test	19518	Lump Sum	\$ 32	\$ 624,576	
833	Hydro Water Testing	0	Lump Sum	\$ 25,000	\$ -	
834	Commissioning	17770	Lump Sum	\$ 3	\$ 53,310	
837	Re-coating of Exposed Pipe (Hand Application)	0	Linear Foot	\$ -	\$ -	
837	Re-coating of Exposed Pipe (Spray Application)	0	Linear Foot	\$ -	\$ -	
837	Armor Plate	0	Linear Foot	\$ -	\$ -	
829	Daylight Existing Utilities (Pot Holing)	10	Lump Sum	\$ 1,500	\$ 15,000	
829	AirVac/Hydro Vac Excavation	0	Cubic Foot	\$ -	\$ -	
829	Pipe Rack Construction (Dirt/Sand Berm)	0	Lump Sum	\$ -	\$ -	
829	Transition Of Bevels	0	Each	\$ -	\$ -	
837	Test Station Installation	5	Each	\$ 1,000	\$ 5,000	
829	Temporary Stabilization	0	Linear Foot	\$ -	\$ -	
630	Silt Fence (metal post & wire backing)	15726	Linear Foot	\$ 16	\$ 251,616	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Super Silt Fence (metal post & chainlink fence backing)	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Double Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Triple Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Premier Coconut Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Premier Straw/Coconut Blanket with Staples	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	Square Yard	\$ -	\$ -	
630	Rip Rap Placement	0	Ton	\$ -	\$ -	
630	Gravel Placement	100	Ton	\$ 67	\$ 6,700	
630	Geo Textile Fabric	350	Square Yard	\$ 7	\$ 2,450	
630	Safety Fence	800	linear ft	\$ 7	\$ 5,600	
630	Culvert Pipe (CMP)	0	Inch Dia per LF	\$ -	\$ -	
630	Sack Breakers	0	Each	\$ -	\$ -	
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -	
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -	
630	Foam Breakers	0	Each	\$ -	\$ -	
630	Construction (Timber) Mats	100	Linear Foot (Width)	\$ 700	\$ 70,000	
630	Laminated (Truck) Mats	0	Linear Foot (Width)	\$ -	\$ -	
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -	
630	Permanent Seeding (seed straw, and tack)	871200	Square Foot	\$ 0.10	\$ 87,120	

630	Intermediate Seeding (seed straw, and tack)	871200	Square Foot	\$ 0.07	\$ 60,984	
630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ -	\$ -	
630	Sod	0	SF	\$ -	\$ -	
630	Straw Wattle 9" x 10'	0	Each	\$ -	\$ -	
630	Sediment Log 8"	0	Each	\$ -	\$ -	
630	Sediment Log 10"	0	Each	\$ -	\$ -	
630	Sediment Log 12"	0	Each	\$ -	\$ -	
630	Sediment Log 20"	0	Each	\$ -	\$ -	
630	Erosion Eel 10"	0	Each	\$ -	\$ -	
630	Erosion Eel 12"	0	Each	\$ -	\$ -	
630	Erosion Eel 14"	0	Each	\$ -	\$ -	
630	Erosion Eel 20"	0	Each	\$ -	\$ -	
630	Permanent Waterbar Installation	0	Each	\$ -	\$ -	
630	Temporary Waterbar Installation	0	Each	\$ -	\$ -	
630	Filtration Sediment Bags 10' x 15'	0	Each	\$ -	\$ -	
630	Dewater Structure	0	Lump Sum	\$ -	\$ -	
630	Clear Water Diversion Pit	0	Lump Sum	\$ -	\$ -	
630	Stabilized Construction Entrance 20'W x 50'L x 6"D	4	Each	\$ 4,500	\$ 18,000	
831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	0	Each	\$ -	\$ -	
832	Chain Link Fence & Gates – New	0	Linear Foot	\$ -	\$ -	
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Roads	0	Linear Foot	\$ -	\$ -	
832	Temporary Access Roads	3000	Linear Foot	\$ 145	\$ 435,000	
832	Top Soil	0	Ton	\$ -	\$ -	
832	Asphalt Removal	0	Square Foot	\$ -	\$ -	
832	Asphalt Restoration	0	Square Foot	\$ -	\$ -	
832	Sheet Piling	0	Day	\$ -	\$ -	
832	Ditch Shoring	0	Day	\$ 5,000	\$ -	
832	Road Plates (10' Long)	0	Each	\$ 750	\$ -	
832	Trench Boxes	0	Day	\$ -	\$ -	
832	Traffic Control (Flaggers)	45	Day	\$ 5,000	\$ 225,000	
832	Traffic Control (Signage)	90	Day	\$ 100	\$ 9,000	
832	Traffic Control (Barriers)	90	Day	\$ 100	\$ 9,000	
832	Flowable Fill	0	Cubic Yard	\$ -	\$ -	
832	Noise Reduction Barriers	0	Day	\$ -	\$ -	
837	Rectifier/Groundbed (CP)	1	Each	\$ 45,000	\$ 45,000	
837	ACVG Testing (less than 10 miles)	0	Mile	\$ 9,000	\$ -	
837	ACVG Testing (greater than 10 miles)	3	Mile	\$ 6,000	\$ 17,400	
	MLV Installation	1	Each	\$ 347,030	\$ 347,030	
	MLV Foundations	1	Each	\$ 7,500	\$ 7,500	
	SCADA for MLV Sites	1	Each	\$ 100,000	\$ 100,000	
	Electrical/Controls for MLV Sites	1	Each	\$ 50,000	\$ 50,000	
	Security for MLV Sites	1	Each	\$ 21,000	\$ 21,000	
	L/R Installation	0	Each	\$ -	\$ -	
	L/R Foundations	0	Each	\$ 30,000	\$ -	
	Painting & Waxing Flanges	1	Lump Sum	\$ 25,000	\$ 25,000	
	Staging & Laydown Yard	5	Acre	\$ 65,000	\$ 325,000	
	Railway Crossings	0	Each	\$ 20,000	\$ -	
	Civil or General Conditions (Rail Permitting)	1	Lump Sum	\$ 67,510	\$ 67,510	
	Stoppel Pit	4	Each	\$ 40,000	\$ 160,000	
	Contractor Tap Support	4	Each	\$ 10,750	\$ 43,000	
	TDW - Hot Tap	0	Each	\$ -	\$ -	
	TDW - Tap & Stop	4	Each	\$ 74,100	\$ 296,400	

	TDW - Bypass	2	Each	\$ 21,800	\$ 43,600	
	HDD Geo-analytical Design	1	Each	\$ 60,000	\$ 60,000	
	HDD Mudd Disposal	1748	Linear Foot	\$ 17	\$ 29,716	
	HDD Mudd Engineer	1	Per HDD	\$ 20,000	\$ 20,000	
Sub-Total - Construction Services - Pipeline					\$ 20,960,100	
Field Inspection & Testing						
G880	Construction Inspection	1497	Man-Days	\$ 840	\$ 1,257,606	
G881	Non-Destructive Testing	157	Days	\$ 2,000	\$ 314,402	
Sub-Total - Field Inspection & Testing					\$ 1,572,100	
Major Equipment & Materials						
	Pipe					
G205	24" Standard Wall, X52, Coated, DRL	17770	Linear Foot	\$ 120	\$ 2,132,400	
G205	24" Standard Wall, X52, Powercrete	0	Linear Foot	\$ 124	\$ -	
G205	24" Standard Wall, X52, Bare	120	Linear Foot	\$ 112	\$ 13,440	
	Fittings					
G205	24" 3R - 45 deg ell - Segmentable	20	Each	\$ 1,500	\$ 30,000	
G205	24" 3R - 90 deg ell - Segmentable	20	Each	\$ 8,029	\$ 160,580	
	Equipment					
G204	24" TDW Stopple	4	Each	\$ 44,300	\$ 177,200	
G204	24" TDW Spherical Tee	0	Each	\$ -	\$ -	
G204	24" L/R Module	0	Each	\$ -	\$ -	
G204	24" MLV Module	1	Each	\$ 252,030	\$ 252,030	
	Miscellaneous					
	Annode Bed Material	1	Each	\$ 20,000	\$ 20,000	
	Rectifier/Groundbed Material (CP)	1	Each	\$ 45,000	\$ 45,000	
	AC Mitigation Material	1	Each	\$ 75,000	\$ 75,000	
G204	SCAR Guard	1748	Linear Foot	\$ 170	\$ 297,160	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 320,281	\$ 320,281	
G205	Taxes & Freight (11% of All Material)	1	Calculated	\$ 387,540	\$ 387,540	
Sub-Total - Materials					\$ 3,910,700	
Sub-Total					\$ 30,047,700	
Escalation					\$ 563,400	
Contingency					\$ 4,507,200	
Pipeline Estimate Total					\$ 35,118,300	

Line AM07 Phase 3						
5/15/2024		24"		Revision # F-Initiate 60% Refresh		
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	PNG Labor	40	Month	\$ 3,000	\$ 120,000	
OTH001	Other Direct Cost	40	Month	\$ 500	\$ 20,000	
Sub-Total - Internal E&CM					\$	140,000
External Engineering						
G801	Burns & McDonnell PO 10973347 CO3 (Partial)	1	Lump Sum	\$ 142,830	\$ 142,830	
G802	Route Development	0	Hour	\$ 125	\$ -	
G803	Project Managemenet	0	Hour	\$ 125	\$ -	
G804	Records Research	0	Hour	\$ 125	\$ -	
G805	Estimating & Scoping	0	Hour	\$ 125	\$ -	
G806	Land Survey	0	Hour	\$ 125	\$ -	
G807	Land Acquisition Support (Engineering)	0	Hour	\$ 125	\$ -	
G808	Environmental Services & Permitting	0	Hour	\$ 125	\$ -	
G809	Geotechnical Services	0	Hour	\$ 125	\$ -	
G810	Design - Pipeline	0	Hour	\$ 125	\$ -	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G812	Cathodic Protection	0	Hour	\$ 125	\$ -	
G813	Bid Package Development	0	Hour	\$ 125	\$ -	
G814	Construction Support	0	Hour	\$ 125	\$ -	
G815	As-Built Survey	0	Hour	\$ 125	\$ -	
G815	Project Close-out	0	Hour	\$ 125	\$ -	
G663	MAOP	0	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	142,900
Land Services						
G661	Transmission - Fee Purchase - Rural	0	Acre	\$ 60,000	\$ -	
G661	Transmission - Fee Purchase - Urban	0	Acre	\$ -	\$ -	
G662	Transmission - Permanent Easements - Rural	0.3	Acre	\$ 72,000	\$ 21,600	
G662	Transmission - Permanent Easements - Urban	0	Acre	\$ -	\$ -	
G662	Transmission - Stations Easements - Rural	0	Acre	\$ 84,000	\$ -	
G662	Transmission - Stations Easements - Urban	0	Acre	\$ -	\$ -	
G663	Transmission - Temporary Easements - Rural	0.5	Acre	\$ 15,000	\$ 7,500	
G663	Transmission - Temporary Easements - Urban	0	Acre	\$ -	\$ -	
G662 PA	Transmission - Access Roads	1	Each	\$ 10,000	\$ 10,000	
G663	Transmission - Laydown Yard	0	Months	\$ 4,200	\$ -	
G656	Transmission - Damages	0	Per Parcel	\$ 3,250	\$ -	
G656	Transmission - Additional Damages	0	Acre	\$ -	\$ -	
G301	Contract Labor - Land Services (Percheron PO)	1	Lump Sum	\$ 10,000	\$ 10,000	
G301	Contract Labor - Legal	0	Per Parcel	\$ 30,000	\$ -	
Sub-Total - Land Services					\$	49,100
Construction Services - Pipeline						
820	Mob/Demob	1	Lump Sum	\$ 63,273	\$ 63,273	
821	Clearing and Grubbing	1	acre	\$ 40,250	\$ 40,250	
821	Tree Cutting Only/No Grubbing	1	acre	\$ 39,900	\$ 39,900	
829	8" Conventional Upland Lay	548	Linear Foot	\$ 285	\$ 156,180	
829	6" Conventional Upland Lay	79	Linear Foot	\$ 260	\$ 20,540	
830	Conventional Wetland Lay	0	Linear Foot	\$ 360	\$ -	
825	Conventional Bore - Dirt	0	Linear Foot	\$ -	\$ -	
826	Conventional Bore - Rock	0	Linear Foot	\$ -	\$ -	
827	Directional Drill - Dirt	0	Linear Foot	\$ -	\$ -	

828	Directional Drill – Rock	0	Linear Foot	\$ 1,140	\$ -	
828	SCAR Guard Application	0	Linear Foot	\$ 170	\$ -	
822	Rock Excavation – Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation – Mechanical	0	Cubic Yard	\$ 275	\$ -	
829	Anomoly Dig	0	Each	\$ -	\$ -	
829	Retrofit Cost	0	Linear Foot	\$ -	\$ -	
829	Material Verification	0	Each	\$ 18,000	\$ -	
829	Bore Pit	0	Each	\$ 54,139	\$ -	
829	Extra Depth Ditch	0	Per 1 ft depth / LF	\$ 40	\$ -	
829	Padding – Job Site	0	Linear Foot	\$ -	\$ -	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	0	Linear Foot	\$ 20	\$ -	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon (AC Mitigation)	0	Linear Foot	\$ 19	\$ -	
837	Anode Bed	0	Each	\$ 20,400	\$ -	
835	Temporary Clean-up / Temporary Stabilization	627	Linear Foot	\$ 14	\$ 8,778	
833	Hydro Test	1	Lump Sum	\$ 100,000	\$ 100,000	
833	Hydro Water Testing	0	Lump Sum	\$ 25,000	\$ -	
834	Commissioning	1	Lump Sum	\$ 20,000	\$ 20,000	
837	Re-coating of Exposed Pipe (Hand Application)	0	Linear Foot	\$ -	\$ -	
837	Re-coating of Exposed Pipe (Spray Application)	0	Linear Foot	\$ -	\$ -	
837	Armor Plate	0	Linear Foot	\$ -	\$ -	
829	Daylight Existing Utilities (Pot Holing)	1	Lump Sum	\$ 1,500	\$ 1,500	
829	AirVac/Hydro Vac Excavation	0	Cubic Foot	\$ -	\$ -	
829	Pipe Rack Construction (Dirt/Sand Berm)	0	Lump Sum	\$ -	\$ -	
829	Transition Of Bevels	0	Each	\$ -	\$ -	
837	Test Station Installation	1	Each	\$ 1,000	\$ 1,000	
829	Temporary Stabilization	0	Linear Foot	\$ -	\$ -	
630	Silt Fence (metal post & wire backing)	1254	Linear Foot	\$ 16	\$ 20,064	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Super Silt Fence (metal post & chainlink fence backing)	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Double Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Triple Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Premier Coconut Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Premier Straw/Coconut Blanket with Staples	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	Square Yard	\$ -	\$ -	
630	Rip Rap Placement	0	Ton	\$ -	\$ -	
630	Gravel Placement	0	Ton	\$ 67	\$ -	
630	Geo Textile Fabric	0	Square Yard	\$ 7	\$ -	
630	Safety Fence	400	linear ft	\$ 7	\$ 2,800	
630	Culvert Pipe (CMP)	0	Inch Dia per LF	\$ -	\$ -	
630	Sack Breakers	0	Each	\$ -	\$ -	
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -	
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -	
630	Foam Breakers	0	Each	\$ -	\$ -	
630	Construction (Timber) Mats	100	Linear Foot (Width)	\$ 700	\$ 70,000	
630	Laminated (Truck) Mats	0	Linear Foot (Width)	\$ -	\$ -	
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -	
630	Permanent Seeding (seed straw, and tack)	50000	Square Foot	\$ 0.10	\$ 5,000	
630	Intermediate Seeding (seed straw, and tack)	50000	Square Foot	\$ 0.07	\$ 3,500	

630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ -	\$ -	
630	Sod	0	SF	\$ -	\$ -	
630	Straw Wattle 9" x 10'	0	Each	\$ -	\$ -	
630	Sediment Log 8"	0	Each	\$ -	\$ -	
630	Sediment Log 10"	0	Each	\$ -	\$ -	
630	Sediment Log 12"	0	Each	\$ -	\$ -	
630	Sediment Log 20"	0	Each	\$ -	\$ -	
630	Erosion Eel 10"	0	Each	\$ -	\$ -	
630	Erosion Eel 12"	0	Each	\$ -	\$ -	
630	Erosion Eel 14"	0	Each	\$ -	\$ -	
630	Erosion Eel 20"	0	Each	\$ -	\$ -	
630	Permanent Waterbar Installation	0	Each	\$ -	\$ -	
630	Temporary Waterbar Installation	0	Each	\$ -	\$ -	
630	Filtration Sediment Bags 10' x 15'	0	Each	\$ -	\$ -	
630	Dewater Structure	0	Lump Sum	\$ -	\$ -	
630	Clear Water Diversion Pit	0	Lump Sum	\$ -	\$ -	
630	Stabilized Construction Entrance 20'W x 50'L x 6"D	1	Each	\$ 4,500	\$ 4,500	
831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	0	Each	\$ -	\$ -	
832	Chain Link Fence & Gates – New	0	Linear Foot	\$ -	\$ -	
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Roads	0	Linear Foot	\$ -	\$ -	
832	Temporary Access Roads	50	Linear Foot	\$ 145	\$ 7,250	
832	Top Soil	0	Ton	\$ -	\$ -	
832	Asphalt Removal	0	Square Foot	\$ -	\$ -	
832	Asphalt Restoration	0	Square Foot	\$ -	\$ -	
832	Sheet Piling	0	Day	\$ -	\$ -	
832	Ditch Shoring	0	Day	\$ 5,000	\$ -	
832	Road Plates (10' Long)	0	Each	\$ 750	\$ -	
832	Trench Boxes	0	Day	\$ -	\$ -	
832	Traffic Control (Flaggers)	0	Day	\$ 5,000	\$ -	
832	Traffic Control (Signage)	0	Day	\$ 100	\$ -	
832	Traffic Control (Barriers)	0	Day	\$ 100	\$ -	
832	Flowable Fill	0	Cubic Yard	\$ -	\$ -	
832	Noise Reduction Barriers	0	Day	\$ -	\$ -	
837	Rectifier/Groundbed (CP)	1	Each	\$ 10,000	\$ 10,000	
837	ACVG Testing (less than 10 miles)	1	Mile	\$ 9,000	\$ 9,000	
837	ACVG Testing (greater than 10 miles)	0	Mile	\$ 6,000	\$ -	
	MLV Installation	0	Each	\$ 273,884	\$ -	
	MLV Foundations	0	Each	\$ 7,500	\$ -	
	SCADA for MLV Sites	0	Each	\$ 100,000	\$ -	
	Electrical/Controls for MLV Sites	0	Each	\$ 50,000	\$ -	
	Security for MLV Sites	0	Each	\$ 21,000	\$ -	
	L/R Installation	0	Each	\$ -	\$ -	
	L/R Foundations	0	Each	\$ 30,000	\$ -	
	Painting & Waxing Flanges	0	Lump Sum	\$ 25,000	\$ -	
	Staging & Laydown Yard	0	Acre	\$ 65,000	\$ -	
	Railway Crossings	0	Each	\$ 20,000	\$ -	
	Civil or General Conditions	0	Lump Sum	\$ -	\$ -	
	8" Stopple Pit	1	Each	\$ 43,937	\$ 43,937	
	6" Stopple Pit	1	Each	\$ 32,494	\$ 32,494	
	8" Contractor Tap Support	1	Each	\$ 15,500	\$ 15,500	
	6" Contractor Tap Support	1	Each	\$ 15,440	\$ 15,440	
	8" TDW - Hot Tap	1	Each	\$ 2,550	\$ 2,550	

	6" TDW - Hot Tap	1	Each	\$ 2,550	\$ 2,550	
	TDW - Bypass	0	Each	\$ 21,800	\$ -	
	HDD Geo-analytical Design	0	Each	\$ 60,000	\$ -	
	HDD Mudd Disposal	0	Linear Foot	\$ 17	\$ -	
	HDD Mudd Engineer	0	Per HDD	\$ 20,000	\$ -	
Sub-Total - Construction Services - Pipeline					\$ 696,100	
Field Inspection & Testing						
G880	Construction Inspection	50	Man-Days	\$ 840	\$ 41,766	
G881	Non-Destructive Testing	5	Days	\$ 2,000	\$ 10,442	
Sub-Total - Field Inspection & Testing					\$ 52,300	
Major Equipment & Materials						
	Pipe					
G205	8" Standard Wall, X52, Coated, DRL	548	Linear Foot	\$ 54	\$ 29,592	
G205	6" Standard Wall, X52, Coated, DRL	80	Linear Foot	\$ 44	\$ 3,520	
G205	XX" Standard Wall, X52, Powercrete	0	Linear Foot	\$ -	\$ -	
G205	XX" Standard Wall, X52, Bare	0	Linear Foot	\$ -	\$ -	
	Fittings					
G205	8" 3R - 45 deg ell - Segmentable	0	Each	\$ -	\$ -	
G205	8" 3R - 90 deg ell - Segmentable	2	Each	\$ 764	\$ 1,528	
G205	6" 3R - 90 deg ell - Segmentable	2	Each	\$ 424	\$ 848	
	Equipment					
G204	8" TDW Spherical Tee (Requisition)	1	Each	\$ 7,403	\$ 7,403	
G204	6" TDW Spherical Tee (TDW PO 11581551)	1	Each	\$ 11,004	\$ 11,004	
G204	XX" L/R Module	0	Each	\$ -	\$ -	
G204	XX" MLV Module	0	Each	\$ -	\$ -	
	Miscellaneous					
	Annode Bed Material	0	Each	\$ 20,000	\$ -	
	Rectifier/Groundbed Material (CP)	1	Each	\$ 10,000	\$ 10,000	
	AC Mitigation Material	0	Each	\$ 75,000	\$ -	
G204	SCAR Guard	0	Linear Foot	\$ -	\$ -	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 6,390	\$ 6,390	
G205	Taxes & Freight (11% of All Material)	1	Calculated	\$ 7,731	\$ 7,731	
Sub-Total - Materials					\$ 78,100	
Sub-Total					\$ 1,158,500	
Escalation					\$ 18,800	
Contingency					\$ 173,800	
Pipeline Estimate Total					\$ 1,351,100	

Line AM07 Phase 3						
5/15/2024		24"		Revision # F-Initiate 60% Refresh		
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	PNG Labor	40	Month	\$ 3,000	\$ 120,000	
OTH001	Other Direct Cost	40	Month	\$ 500	\$ 20,000	
Sub-Total - Internal E&CM					\$	140,000
External Engineering						
G801	Burns & McDonnell PO 10973347 CO3 (Partial)	1	Lump Sum	\$ 285,659	\$ 285,659	
G802	Route Development	0	Hour	\$ 125	\$ -	
G803	Project Managemenet	0	Hour	\$ 125	\$ -	
G804	Records Research	0	Hour	\$ 125	\$ -	
G805	Estimating & Scoping	0	Hour	\$ 125	\$ -	
G806	Land Survey	0	Hour	\$ 125	\$ -	
G807	Land Acquisition Support (Engineering)	0	Hour	\$ 125	\$ -	
G808	Environmental Services & Permitting	0	Hour	\$ 125	\$ -	
G809	Geotechnical Services	0	Hour	\$ 125	\$ -	
G810	Design - Pipeline	0	Hour	\$ 125	\$ -	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G812	Cathodic Protection	0	Hour	\$ 125	\$ -	
G813	Bid Package Development	0	Hour	\$ 125	\$ -	
G814	Construction Support	0	Hour	\$ 125	\$ -	
G815	As-Built Survey	0	Hour	\$ 125	\$ -	
G815	Project Close-out	0	Hour	\$ 125	\$ -	
G663	MAOP	0	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	285,700
Land Services						
G661	Transmission - Fee Purchase - Rural	0	Acre	\$ 60,000	\$ -	
G661	Transmission - Fee Purchase - Urban	0	Acre	\$ -	\$ -	
G662	Transmission - Permanent Easements - Rural	2.0	Acre	\$ 72,000	\$ 144,000	
G662	Transmission - Permanent Easements - Urban	0	Acre	\$ -	\$ -	
G662	Transmission - Stations Easements - Rural	0	Acre	\$ 84,000	\$ -	
G662	Transmission - Stations Easements - Urban	0	Acre	\$ -	\$ -	
G663	Transmission - Temporary Easements - Rural	2.0	Acre	\$ 15,000	\$ 30,000	
G663	Transmission - Temporary Easements - Urban	0	Acre	\$ -	\$ -	
G662 PA	Transmission - Access Roads	0	Each	\$ 10,000	\$ -	
G663	Transmission - Laydown Yard	0	Months	\$ 4,200	\$ -	
G656	Transmission - Damages	0	Per Parcel	\$ 3,250	\$ -	
G656	Transmission - Additional Damages	0	Acre	\$ -	\$ -	
G301	Contract Labor - Land Services (Percheron PO)	1	Lump Sum	\$ 90,000	\$ 90,000	
G301	Contract Labor - Legal	1	Per Parcel	\$ 30,000	\$ 30,000	
Sub-Total - Land Services					\$	294,000
Construction Services - Pipeline						
820	Mob/Demob	1	Lump Sum	\$ 124,373	\$ 124,373	
821	Clearing and Grubbing	4	acre	\$ 40,250	\$ 161,000	
821	Tree Cutting Only/No Grubbing	0	acre	\$ -	\$ -	
829	Conventional Upland Lay	1430	Linear Foot	\$ 453	\$ 647,790	
829	Conventional Upland Lay (Residential)	0	Linear Foot	\$ -	\$ -	
830	Conventional Wetland Lay Adder	0	Linear Foot	\$ 360	\$ -	
825	Conventional Bore - Dirt	0	Linear Foot	\$ -	\$ -	
826	Conventional Bore - Rock	0	Linear Foot	\$ -	\$ -	
827	Directional Drill - Dirt	0	Linear Foot	\$ -	\$ -	

828	Directional Drill – Rock	0	Linear Foot	\$ 1,140	\$ -
828	SCAR Guard Application	0	Linear Foot	\$ 170	\$ -
822	Rock Excavation – Blasting	0	Cubic Yard	\$ -	\$ -
822	Rock Excavation – Mechanical	0	Cubic Yard	\$ 275	\$ -
829	Anomoly Dig	0	Each	\$ -	\$ -
829	Retrofit Cost	0	Linear Foot	\$ -	\$ -
829	Material Verification	0	Each	\$ 18,000	\$ -
829	Bore Pit	0	Each	\$ 54,139	\$ -
829	Extra Depth Ditch	0	Per 1 ft depth / LF	\$ 40	\$ -
829	Padding – Job Site	0	Linear Foot	\$ -	\$ -
829	Padding - Haul	0	Linear Foot	\$ -	\$ -
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -
822	Rock Shield	0	Linear Foot	\$ 20	\$ -
831	Saddle Bag Weight	0	Each	\$ -	\$ -
831	River Weight	0	Each	\$ -	\$ -
831	Concrete Coating	0	Linear Foot	\$ -	\$ -
837	Zinc Ribbon (AC Mitigation)	0	Linear Foot	\$ 19	\$ -
837	Anode Bed	0	Each	\$ 20,400	\$ -
835	Temporary Clean-up / Temporary Stabilization	1430	Linear Foot	\$ 14	\$ 20,020
833	Hydro Test (Lowered per part of AMO7 Cost)	1	Lump Sum	\$ 50,000	\$ 50,000
833	Hydro Water Testing	0	Lump Sum	\$ 25,000	\$ -
834	Commissioning (Lowered per part of AMO7 Cost)	1	Lump Sum	\$ 10,000	\$ 10,000
837	Re-coating of Exposed Pipe (Hand Application)	0	Linear Foot	\$ -	\$ -
837	Re-coating of Exposed Pipe (Spray Application)	0	Linear Foot	\$ -	\$ -
837	Armor Plate	0	Linear Foot	\$ -	\$ -
829	Daylight Existing Utilities (Pot Holing)	6	Lump Sum	\$ 1,500	\$ 9,000
829	AirVac/Hydro Vac Excavation	0	Cubic Foot	\$ -	\$ -
829	Pipe Rack Construction (Dirt/Sand Berm)	0	Lump Sum	\$ -	\$ -
829	Transition Of Bevels	0	Each	\$ -	\$ -
837	Test Station Installation	3	Each	\$ 1,000	\$ 3,000
829	Temporary Stabilization	0	Linear Foot	\$ -	\$ -
630	Silt Fence (metal post & wire backing)	2860	Linear Foot	\$ 16	\$ 45,760
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -
630	Super Silt Fence (metal post & chainlink fence backing)	0	Linear Foot	\$ -	\$ -
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Double Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Triple Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Premier Coconut Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Premier Straw/Coconut Blanket with Staples	0	Square Yard	\$ -	\$ -
630	Hydroseeding Temporary Stabilization	0	Square Yard	\$ -	\$ -
630	Hydroseeding Permanent Stabilization	0	Square Yard	\$ -	\$ -
630	Rip Rap Placement	0	Ton	\$ -	\$ -
630	Gravel Placement	0	Ton	\$ 67	\$ -
630	Geo Textile Fabric	0	Square Yard	\$ 7	\$ -
630	Safety Fence	200	linear ft	\$ 7	\$ 1,400
630	Culvert Pipe (CMP)	0	Inch Dia per LF	\$ -	\$ -
630	Sack Breakers	0	Each	\$ -	\$ -
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -
630	Foam Breakers	0	Each	\$ -	\$ -
630	Construction (Timber) Mats (Lowered per part of AMO7 Cost)	50	Linear Foot (Width)	\$ 700	\$ 35,000
630	Laminated (Truck) Mats	0	Linear Foot (Width)	\$ -	\$ -
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -
630	Permanent Seeding (seed straw, and tack)	107250	Square Foot	\$ 0.10	\$ 10,725
630	Intermediate Seeding (seed straw, and tack)	107250	Square Foot	\$ 0.07	\$ 7,508

630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ -	\$ -
630	Sod	0	SF	\$ -	\$ -
630	Straw Wattle 9" x 10'	0	Each	\$ -	\$ -
630	Sediment Log 8"	0	Each	\$ -	\$ -
630	Sediment Log 10"	0	Each	\$ -	\$ -
630	Sediment Log 12"	0	Each	\$ -	\$ -
630	Sediment Log 20"	0	Each	\$ -	\$ -
630	Erosion Eel 10"	0	Each	\$ -	\$ -
630	Erosion Eel 12"	0	Each	\$ -	\$ -
630	Erosion Eel 14"	0	Each	\$ -	\$ -
630	Erosion Eel 20"	0	Each	\$ -	\$ -
630	Permanent Waterbar Installation	0	Each	\$ -	\$ -
630	Temporary Waterbar Installation	0	Each	\$ -	\$ -
630	Filtration Sediment Bags 10' x 15'	0	Each	\$ -	\$ -
630	Dewater Structure	0	Lump Sum	\$ -	\$ -
630	Clear Water Diversion Pit	0	Lump Sum	\$ -	\$ -
630	Stabilized Construction Entrance 20'W x 50'L x 6"D	1	Each	\$ 4,500	\$ 4,500
831	Well Points	0	Each	\$ -	\$ -
832	Air Bridges	0	Each	\$ -	\$ -
832	Chain Link Fence & Gates – New	0	Linear Foot	\$ -	\$ -
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -
832	Permanent Access Roads	0	Linear Foot	\$ -	\$ -
832	Temporary Access Roads	50	Linear Foot	\$ 145	\$ 7,250
832	Top Soil	0	Ton	\$ -	\$ -
832	Asphalt Removal	0	Square Foot	\$ -	\$ -
832	Asphalt Restoration	0	Square Foot	\$ -	\$ -
832	Sheet Piling	0	Day	\$ -	\$ -
832	Ditch Shoring	0	Day	\$ 5,000	\$ -
832	Road Plates (10' Long)	0	Each	\$ 750	\$ -
832	Trench Boxes	0	Day	\$ -	\$ -
832	Traffic Control (Flaggers)	6	Day	\$ 5,000	\$ 30,000
832	Traffic Control (Signage)	12	Day	\$ 100	\$ 1,200
832	Traffic Control (Barriers)	12	Day	\$ 100	\$ 1,200
832	Flowable Fill	0	Cubic Yard	\$ -	\$ -
832	Noise Reduction Barriers	0	Day	\$ -	\$ -
837	Rectifier/Groundbed (CP)	1	Each	\$ 10,000	\$ 10,000
837	ACVG Testing (less than 10 miles)	1	Mile	\$ 9,000	\$ 9,000
837	ACVG Testing (greater than 10 miles)	0	Mile	\$ 6,000	\$ -
	MLV Installation	0	Each	\$ 273,884	\$ -
	MLV Foundations	0	Each	\$ 7,500	\$ -
	SCADA for MLV Sites	0	Each	\$ 100,000	\$ -
	Electrical/Controls for MLV Sites	0	Each	\$ 50,000	\$ -
	Security for MLV Sites	0	Each	\$ 21,000	\$ -
	L/R Installation	0	Each	\$ -	\$ -
	L/R Foundations	0	Each	\$ 30,000	\$ -
	Painting & Waxing Flanges	0	Lump Sum	\$ 25,000	\$ -
	Staging & Laydown Yard	0	Acre	\$ 65,000	\$ -
	Railway Crossings	0	Each	\$ 20,000	\$ -
	Civil or General Conditions	0	Lump Sum	\$ -	\$ -
	24" Stopple Pit	1	Each	\$ 54,139	\$ 54,139
	20" Stopple Pit	1	Each	\$ 54,139	\$ 54,139
	24" Contractor Tap Support	1	Each	\$ 21,273	\$ 21,273
	20" Contractor Tap Support	1	Each	\$ 21,273	\$ 21,273
	24" TDW - Hot Tap	1	Each	\$ 16,500	\$ 16,500

	20" TDW - Hot Tap	1	Each	\$ 12,050	\$ 12,050	
	TDW - Tap & Stop	0	Each	\$ -	\$ -	
	TDW - Bypass	0	Each	\$ -	\$ -	
	HDD Geo-analytical Design	0	Each	\$ 60,000	\$ -	
	HDD Mudd Disposal	0	Linear Foot	\$ 17	\$ -	
	HDD Mudd Engineer	0	Per HDD	\$ 20,000	\$ -	
Sub-Total - Construction Services - Pipeline					\$ 1,368,100	
Field Inspection & Testing						
G880	Construction Inspection	98	Man-Days	\$ 840	\$ 82,086	
G881	Non-Destructive Testing	10	Days	\$ 2,000	\$ 20,522	
Sub-Total - Field Inspection & Testing					\$ 102,700	
Major Equipment & Materials						
	Pipe					
G205	20" Standard Wall, X52, Coated, DRL	1440	Linear Foot	\$ 137	\$ 197,280	
G205	XX" Standard Wall, X52, Powercrete	0	Linear Foot	\$ -	\$ -	
G205	24" Standard Wall, X52, Bare	0	Linear Foot	\$ -	\$ -	
G205	20" Standard Wall, X52, Bare	0	Linear Foot	\$ -	\$ -	
	Fittings					
G205	20" 3R - 45 deg ell - Segmentable	6	Each	\$ 3,210	\$ 19,260	
G205	20" 3R - 90 deg ell - Segmentable	7	Each	\$ 2,197	\$ 15,379	
	Equipment					
G204	24" TDW Stopple (Requisition)	1	Each	\$ 52,146	\$ 52,146	
G204	20" TDW Stopple Kit (TDW PO 11581551)	1	Each	\$ 39,646	\$ 39,646	
G204	XX" L/R Module	0	Each	\$ -	\$ -	
G204	20" MLV Module	0	Each	\$ 194,300	\$ -	
	Miscellaneous					
	Annode Bed Material	0	Each	\$ 20,000	\$ -	
	Rectifier/Groundbed Material (CP)	1	Each	\$ 10,000	\$ 10,000	
	AC Mitigation Material	0	Each	\$ 75,000	\$ -	
G204	SCAR Guard	0	Linear Foot	\$ -	\$ -	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 33,371	\$ 33,371	
G205	Taxes & Freight (11% of All Material)	1	Calculated	\$ 40,379	\$ 40,379	
Sub-Total - Materials					\$ 407,500	
Sub-Total					\$ 2,598,000	
Escalation					\$ 36,800	
Contingency					\$ 389,700	
Pipeline Estimate Total					\$ 3,024,500	

Line AM07 Phase 3						
STATION						
5/15/2024 Revision # F-Initiate 60% Refresh						
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	PNG Labor	40	Month	\$ 2,000	\$ 80,000	
OTH001	Other Direct Cost	40	Month	\$ 1,000	\$ 40,000	
Sub-Total - Internal E&CM					\$	120,000
External Engineering						
G801	Burns & McDonnell PO 10973347 CO3 (Partial)	1	Lump Sum	\$ 571,318	\$ 571,318	
G802	Route Development	0	Hour	\$ 125	\$ -	
G803	Project Management	0	Hour	\$ 125	\$ -	
G804	Records Research	0	Hour	\$ 125	\$ -	
G805	Estimating & Scoping	0	Hour	\$ 125	\$ -	
G806	Land Survey	0	Hour	\$ 125	\$ -	
G807	Land Acquisition Support (Engineering)	0	Hour	\$ 125	\$ -	
G808	Environmental Services & Permitting	0	Hour	\$ 125	\$ -	
G809	Geotechnical Services	0	Hour	\$ 125	\$ -	
G810	Design - Pipeline	0	Hour	\$ 125	\$ -	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G812	Cathodic Protection	0	Hour	\$ 125	\$ -	
G813	Bid Package Development	0	Hour	\$ 125	\$ -	
G814	Construction Support	0	Hour	\$ 125	\$ -	
G815	As-Built Survey	0	Hour	\$ 125	\$ -	
G815	Project Close-out	0	Hour	\$ 125	\$ -	
G663	MAOP	0	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	571,400
Land Services						
G-661	Transmission - Fee Purchase - Rural	0	Acre	\$ -	\$ -	
G-661	Transmission - Fee Purchase - Urban	0	Acre	\$ 125,000	\$ -	
G-662	Transmission - Permanent Easements - Rural	0	Acre	\$ -	\$ -	
G-662	Transmission - Permanent Easements - Urban	0	Acre	\$ 150,000	\$ -	
G-662	Transmission - Stations Easements - Rural	0	Acre	\$ -	\$ -	
G-662	Transmission - Stations Easements - Urban	0.5	Acre	\$ 175,000	\$ 87,500	
G-663	Transmission - Temporary Easements - Rural	0	Acre	\$ -	\$ -	
G-663	Transmission - Temporary Easements - Urban	0.3	Acre	\$ 31,250	\$ 7,900	
G-662 PA/G-663 TA	Transmission - Access Roads	1	Each	\$ 10,000	\$ 10,000	
G-663	Transmission - Laydown Yard	0	Months	\$ 4,200	\$ -	
G-656	Transmission - Damages	1	Per Parcel	\$ 3,250	\$ 3,300	
G-656	Transmission - Additional Damages	0	Acre	\$ -	\$ -	
G-301	Contract Labor - Land Services (Per Percheron PO)	1	Per Parcel	\$ 100,000	\$ 100,000	
G-301	Contract Labor - Legal	0	Per Parcel	\$ 30,000	\$ -	
Sub-Total - Land Services					\$	208,700
Construction Services - Facility						
850	Mob/Demob	1	Lump Sum	\$ 200,453	\$ 200,453	
851	Site Prep	1	Lump Sum	\$ 250,000	\$ 250,000	
851	Clearing and Grubbing	0.8	acre	\$ 40,250	\$ 32,200	
851	Tree Cutting Only/No Grubbing	0	acre	\$ -	\$ -	
851	Rock Excavation - Blasting	0	Cubic Yard	\$ -	\$ -	
851	Rock Excavation - Mechanical	0	Cubic Yard	\$ -	\$ -	
852	Concrete, Paving and Gravel	1596	Cubic Foot	\$ 68	\$ 108,528	
853	Building Erection	1	Each	\$ 25,000	\$ 25,000	
854	Fabrication	30	Days	\$ 15,000	\$ 450,000	

855	Installation	36	Days	\$ 11,000	\$ 396,000	
856	Security, Fire Alarm, Instrumentation and Controls	1	Lump Sum	\$ 125,000	\$ 125,000	
857	Chain Link Fence & Gates – New	0	Linear Foot	\$ -	\$ -	
857	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
857	Landscaping Cost	1	Lump Sum	\$ 25,000	\$ 25,000	
858	Tie-In	0	Each	\$ -	\$ -	
859	Hydro Test	1	Lump Sum	\$ 175,000	\$ 175,000	
860	Zinc Ribbon / AC Mitigation	1	Lump Sum	\$ 75,000	\$ 75,000	
860	Anode Bed	1	Each	\$ 21,100	\$ 21,100	
861	Commissioning	1	Lump Sum	\$ 38,000	\$ 38,000	
851	AirVac/HydroVac Excavation	0	Per Day	\$ 1,250	\$ -	
855	Painting Above Ground Pipe (Hand Applied)	0	Lump Sum	\$ -	\$ -	
855	Spray Coat Application	1	Lump Sum	\$ 50,000	\$ 50,000	
630	Silt Fence (metal post & wire backing)	1200	Linear Foot	\$ 16	\$ 19,200	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	Square Yard	\$ -	\$ -	
630	Gravel Placement	500	Ton	\$ 68	\$ 34,000	
630	Geo Textile Fabric	625	Square Yard	\$ 8	\$ 5,000	
630	Safety Fence	200	linear ft	\$ 6	\$ 1,200	
630	Permanent Seeding (seed straw, and tack)	10000	Square Foot	\$ 0.10	\$ 1,000	
630	Intermediate Seeding (seed straw, and tack)	0	Square Foot	\$ -	\$ -	
630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ -	\$ -	
630	Sod	0	SF	\$ -	\$ -	
630	Sediment Log	0	Each	\$ -	\$ -	
630	Erosion Eel	0	Each	\$ -	\$ -	
831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	0	Each	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Road Entrance	1	Lump Sum	\$ 4,500	\$ 4,500	
832	Permanent Access Roads	100	Linear Foot	\$ 75	\$ 7,500	
832	Temporary Access Roads	0	Linear Foot	\$ -	\$ -	
832	Top Soil	0	Ton	\$ -	\$ -	
832	Asphalt Removal/Restoration	0	Square Foot	\$ -	\$ -	
832	Temporary Fence Panels	400	Linear Foot	\$ 20	\$ 8,000	
832	Shoring	0	Linear Foot	\$ -	\$ -	
832	Sheet Piling	0	Linear Foot	\$ -	\$ -	
832	Composite matting	0	Square Foot	\$ -	\$ -	
	DATA line for SCADA	1	Lump Sum	\$ 100,000	\$ 100,000	
	Station Security	1	Lump Sum	\$ 40,000	\$ 40,000	
	Contractor Tap Support	1	Each	\$ 10,750	\$ 10,750	
	TDW Tap	1	Each	\$ 2,550	\$ 2,550	
	TDW Tap & Stop	0	Each	\$ -	\$ -	
	TDW Bypass	0	Each	\$ -	\$ -	
	Civil and General Conditions	0	Lump Sum	\$ -	\$ -	
Sub-Total - Construction Services - Station					\$ 2,205,000	
Field Inspection & Testing						
G880	Construction Inspection	210	Man-Days	\$ 840	\$ 176,400	
G881	Non-Destructive Testing	22	Days	\$ 2,000	\$ 44,100	
Sub-Total - Field Inspection & Testing					\$ 220,500	
Major Equipment & Materials						
	Pipe					

G205	4" Standard Wall, X52, Bare	280	Linear Foot	\$ 26	\$ 7,280	
G205	4" Standard Wall, X52, FBE	280	Linear Foot	\$ 39	\$ 10,920	
G205	6" Standard Wall, X52, Bare	80	Linear Foot	\$ 34	\$ 2,720	
G205	6" Standard Wall, X52, FBE	160	Linear Foot	\$ 36	\$ 5,760	
	Major Equipment					
G204	4" WXXV Valves	3	Each	\$ 10,521	\$ 31,563	
G204	4" FXXV Valves	6	Each	\$ 3,982	\$ 23,892	
G204	6" WXXV Valves	1	Each	\$ 14,400	\$ 14,400	
G204	6" FXXV Valves	2	Each	\$ 4,680	\$ 9,360	
G204	XX" Actuators	0	Each	\$ -	\$ -	
G204	4" Filter	2	Each	\$ 12,240	\$ 24,480	
G204	3" Regulators	4	Each	\$ 7,497	\$ 29,988	
G204	XX" Control Valves	0	Each	\$ -	\$ -	
G204	4" x 6" Relief Valve (Cornerstone PO 11561076)	1	Each	\$ 11,581	\$ 11,581	
G204	4" Insulators	5	Each	\$ 2,840	\$ 14,200	
G204	6" Insulators	3	Each	\$ 3,620	\$ 10,860	
G204	0.1 MMBtu/Hr Heater	1	Each	\$ 89,700	\$ 89,700	
G204	Meter	0	Each	\$ -	\$ -	
G204	XX" Stopple	0	Each	\$ -	\$ -	
G204	24" Spherical (Removed-UL06 8" Spherical for Isolation)	0	Each	\$ -	\$ -	
	Miscellaneous					
	Cathodic Protection Supplies	1	Lump Sum	\$ 10,000	\$ 10,000	
	AC Mitigation Supplies	1	Lump Sum	\$ 40,000	\$ 40,000	
	ERX	0	Each	\$ 5,000	\$ -	
	Instrumentation	0	Each	\$ 25,000	\$ -	
	RTU	1	Each	\$ 21,100	\$ 21,100	
	RTU Building	0	Each	\$ -	\$ -	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 35,780	\$ 35,780	
G205	Taxes & Freight (11% of All Material)	1	Calculated	\$ 43,294	\$ 43,294	
Sub-Total - Materials					\$ 436,900	
Sub-Total					\$ 3,762,500	
Escalation					\$ 60,700	
Contingency					\$ 564,400	
Pipeline Estimate Total					\$ 4,387,600	

Line AM07 Phase 3						
5/15/2024		Retirement			Revision # F-Initiate 60% Refresh	
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	PNG Labor	40	Month	\$ 500	\$ 20,000	
OTH001	Other Direct Cost	40	Month	\$ 100	\$ 4,000	
Sub-Total - Internal E&CM					\$	24,000
External Engineering						
G810	Design - Pipeline Burns & McDonnell PO 10973347 CO3 (Partial)	1	Lump Sum	\$ 142,830	\$ 142,830	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G663	MAOP	1	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	142,900
Land Services						
G-663	Transmission - Temp Work Space - Rural	0	Acre	\$ 45,000	\$ -	
G-663	Transmission - Temp Work Space - Urban	0	Acre	\$ 5,000	\$ -	
G-662 PA/G-663 TA	Transmission - Access Roads	0	Each	\$ 10,000	\$ -	
G-301	Contract Labor - Land Services	0	Per Parcel	\$ 10,000	\$ -	
Sub-Total - Land Services					\$	-
Construction Services - Pipeline		0 Overall LF of Pipe to be Abandoned				
850	Mob/Demob	1	Lump Sum	\$ 36,000	\$ 36,000	
	Demo Equipment	5	Days	\$ 7,500	\$ 37,500	
823	Grouting of Abandoned Pipe	1	Cubic Yard	\$ -	\$ -	
824	Removal of Existing Pipeline	100	Linear Foot	\$ 2,125	\$ 212,500	
	Tar Coated Steel Remediation & Removal	10	Per Dig/Site	\$ 3,750	\$ 37,500	
	Install & Remove Flare + Mob/Demob	0	Lump Sum	\$ 50,000	\$ -	
	Methane Recapture	1	Lump Sum	\$ 25,000	\$ 25,000	
G863	Launcher/Receiver Removal	0	Each	\$ 75,000	\$ -	
G863	Small Station Removal	0	Each	\$ 35,000	\$ -	
G863	Medium Station Removal	0	Each	\$ 50,000	\$ -	
G863	Large Station Removal	0	Each	\$ 85,000	\$ -	
	Haul Materials	1	Per Site	\$ 10,000	\$ 10,000	
	Nitrogen Clearing	1	Lump Sum	\$ 25,000	\$ 25,000	
	Line Locating	1	Week	\$ 12,500	\$ 12,500	
	Contractor Tap Support	0	Days	\$ -	\$ -	
	Seeding	0	SF	\$ -	\$ -	
	Clean up	0	LF	\$ -	\$ -	
	TDW Tap	0	Each	\$ -	\$ -	
					\$	396,000
Field Inspection & Testing						
G880	Construction Inspection	66	Man-Days	\$ 840	\$ 55,440	
G881	Non-Destructive Testing	0	Days	\$ 2,000	\$ -	
Sub-Total - Field Inspection & Testing					\$	55,500
Major Equipment & Materials						
G205	Purge Materials	1	Lump Sum	\$ 5,000	\$ 5,000	
G204	Stopple	0	Each	\$ -	\$ -	
G204	Stopple	0	Each	\$ -	\$ -	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 500	\$ 500	
G205	Taxes & Freight (9% of All Material)	1	Calculated	\$ 495	\$ 495	

Sub-Total - Materials	\$ 6,000
Sub-Total	\$ 624,400
Escalation	\$ 11,300
Contingency	\$ 93,700
Pipeline Estimate Total	\$ 729,400

DropDown Values

Pipeline Length	Less than 2000 feet < 1 mile 1-5 miles > 5 miles
Retrofit Length	< 5 miles 5-10 miles > 10 miles
Yes/No	Yes No
Land	Urban Rural Suburban
Parcels	0 parcels < 20 parcels 20 - 50 parcels > 50 parcels
Vegetation Management	0-5% 6-33% 34%-66% 67%-100%
Zoning Type	Farmlands Existing Utility Right of Way Electric Right of Way Commercial/Industrial Parks & Recreation Residential Nature Preserves Mixed Use
4.2 Permit requirement	Open House Public Notice None of the above

Environmental Justice Assessment Trigger Questionnaire	
Date:	5/15/2024
Activity/Project Name:	Line AM07 Phase 3
Business Unit:	NGBU
Project Staff:	Major Projects
Activity/Project Scope or Description:	1. Charter SOW:Phase 3 (of 5 Phases) includes the following:*Perform detailed engineering to support r
The intent of this questionnaire is to identify Duke Energy projects /activities that might have significant environmental or community impacts or required regulatory approvals and/or that are located in or near communities of environmental justice (EJ) concern to further assess for potential EJ risks and planning.	
Review activity/project and answer the following questions:	Answer (Yes, No, Unknown)
Does the activity/project anticipate a public regulatory approval that may trigger EJ Assessment requirements? (i.e. federal permitting, NRC licensing, state Public Utility Commission approval) Transmission only, Should only apply to Ohio (OPSB) & Kentucky (CPCN).	
Does the activity/project anticipate creating significant new, modifying, or increasing discharge, emissions, or waste generation - either amount or type? Compressor Station, Permanent Flare, Heaters over 10 mmBTU/hr (not associated with Duke M&R), Station located near Paper Mill, Pellet, Concrete, Brick Plant, chemical (large emission or smell producing plants)	
Does the activity/project anticipate significant land use modification, land acquisition, easement acquisition and/or modifications to community aesthetics? Large Stations immediately outside or in the middle of developments, neighborhoods. 20+ miles of pipeline	
Does the activity/project trigger routing or site selection studies? OPSB, 20+ miles of pipeline, if charter states a routing/site selection study will be required	
Is the activity/project in a community with known, previous and/or on-going EJ concerns? ACP corridor, Tribal Lands, Known Opposition	
If the answer is "Yes" or "Unknown" to any of the questions above, consult with Environmental and External Engagement Staff (Nicole Kiser) to determine if an initial EJ Assessment is needed.	

Nat Gas Project Public Engagement Level-of-Risk Assessment

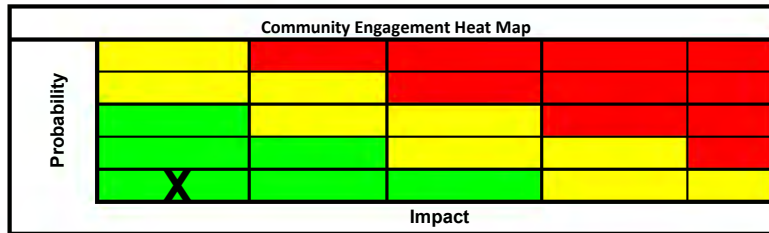
Charter/Project Name:		Date:			
Risk	Public Engagement Questionnaire	Response	Priority	Probability	Impact
1. Attributes					
1.1	New Natural Gas Pipeline Length (in new footprint) (miles) (system infrastructure growth)?	Less than 2000 feet		0	0
1.2	Replace or Retrofit Natural Gas Pipeline Length (miles)(Integrity project)? *	< 1 mile		0	0
1.3	New Regulator Station(s)/Launcher/Receiver?	No		0	0
1.4	Expanding the footprint of existing Regulator Station?	No		0	0
1.5	New Compressor Station(s)?	No		0	0
1.6	Expanding the footprint of existing Compressor Station?	No		0	0
1.7	Requires flaring?	No		0	0
2. Land					
2.1	Urban, Rural or Suburban?	Rural		0	0
2.2	New Easement acquisition required?	No		0	0
2.3	New Land acquisition required (in fee)?	No		0	0
2.4	Anticipated number of parcels to be purchased?	0 parcels		0	0
2.5	Amount of new Right of Way tree clearing required	0-5%		0	0
3. Environment, Historic, Archeological					
3.1	Crossing navigable waterways?	No		0	0
3.2	Larger environmentally sensitive areas? *	No		0	0
3.4	Sensitive, Protected, Historical Sites, Cultural Areas? (Not environmental)	No		0	0
3.5	Zoning Type? *	Existing Utility Right of Way		0	0
4. Additional Factors					
4.1	Past opposition from affected land owners and communities?	No		0	0
4.2	Permitting process requires :	None of the above		0	0
			Final Total	0	0

**Impact
Probabi**

*** Notes**

- 1.2 Response should be reflective of actual footage of construction not mileage researched
- 3.2 May not know environment sensitivity initially
- 3.2 Environmentally Sensitive - Named Environmental areas (shows up on a map with a name)
- 3.5 If entire project is in Utility ROW and no known preexisting opposition to construction in or near that ROW then the project can default to 'Yellow' or Green'

- Magnitude of stateholder opposition (Defined by cost, or reputation)
- ility - External stakeholder opposition



- 1 Notify Community Relations
- 2 Local Community Relations Engagenment at Project Initiation
- 3 Enable Strike Team 24 months prior to Project Kickoff

	Probability > 45, Impact <= 15	Probability > 45, 15< Impact <=28	Probability > 45, 28< Impact <=41	Probability > 45, 41 < Impact <=52	Probability > 45, Impact >52
	35< Probability <= 45, Impact <= 15	35<Probability <= 45, 15< Impact <= 28	35<Probability <= 45, 28< Impact <= 41	35<Probability <= 45, 41< Impact <= 52	35< Probability<= 45, Impact >52
	23 < Probability <= 35, Impact <= 15	23< Probability <=35, 15 < Impact <= 28	23< Probability <=35, 28< Impact <= 41	23<Probability <=35, 41< Impact <= 52	23< Probability<= 35, Impact >52
	12 < Probability <= 23, Impact <= 15	12< Probability <=23, 15 < Impact <= 28	12< Probability <=23, 28< Impact <= 41	12<Probability <=23, 41< Impact <= 52	12<Probability <=23, impact >52
	Probability <= 12, Impact <= 15	Probability <=12, 15 < Impact <= 28	Probability <=12, 28 < Impact <= 41	Probability <=12, 41< Impact <= 52	Probability <=12, Impact >52

	Projected	Cumulative	Cum. Charges	Monthly	Cumulative			
Month	Charges	Charges	for AFUDC	AFUDC	AFUDC			
Jan 2023		\$ -	\$ -	\$ -	\$ -	0.00%	0.00%	0.00%
Feb 2023	\$ -	\$ -	\$ -	\$ -	\$ -	3.00%	0.03%	0.00%
Mar 2023	\$ 3,757	\$ 3,757	\$ 1,878	\$ 9	\$ 9	4.00%	0.04%	0.01%
Apr 2023	\$ 3,757	\$ 7,513	\$ 5,635	\$ 27	\$ 36	4.50%	0.05%	0.01%
May 2023	\$ 3,757	\$ 11,270	\$ 9,392	\$ 45	\$ 81	3.00%	0.05%	0.01%
Jun 2023	\$ 7,513	\$ 18,783	\$ 15,027	\$ 72	\$ 153	3.75%	0.05%	0.02%
Jul 2023	\$ 7,513	\$ 26,297	\$ 22,540	\$ 108	\$ 261	4.25%	0.51%	0.02%
Aug 2023	\$ 22,540	\$ 48,837	\$ 37,567	\$ 180	\$ 441	4.00%	1.18%	0.06%
Sep 2023	\$ 137,119	\$ 185,956	\$ 117,396	\$ 563	\$ 1,004	4.88%	0.46%	0.37%
Oct 2023	\$ 103,309	\$ 289,264	\$ 237,610	\$ 1,139	\$ 2,142	15.25%	0.43%	0.28%
Nov 2023	\$ 229,157	\$ 518,422	\$ 403,843	\$ 1,935	\$ 4,077	18.50%	0.67%	0.61%
Dec 2023	\$ 225,401	\$ 743,823	\$ 631,122	\$ 3,024	\$ 7,101	16.00%	0.37%	0.60%
Jan 2024	\$ 1,314,838	\$ 2,058,661	\$ 1,401,242	\$ 6,714	\$ 13,816	10.50%	0.83%	3.50%
Feb 2024	\$ 1,314,838	\$ 3,373,499	\$ 2,716,080	\$ 13,015	\$ 26,830	4.88%	0.54%	3.50%
Mar 2024	\$ 939,170	\$ 4,312,669	\$ 3,843,084	\$ 18,415	\$ 45,245	1.50%	3.04%	2.50%
Apr 2024	\$ 2,441,842	\$ 6,754,511	\$ 5,533,590	\$ 26,515	\$ 71,760	1.25%	2.73%	6.50%
May 2024	\$ 751,336	\$ 7,505,847	\$ 7,130,179	\$ 34,165	\$ 105,925	0.50%	3.23%	2.00%
Jun 2024	\$ 375,668	\$ 7,881,515	\$ 7,693,681	\$ 36,866	\$ 142,791	0.25%	4.50%	1.00%
Jul 2024	\$ 589,799	\$ 8,471,313	\$ 8,176,414	\$ 39,179	\$ 181,970		5.30%	1.57%
Aug 2024	\$ 131,484	\$ 8,602,797	\$ 8,537,055	\$ 40,907	\$ 222,876		4.65%	0.35%
Sep 2024	\$ 202,861	\$ 8,805,658	\$ 8,704,228	\$ 41,708	\$ 264,584		8.06%	0.54%
Oct 2024	\$ 202,861	\$ 9,008,519	\$ 8,907,088	\$ 42,680	\$ 307,264		9.52%	0.54%
Nov 2024	\$ 657,419	\$ 9,665,938	\$ 9,337,228	\$ 44,741	\$ 352,005		10.05%	1.75%
Dec 2024	\$ 563,502	\$ 10,229,440	\$ 9,947,689	\$ 47,666	\$ 399,671		12.91%	1.50%
Jan 2025	\$ 563,502	\$ 10,792,942	\$ 10,511,191	\$ 50,366	\$ 450,037		14.08%	1.50%
Feb 2025	\$ 586,042	\$ 11,378,984	\$ 11,085,963	\$ 53,120	\$ 503,157		8.52%	1.56%
Mar 2025	\$ 4,883,684	\$ 16,262,668	\$ 13,820,826	\$ 66,225	\$ 569,382		3.22%	13.00%
Apr 2025	\$ 4,883,684	\$ 21,146,352	\$ 18,704,510	\$ 89,626	\$ 659,008		2.25%	13.00%
May 2025	\$ 3,756,680	\$ 24,903,032	\$ 23,024,692	\$ 110,327	\$ 769,334		1.38%	10.00%
Jun 2025	\$ 3,005,344	\$ 27,908,376	\$ 26,405,704	\$ 126,527	\$ 895,862		0.23%	8.00%
Jul 2025	\$ 3,005,344	\$ 30,913,720	\$ 29,411,048	\$ 140,928	\$ 1,036,790		0.12%	8.00%
Aug 2025	\$ 2,254,008	\$ 33,167,728	\$ 32,040,724	\$ 153,528	\$ 1,190,318		1.00%	6.00%
Sep 2025	\$ 2,629,676	\$ 35,797,404	\$ 34,482,566	\$ 165,229	\$ 1,355,547			7.00%
Oct 2025	\$ 751,336	\$ 36,548,740	\$ 36,173,072	\$ 173,329	\$ 1,528,876			2.00%
Nov 2025	\$ 375,668	\$ 36,924,408	\$ 36,736,574	\$ 176,029	\$ 1,704,906			1.00%
Dec 2025	\$ 187,834	\$ 37,112,242	\$ 37,018,325	\$ 177,379	\$ 1,882,285			0.50%
Jan 2026	\$ 18,783	\$ 37,131,025	\$ 37,121,633	\$ 177,874	\$ 2,060,160			0.05%
Feb 2026	\$ 18,783	\$ 37,149,809	\$ 37,140,417	\$ 177,964	\$ 2,238,124			0.05%
Mar 2026	\$ 11,270	\$ 37,161,079	\$ 37,155,444	\$ 178,037	\$ 2,416,161			0.03%
Apr 2026	\$ 11,270	\$ 37,172,349	\$ 37,166,714	\$ 178,091	\$ 2,594,251			0.03%
May 2026	\$ 3,757	\$ 37,176,105	\$ 37,174,227	\$ 178,127	\$ 2,772,378			0.01%
Jun 2026	\$ 3,757	\$ 37,179,862	\$ 37,177,984	\$ 178,145	\$ 2,950,522			0.01%
Jul 2026	\$ 3,757	\$ 37,183,619	\$ 37,181,740	\$ 178,163	\$ 3,128,685			0.01%
Aug 2026	\$ 3,757	\$ 37,187,375	\$ 37,185,497	\$ 178,181	\$ 3,306,865			0.01%
Sep 2026	\$ 3,757	\$ 37,191,132	\$ 37,189,254	\$ 178,199	\$ 3,485,064			0.01%
Oct 2026	\$ 375,668	\$ 37,566,800	\$ 37,378,966	\$ 179,108	\$ 3,664,171			1.00%
			1 Year Proj AFUDC	\$ 142,791				
			2 Year Proj AFUDC	\$ 1,190,318				
			3 Year Proj AFUDC	\$ 3,664,171				

Object Path ID	Resource Type Path ID	Start Date	End Date	Curve ID	Cost	Currency	Transaction Date	External Key
N/A.CP1.NGCONFC		3/1/2024	12/29/2027	3Y-NGCONFC	\$ -			
N/A.CP1.NGCONPC		3/1/2024	12/29/2027	3Y-NGCONPC	\$ 16,797,500			
N/A.CP1.NGCONT		3/1/2024	12/29/2027	3Y-NGCONT	\$ 4,644,000			
N/A.CP1.NGENGNC		3/1/2024	12/29/2027	3Y-NGENGNC	\$ 2,193,600			
N/A.CP1.NGEXCEP		3/1/2024	12/29/2027	3Y-NGEXCEP	\$ -			
N/A.CP1.NGFITSC		3/1/2024	12/29/2027	3Y-NGFITSC	\$ 2,602,300			
N/A.CP1.NGILIPC		3/1/2024	12/29/2027	3Y-NGILIPC	\$ -			
N/A.CP1.NGLANDC		3/1/2024	12/29/2027	3Y-NGLANDC	\$ 3,924,100			
N/A.CP1.NGMAFD		3/1/2024	12/29/2027	3Y-NGMAFD	\$ 1,814,300			
N/A.CP1.NGMATEC		3/1/2024	12/29/2027	3Y-NGMATEC	\$ 4,586,700			
N/A.CP1.NGMOTH		3/1/2024	12/29/2027	3Y-NGMOTH	\$ 55,200			
N/A.CP1.NGMOVH		3/1/2024	12/29/2027	3Y-NGMOVH	\$ 5,238,900			
N/A.CP1.NGMPL		3/1/2024	12/29/2027	3Y-NGMPL	\$ 1,012,000			
N/A.CP1.NGREMPC		3/1/2024	12/29/2027	3Y-NGREMPC	\$ 267,800			

Master Input Data		
Description	User Input	Notes
Estimate Revision Number	E-Initiate	Change number on each draft to be sent out
Ecosys Opportunity Number	N/A	Need to complete from Ecosys for Charter estimates.
Project Name	Line AM07 Pipeline Replacement-Phase 4	
Date:	1/14/2025	Update with each revision
Length of Indicative Schedule in Years	3	This is required for Ecosys spend curves. Need to put 1, 2, or 3.
Customer	Duke Energy/PNG	
City / County / Township	Erlanger, KY	
State	Kentucky	
Project manager	Kelsey Pace	
Modeler	System Planning	
Lead Estimator	R. Fredericks	Person who does the estimate
Total Project Schedule	46	1 Year Project - 17 months 2 Year Project - 35 months 3 Year Project - 46 months
Engineering Project Schedule	16	1 Year Project - 5 months 2 Year Project - 15 months 3 Year Project - 16 months
Construction Project Schedule	10	1 Year Project - 4 months 2 Year Project - 9 months 3 Year Project - 10 months
Estimate Requested By	Kelsey Pace	
Rate Requested		firm, interruptible, etc.
Hourly Flow (MCFH)		change unit of measure as needed
Delivery Pressure (PSIG)		
Resource Center	GD70 - Kentucky	Select from the Drop-down list
Estimate Type	Class 4	
Length of Pipeline	12,000 LF/80 LF	Enter the overall pipe line footage.
Pipe Size	24"/4" Steel	
Escalation (in Years)	0	Years until start date (not in-service date) (Put '0' if project is kicking off within 6 months)
Escalation Rate (%)	2.5%	Rate of Escalation (use '0' only for commit and build gates)
Contingency (%)	15%	Contingency %
Start Date	3/1/2024	*Either start date from Ecosys or leave as 1/1/2022 for 2022 charters
In-Service Date	7/30/2027	*This will auto-populate when total project schedule is completed
Close-Out Date	12/29/2027	*This will auto-populate when total project schedule is completed
Ecosys In-Service Date	10/30/2026	*From Ecosys for Charters **IF HIGHLIGHTED RED THEN NOT FEASIBLE, CONTACT CHARTER GROUP**

PMCoE Estimate Uncertainty

Cell requires user entry

Project Name: Line AM07 Pipeline Replacement-Phase 4 Date: 1/14/2025

Next Stage Gate: Initiate Minimum Class: Class 4

PMCoE Estimate Uncertainty Tool					
Informed Range		Cost Description	Best Case	Estimate Value	Worst Case
- %	+ %		(Optimistic: O)	(Most Likely: ML)	(Pessimistic: P)
-30%	50%	Engineering	\$ 1,535,520	\$ 2,193,600	\$ 3,290,400
-30%	50%	Land	\$ 2,746,870	\$ 3,924,100	\$ 5,886,150
-30%	50%	Materials/Equipment	\$ 3,210,690	\$ 4,586,700	\$ 6,880,050
-30%	50%	Construction Services	\$ 11,609,920	\$ 16,585,600	\$ 24,878,400
-30%	50%	Field Inspections & Testing	\$ 1,621,690	\$ 2,316,700	\$ 3,475,050
-30%	50%	PNG Labor	\$ 708,400	\$ 1,012,000	\$ 1,518,000
-30%	50%	Other	\$ 38,640	\$ 55,200	\$ 82,800
-30%	50%	AFUDC	\$ 1,270,010	\$ 1,814,300	\$ 2,721,450
-30%	50%	Overhead & Allocations	\$ 3,667,230	\$ 5,238,900	\$ 7,858,350
Sub Total			\$ 26,408,970	\$ 37,727,100	\$ 56,590,650

A. Cumulative Risk EMV		\$	-
B. Estimate Uncertainty PERT ((O+P+(ML*4))/6)-ML		\$	1,257,570
C. Contingency (A+B)		\$	1,257,570
	\$ 26,408,970	\$ 38,984,670	\$ 56,590,650
	Best Case	Expected Case	Worst Case
Project Informed Range	-32%		45%
Certainty*	P10	P50	P90

* P10 and P90 are representative values, but not statistically proven by this methodology. These values do not include any Risk EMV and are shown to allow the project to assess if their Project Informed Range is aligned with the AACEI Class of Estimate expectations.

AACEI Estimate Class Reference:

Class	Typical Methodology	Low Range	High Range
5	Capacity Factored. Parametric Models. Judgement, or Analogy	-20%	30%
		-50%	100%
4	Equipment Factored. Parametric Models.	-15%	20%
		-30%	50%
3	Semi-Detailed Unit Costs with Assembly Level Line Items.	-10%	10%
		-20%	30%
2	Detailed Unit Cost with Detailed Take-Off.	-5%	5%
		-15%	20%
1	Detailed Unit Cost with Detailed Take-Off.	-3%	3%
		-10%	15%

Line AM07 Pipeline Replacement-Phase 4
Funding Breakdown
 1/14/2025

Description		Budget	
Contract Labor	\$	22,249,500	External Engineering, Construction Services, Field Inspection & Testing, Escalation
Material Purchased by PNG	\$	4,586,700	Major Equipment and Testing
PNG Labor	\$	1,012,000	Internal Engineering and Construction Management
Land (Permanent Only)	\$	2,500,000	Permanent Land purchases only
Other	\$	1,091,000	Land Rights (temporary land, land services, etc), Other Direct Costs - travel, meals, hotel, misc expenses
Sub-Total	\$	31,439,200	
Contingency	\$	4,644,000	Contingency
Sub-Total	\$	36,083,200	
AFUDC	\$	-	By Finance
Overheads	\$	-	By Finance
Total	\$	36,083,200	
Start Date	3/1/2024		By Project Manager
In-Service Date	7/30/2027		From Project Charter or Project Mgr.
Completion Date	10/30/2026		From Estimating

***ENSURE DISTRIBUTION COSTS HAVE BEEN REMOVED FROM ABOVE**

Line AM07 Pipeline Replacement-Phase 4

Notes and Assumptions

1/14/2025

Estimate Revision:

E-Initiate

1. 2023 Ecosys SOW:

~~Phase 4 (of 5 Phases) includes the following:~~

~~*Perform detailed engineering to support replacement of 11,690 feet (2.2 miles) of 24" pipe designed for a pressure of 1000 psig.~~

~~*Install new 24" steel pipeline that starts on the South side of the I-275 crossing near Licking Pk (tying into existing piping) and ending at Cold Springs Station.~~

~~*Install necessary infrastructure at the Cold Springs Station, including a launcher for the new line.~~

~~*Abandon Line AM07 along this section.~~

~~*Address remaining farm taps.~~

~~*Preliminary proposed pipeline route that was field reviewed by Implementation is included in attachment. Right of Way (ROW) reclamation will be required.~~

~~2023 Revised Scope per the Project Manager:~~

~~*Perform detailed engineering to support replacement of 17,424 LF (3.3 Miles) of 24" Pipe designed for a pressure of 1000psig.~~

~~*Install new 24" pipeline along the route proposed by the Map Exhibit below.~~

~~*Install necessary infrastructure at the Cold Springs Station, including a launcher for the new line.~~

~~*Abandon Line AM07 along this section.~~

~~*Address remaining Farm Taps.~~

~~*Right of Way Reclamation will be required.~~

2. Estimate assumes AC Mitigation is required.

3. Estimate assumes basic environmental control design.

4. A Routing factor has been assumed for the pipeline. Estimate revision assumes 17,424 LF of total Pipelay per the proposed High Level Routing with a 14% Routing Factor. Total Pipelay estimated is 19,863 LF.

5. Estimate assumes SCADA is not required.

6. Estimate assumes that a laydown yard is required.

7. Estimate assumes that traffic control is not required.

8. Estimate assumes 20% Pipelay/0% Rock Bores per completed Phase Project AM07 Replacements.

~~9. Estimate revision assumes one existing Line Crossing.~~

~~10. Revision assumes 6 Open Cut Streams and associated Wetland Lay. Assumed 50 LF Open Cut Ea. & 25 LF Wetland Lay per Stream.~~

11. Revision assumes 3 Road Bores, Alexandria Pike (150 LF), Industrial Rd. (100 LF) & Winters Ln. (100 LF).

12. Revision assumes Asphalt Removal and Repair along the Eastern section of the route.

~~13. Revision assumes 80% of the current route to require Tree Cutting.~~

14. Revision assumes Coal Tar and Asbestos Remediation for all Tie-Ins and Pipeline Cut and Removal for the existing line retirement. 4 Tie-Ins and 42 LF of 24" Cut-Outs.

Rev D-2024 Revised Scope per provided KMZ file:

1. Revision assumes a new route and reduced footage to 13,390 LF Pipelay per the KMZ file. Reduced Stream Crossings, Number of Parcels, Number of Access Roads.

2. Revision assumes no actual costs have been reported or Materials purchased, or Proposals received at the time of this estimate.

3. Revision assumes adequate DOT & Private Easement along the route to not require work in the road.

4. Per Project Controls, the Project has no Purchase Orders, Proposals or actuals at the time of this estimate.

5. Revision assumes no Wetlands or Stream Crossings along the route.

REV E-Initiate: 60% Design Issued

1. Estimate assumes 20% Rock. HDD and Bore in 100% Rock.

2. Estimate assumes AC Mitigation is required.

3. A routing factor has not been applied.

4. Estimate assumes SCADA not required.

5. Estimate assumes a laydown yard is required.

6. Estimate assumes traffic control is required.

7. Estimate follows 60% design release. 2 Road bores (484 linear feet total) and 1 HDD (948 linear feet) are required.

8. Engineering cost per B&McD PO 11588956 of \$2,169,624.

9. Contract Labor Land Services per B&McD PO 11824861 of \$321,792.

10. Contract Labor Land Services per PPS of \$36,500.

11. Equipment cost per Tri-State PO 12033713 of \$67,198.

12. New route total 12,080 Linear Feet per 60% Design.

13. PNG Labor increased to \$1M at PC request.

This is to document the changes requested in the estimate from reviews.

Piedmont Natural Gas Line AM07 Pipeline Replacement-Phase 4 Estimate Change Log								
Revision: E-Initiate								
Item	Revision	Date	Description	Price Before Change	Price After Change	Change Amount	Change Directed By:	Estimate Changed By:
1	A	XX/XX/XX	Starting Estimate	\$0	\$0	\$0		
2	B	9/4/2020	Charter estimate	\$0	\$34,101,000	\$34,101,000	Charter	K. Gillow
3	C	11/30/2023	Revised Estimate-Class 5 Scope change in Pipelay footage and Routing Change-Route is High Level and a 14% routing factor is included. 14,716 LF to 19,863 LF and updated Unit Costs.	\$34,101,000	\$63,627,700	\$29,526,700	Brad Seiter	Benton Jones
4	D	3/20/2024	Revised Estimate-Class 5 Scope change in Pipelay Reduced footage and Routing Change. 19,863 LF to 13,900 LF and updated Unit Costs. Estimate assumes no Routing Factor.	\$63,627,700	\$44,355,800	-\$19,271,900	Brad Seiter	Benton Jones
5	E	1/14/2025	Initiate Estimate: 60% Design issued-Pipeline reduced to 12,080 Linear Feet. Directional Drill Scope added and bore cope increased.	\$44,355,800	\$43,136,400	-\$1,219,400	K. Pace	R. Fredericks
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Line AM07 Pipeline Replacement-Phase 4

Erlanger, KY

Project Cost Breakdown

GD70 - Kentucky

1/14/2025

Revision: E-Initiate

WBS 1 Description		Capital Improvement and Retirement	Capital Improvement		24" Steel Retirement 13,862 LF Pipe Abandon 1
			Size / Name Length / Qty	24"/4" Steel 12,000 LF/80 LF	
			Total	Pipelay 1	
NGENGNC	Engineering	\$ 2,193,600	\$ 2,171,600	\$ 2,171,600	\$ 22,000
NGLANDC	Land - Permanent	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ -
NGLANDC	Land - Temporary	\$ 1,035,800	\$ 1,035,800	\$ 1,035,800	\$ -
NGLANDC	Land - Support	\$ 358,300	\$ 358,300	\$ 358,300	\$ -
NGLANDC	Land Legal	\$ 30,000	\$ 30,000	\$ 30,000	\$ -
NGMATEC	Materials/Equipment	\$ 4,586,700	\$ 4,580,500	\$ 4,580,500	\$ 6,200
NGCONPC	Construction Serv - Pipeline	\$ 16,585,600	\$ 16,317,800	\$ 16,317,800	\$ 267,800
NGCONFC	Construction Serv - Facility	\$ -	\$ -	\$ -	\$ -
NGFITSC	Field Inspections	\$ 2,316,700	\$ 2,284,500	\$ 2,284,500	\$ 32,200
NGFITSC	Field Testing	\$ 285,600	\$ 285,600	\$ 285,600	\$ -
NGMPGL	Duke/PNG Labor	\$ 1,012,000	\$ 943,000	\$ 943,000	\$ 69,000
NGMOTH	Other Direct Costs	\$ 55,200	\$ 50,600	\$ 50,600	\$ 4,600
Subtotal Direct Cost		\$ 30,959,500	\$ 30,557,700	\$ 30,557,700	\$ 401,800
	Project Contingency	\$ 4,644,000	\$ 4,583,700	\$ 4,583,700	\$ 60,300
	Project Escalation	\$ 479,700	\$ 472,200	\$ 472,200	\$ 7,500
Total Contingency & Escalation		\$ 5,123,700	\$ 5,055,900	\$ 5,055,900	\$ 67,800
Total Direct Cost		\$ 36,083,200	\$ 35,613,600	\$ 35,613,600	\$ 469,600
NGMAFD	AFUDC Debt	\$ 1,814,300	\$ 1,814,300	\$ 1,814,300	\$ -
NGMOVH	Overhead and Allocations	\$ 5,238,900	\$ 5,150,800	\$ 5,150,800	\$ 88,100
Total PNG Overhead Cost		\$ 7,053,200	\$ 6,965,100	\$ 6,965,100	\$ 88,100
Project Total		\$ 43,136,400	\$ 42,578,700	\$ 42,578,700	\$ 557,700

Notes:

1. Contingency is not included on escalation.
2. Overheads and Allocations calculated using 19% of Total Direct Cost less Land Purchase, Materials/Equipment and FERC cost.
3. AFUDC calculated using 7% of total Direct Cost. (No AFUDC on Retirement Cost.)
4. Escalation was assumed at 2.5% per year with the project kicking off on 03/01/24.

Line AM07 Pipeline Replacement-Phase 4						
1/14/2025		24"/4" Steel			Revision # E-Initiate	
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	Duke/PNG Labor	46	Month	\$ 20,500	\$ 943,000	
OTH001	Other Direct Cost	46	Month	\$ 1,100	\$ 50,600	
Sub-Total - Internal E&CM					\$	993,600
External Engineering						
G801	Pre-Design Activities	1	Lump Sum	\$ 4,176	\$ 4,176	
G802	Route Development	1	Lump Sum	\$ 8,000	\$ 8,000	
G803	Project Management	1	Lump Sum	\$ 69,945	\$ 69,945	
G804	Records Research	1	Lump Sum	\$ 1,153	\$ 1,153	
G805	Estimating & Scoping		Lump Sum		\$ -	
G806	Land Survey	1	Lump Sum	\$ 297,411	\$ 297,411	
G807	Land Acquisition Support (Engineering)	1	Lump Sum	\$ 29,562	\$ 29,562	
G808	Environmental Services & Permitting	1	Lump Sum	\$ 164,582	\$ 164,582	
G809	Geotechnical Services	1	Lump Sum	\$ 166,192	\$ 166,192	
G810	Design - Pipeline	1	Lump Sum	\$ 234,953	\$ 234,953	
G811	Design - Facility	1	Lump Sum	\$ 166,799	\$ 166,799	
G812	Cathodic Protection	1	Lump Sum	\$ 55,547	\$ 55,547	
G813	Bid Package Development	1	Lump Sum	\$ 28,000	\$ 28,000	
G814	Construction Support	1	Lump Sum	\$ 407,841	\$ 407,841	
G815	As-Built Survey	1	Lump Sum	\$ 535,000	\$ 535,000	
G815	Project Close-out	1	Lump Sum	\$ 463	\$ 463	
G663	MAOP Oversight	1	Lump Sum	\$ 1,900	\$ 1,900	
Sub-Total - External Engineering					\$	2,171,600
Land Services						
G661	Transmission - Fee Purchase - Rural	0	Acre	\$ -	\$ -	
G661	Transmission - Fee Purchase - Urban	0.00	Acre	\$ 156,250	\$ -	
G662	Transmission - Permanent Easements - Rural	0.00	Acre	\$ -	\$ -	
G662	Easements: Permanent	1.00	Lump Sum	\$ 2,500,000	\$ 2,500,000	
G662	Transmission - Stations Easements - Rural	0	Acre	\$ -	\$ -	
G662	Transmission - Stations Easements - Urban	0	Acre	\$ 218,750	\$ -	
G663	Transmission - Temporary Easements - Rural	1.00	Lump Sum	\$ 1,000,000	\$ 1,000,000	
G663	Transmission - Temporary Easements - Urban	0.00	Acre	\$ 39,063	\$ -	
G662 PA	Transmission - Access Roads	0	Each	\$ 10,000	\$ -	
G663	Transmission - Laydown Yard	0	Months	\$ 4,200	\$ -	
G656	Transmission - Damages	11	Per Parcel	\$ 3,250	\$ 35,800	
G656	Transmission - Additional Damages	0	Acre	\$ -	\$ -	

G301	Contract Labor - Land Services	1	Lump Sum	\$ 358,292	\$ 358,300	
G301	Contract Labor - Legal	1	Per Parcel	\$ 30,000	\$ 30,000	
Sub-Total - Land Services					\$ 3,924,100	
Construction Services - Pipeline		12080	Overall LF of Pipe installed			
820	Mob/Demob	1	Lump Sum	\$ 1,483,432	\$ 1,483,432	
821	Clearing and Grubbing	4.93	acre	\$ 85,000	\$ 418,625	
821	Tree Cutting Only/No Grubbing	4.80	acre	\$ 75,000	\$ 360,000	
829	Conventional Upland Lay 24"	10568	Linear Foot	\$ 475	\$ 5,019,800	
829	Conventional Upland Lay 4"	80	Linear Foot	\$ 250	\$ 20,000	
829	Conventional Upland Lay (Residential)	0	Linear Foot	\$ -	\$ -	
830	Conventional Wetland Lay	0	Linear Foot	\$ -	\$ -	
825	Conventional Bore - Dirt	0	Linear Foot	\$ -	\$ -	
826	Conventional Bore - Rock 24"	484	Linear Foot	\$ 4,325	\$ 2,093,300	
827	Directional Drill – Dirt	0	Linear Foot	\$ -	\$ -	
828	Directional Drill – Rock 24"	948	Linear Foot	\$ 1,590	\$ 1,507,320	
828	ScarGuard Application	984	Linear Foot	\$ 269	\$ 264,777	
822	Rock Excavation – Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation – Mechanical	667	Cubic Yard	\$ 300	\$ 200,187	
829	Anomaly Dig	0	Each	\$ -	\$ -	
829	Retrofit Cost	0	Linear Foot	\$ -	\$ -	
829	Material Verification	0	Each	\$ 18,000	\$ -	
829	Bore/Drill Pits	3	Per Bore/Drill	\$ 25,000	\$ 75,000	
829	Extra Depth Ditch	0	Per 1 ft depth / LF	\$ 40	\$ -	
829	Padding – Job Site	0	Linear Foot	\$ -	\$ -	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	1501	Linear Foot	\$ 40	\$ 60,056	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon (AC Mitigation)	12080	Linear Foot	\$ 50	\$ 604,000	
837	Anode Bed	2	Each	\$ 20,400	\$ 40,800	
835	Temporary Clean-up / Temporary Stabilization	10648	Linear Foot	\$ 50	\$ 532,400	
833	Hydro Test	13028	Lump Sum	\$ 34	\$ 442,952	
833	Hydro Water Testing	0	Lump Sum	\$ 25,000	\$ -	
834	Commissioning	12080	Lump Sum	\$ 4	\$ 48,320	
837	Re-coating of Exposed Pipe (Hand Application)	0	Linear Foot	\$ -	\$ -	
837	Re-coating of Exposed Pipe (Spray Application)	0	Linear Foot	\$ -	\$ -	
837	Armor Plate	0	Linear Foot	\$ -	\$ -	
829	Daylight Existing Utilities (Pot Holing)	8	Lump Sum	\$ 1,500	\$ 12,000	
829	AirVac/Hydro Vac Excavation	0	Cubic Foot	\$ -	\$ -	

829	Pipe Rack Construction (Dirt/Sand Berm)	0	Lump Sum	\$ -	\$ -
829	Transition Of Bevels	0	Each	\$ -	\$ -
837	Test Station Installation	10	Each	\$ 1,000	\$ 10,000
829	Temporary Stabilization	0	Linear Foot	\$ -	\$ -
630	Silt Fence (metal post & wire backing)	17184	Linear Foot	\$ 25	\$ 429,600
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -
630	Super Silt Fence (metal post & chainlink fence backing)	0	Linear Foot	\$ -	\$ -
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Double Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Triple Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Premier Coconut Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Premier Straw/Coconut Blanket with Staples	0	Square Yard	\$ -	\$ -
630	Hydroseeding Temporary Stabilization	0	Square Yard	\$ -	\$ -
630	Hydroseeding Permanent Stabilization	0	Square Yard	\$ -	\$ -
630	Rip Rap Placement	117	Ton	\$ 120	\$ 14,070
630	Gravel Placement	110	Ton	\$ 70	\$ 7,700
630	Geo Textile Fabric	350	Square Yard	\$ 3	\$ 1,050
630	Safety Fence	450	linear ft	\$ 8	\$ 3,600
630	Culvert Pipe (CMP)	0	Inch Dia per LF	\$ -	\$ -
630	Sack Breakers	0	Each	\$ -	\$ -
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -
630	Foam Breakers	0	Each	\$ -	\$ -
630	Construction (Timber) Mats	100	Linear Foot (Width)	\$ 125	\$ 12,500
630	Laminated (Truck) Mats	0	Linear Foot (Width)	\$ -	\$ -
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -
630	Permanent Seeding (seed straw, and tack)	781700	Square Foot	\$ 0.15	\$ 117,255
630	Intermediate Seeding (seed straw, and tack)	390850	Square Foot	\$ 0.10	\$ 39,085
630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ -	\$ -
630	Sod	0	SF	\$ -	\$ -
630	Straw Wattle 9" x 10'	0	Each	\$ -	\$ -
630	Sediment Log 8"	0	Each	\$ -	\$ -
630	Sediment Log 10"	0	Each	\$ -	\$ -
630	Sediment Log 12"	0	Each	\$ -	\$ -
630	Sediment Log 20"	0	Each	\$ -	\$ -
630	Erosion Eel 10"	0	Each	\$ -	\$ -
630	Erosion Eel 12"	0	Each	\$ -	\$ -
630	Erosion Eel 14"	0	Each	\$ -	\$ -
630	Erosion Eel 20"	0	Each	\$ -	\$ -
630	Permanent Waterbar Installation	0	Each	\$ -	\$ -
630	Temporary Waterbar Installation	0	Each	\$ -	\$ -

630	Filtration Sediment Bags 10' x 15'	0	Each	\$ -	\$ -	
630	Dewater Structure	0	Lump Sum	\$ -	\$ -	
630	Clear Water Diversion Pit	0	Lump Sum	\$ -	\$ -	
630	Stabilized Construction Entrance 20'W x 50'L x 6"D	3	Each	\$ 4,500	\$ 13,500	
831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	5	Each	\$ 6,750	\$ 33,750	
832	Chain Link Fence & Gates – New	200	Linear Foot	\$ 140	\$ 28,000	
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Roads (L/R 140LF)	140	Linear Foot	\$ 350	\$ 49,000	
832	Temporary Access Roads	1000	Linear Foot	\$ 35	\$ 35,000	
832	Top Soil (L/R)	0	Ton	\$ -	\$ -	
832	Asphalt Removal	9508	Square Foot	\$ 18	\$ 166,390	
832	Asphalt Restoration	9508	Square Foot	\$ 18	\$ 166,390	
832	Sheet Piling	0	Day	\$ -	\$ -	
832	Ditch Shoring	0	Day	\$ 5,000	\$ -	
832	Road Plates (10' Long)	161	Each	\$ 750	\$ 120,750	
832	Trench Boxes	0	Day	\$ -	\$ -	
832	Traffic Control (Flaggers)	80	Day	\$ 5,000	\$ 400,000	
832	Traffic Control (Signage)	100	Day	\$ 100	\$ 10,000	
832	Traffic Control (Barriers)	100	Day	\$ 100	\$ 10,000	
832	Flowable Fill	0	Cubic Yard	\$ -	\$ -	
832	Noise Reduction Barriers	0	Day	\$ -	\$ -	
837	Rectifier/Groundbed (CP)	1	Lump sum	\$ 11,250	\$ 11,250	
837	ACVG Testing (less than 10 miles)	2.50	Mile	\$ 9,000	\$ 22,500	
837	ACVG Testing (greater than 10 miles)	0.00	Mile	\$ 6,000	\$ -	
	MLV Installation	1	Each	\$ 249,710	\$ 249,710	
	MLV Foundations	1	Each	\$ 7,500	\$ 7,500	
	SCADA for MLV Sites	0	Each	\$ 50,000	\$ -	
	Electrical/Controls for MLV Sites	1	Each	\$ 25,000	\$ 25,000	
	Security for MLV Sites	0	Each	\$ 21,000	\$ -	
	L/R Installation (24")	1	Each	\$ 611,752	\$ 611,752	
	L/R Foundations	1	Each	\$ 30,000	\$ 30,000	
	Painting & Waxing Flanges	1	Lump Sum	\$ 25,000	\$ 25,000	
	Staging & Laydown Yard	4	Acre	\$ 65,000	\$ 260,000	
	Railway Crossings	0	Each	\$ 20,000	\$ -	
	Civil or General Conditions	0	Lump Sum	\$ -	\$ -	
	Stoppie Pit	3	Each	\$ 25,000	\$ 75,000	
	Contractor Tap Support 24"	3	Each	\$ 21,273	\$ 63,819	
	TDW - Hot Tap 24"	3	Each	\$ 16,500	\$ 49,500	

	TDW - Tap & Stop	0	Each	\$ -	\$ -	
	TDW - Bypass	0	Each	\$ -	\$ -	
	HDD Geo-analytical Design	0	Each	\$ 60,000	\$ -	
	HDD Mudd Disposal	948	Linear Foot	\$ 17	\$ 16,116	
	HDD Mudd Engineer	1	Lump Sum	\$ 20,000	\$ 20,000	
Sub-Total - Construction Services - Pipeline					\$ 16,317,800	
Field Inspection & Testing						
G880	Construction Inspection	2688	Per Man-Days	\$ 850	\$ 2,284,492	
G881	Non-Destructive Testing	114	Days	\$ 2,500	\$ 285,562	
Sub-Total - Field Inspection & Testing					\$ 2,570,100	
Major Equipment & Materials						
	Pipe					
G205	24" Standard Wall, X52, Coated, DRL	11480	Linear Foot	\$ 200	\$ 2,296,000	
G205	24" Standard Wall, X52, Coated, DRL (L/R)	240	Linear Foot	\$ 200	\$ 48,000	
G205	24" Standard Wall, X52, Powercrete	520	Linear Foot	\$ 175	\$ 91,000	
G205	24", Bare (L/R)	40	Linear Foot	\$ 173	\$ 6,920	
G205	4" Standard Wall, X52, Bare	80	Linear Foot	\$ 15	\$ 1,200	
G205	1" Standard Wall, X52, Bare	20	Linear Foot	\$ 9	\$ 180	
	Fittings					
G205	24" 3R - 45 deg ell - Segmentable	31	Each	\$ 4,342	\$ 134,602	
G205	24" 3R - 90 deg ell - Segmentable	20	Each	\$ 6,158	\$ 123,160	
G205	4" 3R - 90 deg ell - Segmentable	1	Each	\$ 192	\$ 192	
G205	1" 3R - 90 deg ell - Segmentable	2	Each	\$ 192	\$ 384	
	Equipment					
G204	XX" TDW Stopple	0	Each	\$ -	\$ -	
G204	24" TDW Spherical Tee	3	Each	\$ 58,000	\$ 174,000	
	Actuator Valve	1	Each	\$ 67,198	\$ 67,198	
	Ball Valve 1"	2	Each	\$ 1,990	\$ 3,980	
	Ball Valve 4"	1	Each	\$ 7,290	\$ 7,290	
	Ball Valve 2"	1	Each	\$ 1,990	\$ 1,990	
G204	24" L/R Module	1	Each	\$ 389,284	\$ 389,284	
G204	24" Insulator	2	Each	\$ 45,000	\$ 90,000	
	Miscellaneous					
	Anode Bed Material	2	Each	\$ 20,000	\$ 40,000	
	Rectifier/Groundbed Material (CP)	1	Each	\$ 11,250	\$ 11,250	
	AC Mitigation Material (included with AC above)	0	Each	\$ 75,000	\$ -	
G204	ScarGuard	984	Linear Foot	\$ 269	\$ 264,777	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 375,141	\$ 375,141	
G205	Taxes & Freight (11% of All Material)	1	Calculated	\$ 453,920	\$ 453,920	

Sub-Total - Materials	\$ 4,580,500
Sub-Total	\$ 30,557,700
Escalation	\$ 472,200
Contingency	\$ 4,583,700
Pipeline Estimate Total	\$ 35,613,600

Line AM07 Pipeline Replacement-Phase 4						
1/14/2025	Retirement			Revision #	E-Initiate	
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	Duke/PNG Labor	46	Month	\$ 1,500	\$ 69,000	
OTH001	Other Direct Cost	46	Month	\$ 100	\$ 4,600	
Sub-Total - Internal E&CM					\$	73,600
External Engineering						
G810	Design - Pipeline	175	Hour	\$ 125	\$ 21,920	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G663	MAOP	0	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	22,000
Land Services						
G-663	Transmission - Temp Work Space - Rural	0	Acre	\$ 45,000	\$ -	
G-663	Transmission - Temp Work Space - Urban	0	Acre	\$ 5,000	\$ -	
G-662 PA/G-663 TA	Transmission - Access Roads	0	Each	\$ 10,000	\$ -	
G-301	Land Services - Contractor	0	Per Parcel	\$ 10,000	\$ -	
Sub-Total - Land Services					\$	-
Construction Services - Pipeline		13862	Overall LF of Pipe to be Abandoned			
850	Mob/Demob	1	Lump Sum	\$ 24,337	\$ 24,337	
	Demo Equipment	4	Days	\$ 7,500	\$ 30,000	
823	Grouting of Abandoned Pipe	0	Cubic Yard	\$ -	\$ -	
824	Removal of Existing Pipeline	42	Linear Foot	\$ 2,125	\$ 88,370	
	Tar Coated Steel Remediation & Removal	14	Per Dig/Site	\$ 3,750	\$ 52,500	
	Install & Remove Flare + Mob/Demob	0	Lump Sum	\$ 50,000	\$ -	
	Methane Recapture	1	Lump Sum	\$ 25,000	\$ 25,000	
G863	Launcher/Receiver Removal	0	Each	\$ 75,000	\$ -	
G863	Small Station Removal	0	Each	\$ 35,000	\$ -	
G863	Medium Station Removal	0	Each	\$ 50,000	\$ -	
G863	Large Station Removal	0	Each	\$ 85,000	\$ -	
	Haul Materials	1	Per Site	\$ 10,000	\$ 10,000	
	Nitrogen Clearing	1	Lump Sum	\$ 25,000	\$ 25,000	
	Line Locating	1	Week	\$ 12,500	\$ 12,500	
	Contractor Tap Support	0	Days	\$ -	\$ -	
	Seeding	0	SF	\$ -	\$ -	
	Clean up	0	LF	\$ -	\$ -	
	TDW Tap	0	Each	\$ -	\$ -	
					\$	267,800
Field Inspection & Testing						
G880	Construction Inspection	38	Man-Days	\$ 850	\$ 32,136	
G881	Non-Destructive Testing	0	Days	\$ 2,000	\$ -	
Sub-Total - Field Inspection & Testing					\$	32,200
Major Equipment & Materials						
G205	Purge Materials	1	Lump Sum	\$ 5,000	\$ 5,000	
G204	Stopples	0	Each	\$ -	\$ -	
G204	Stopples	0	Each	\$ -	\$ -	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 500	\$ 500	
G205	Taxes & Freight (11% of All Material)	1	Calculated	\$ 605	\$ 605	
Sub-Total - Materials					\$	6,200
Sub-Total					\$	401,800
Escalation					\$	7,500
Contingency					\$	60,300
Pipeline Estimate Total					\$	469,600

DropDown Values

Pipeline Length	Less than 2000 feet < 1 mile 1-5 miles > 5 miles
Retrofit Length	< 5 miles 5-10 miles > 10 miles
Yes/No	Yes No
Land	Urban Rural Suburban
Parcels	0 parcels < 20 parcels 20 - 50 parcels > 50 parcels
Vegetation Management	0-5% 6-33% 34%-66% 67%-100%
Zoning Type	Farmlands Existing Utility Right of Way Electric Right of Way Commercial/Industrial Parks & Recreation Residential Nature Preserves Mixed Use
4.2 Permit requirement	Open House Public Notice None of the above

Environmental Justice Assessment Trigger Questionnaire

Date: 1/14/2025
Activity/Project Name: Line AM07 Pipeline Replacement-Phase 4
Business Unit: NGBU
Project Staff: Major Projects

Activity/Project Scope or Description: 1. 2023 Ecosys SOW:Phase 4 (of 5 Phases) includes the following:*Perform detailed engineering to supp

The intent of this questionnaire is to identify Duke Energy projects /activities that might have significant environmental or community impacts or required regulatory approvals and/or that are located in or near communities of environmental justice (EJ) concern to further assess for potential EJ risks and planning.

Review activity/project and answer the following questions:	Answer (Yes, No, Unknown)
Does the activity/project anticipate a public regulatory approval that may trigger EJ Assessment requirements? (i.e. federal permitting, NRC licensing, state Public Utility Commission approval) Transmission only, Should only apply to Ohio (OPSB) & Kentucky (CPCN).	No
Does the activity/project anticipate creating significant new, modifying, or increasing discharge, emissions, or waste generation - either amount or type? Compressor Station, Permanent Flare, Heaters over 10 mmBTU/hr (not associated with Duke M&R), Station located near Paper Mill, Pellet, Concrete, Brick Plant, chemical (large emission or smell producing plants)	No
Does the activity/project anticipate significant land use modification, land acquisition, easement acquisition and/or modifications to community aesthetics? Large Stations immediately outside or in the middle of developments, neighborhoods. 20+ miles of pipeline	No
Does the activity/project trigger routing or site selection studies? OPSB, 20+ miles of pipeline, if charter states a routing/site selection study will be required	No
Is the activity/project in a community with known, previous and/or on-going EJ concerns? ACP corridor, Tribal Lands, Known Opposition	No

If the answer is "Yes" or "Unknown" to any of the questions above, consult with Environmental and External Engagement Staff (Nicole Kiser) to determine if an initial EJ Assessment is needed.

Nat Gas Project Public Engagement Level-of-Risk Assessment				
Charter/Project Name:		Date:		
Risk	Public Engagement Questionnaire	Response	Priority	Probability
1. Attributes				
1.1	New Natural Gas Pipeline Length (in new footprint) (miles) (system infrastructure growth)?	Less than 2000 feet		0
1.2	Replace or Retrofit Natural Gas Pipeline Length (miles)(Integrity project)? *	1-5 miles		1
1.3	New Regulator Station(s)/Launcher/Receiver?	Yes		3
1.4	Expanding the footprint of existing Regulator Station?	No		0
1.5	New Compressor Station(s)?	No		0
1.6	Expanding the footprint of existing Compressor Station?	No		0
1.7	Requires flaring?	No		0
2. Land				
2.1	Urban, Rural or Suburban?	Urban		7
2.2	New Easement acquisition required?	Yes		3
2.3	New Land acquisition required (in fee)?	No		0
2.4	Anticipated number of parcels to be purchased?	0 parcels		0
2.5	Amount of new Right of Way tree clearing required	6-33%		2
3. Environment, Historic, Archeological				
3.1	Crossing navigable waterways?	No		0
3.2	Larger environmentally sensitive areas? *	No		0
3.4	Sensitive, Protected, Historical Sites, Cultural Areas? (Not environmental)	No		0
3.5	Zoning Type? *	Commercial/Industrial		2
4. Additional Factors				
4.1	Past opposition from affected land owners and communities?	No		0
4.2	Permitting process requires :	None of the above		0
Final Total				18
				17

*** Notes**

- 1.2 Response should be reflective of actual footage of construction not mileage researched
- 3.2 May not know environment sensitivity initially
- 3.2 Environmentally Sensitive - Named Environmental areas (shows up on a map with a name)
- 3.5 If entire project is in Utility ROW and no known preexisting opposition to construction in or near that ROW then the project can default to 'Yellow' or Green'

Impact - Magnitude of stateholder opposition (Defined by cost, or reputation)

Probability - External stakeholder opposition

Community Engagement Heat Map				
Probability	1	2	3	4
	Yellow	Yellow	Yellow	Yellow
	Yellow	Yellow	Yellow	Yellow
	Yellow	Yellow	Yellow	Yellow
Impact				

- 1 Notify Community Relations
- 2 Local Community Relations Engagement at Project Initiation
- 3 Enable Strike Team 24 months prior to Project Kickoff

Probability > 45, Impact <= 15	Probability > 45, 15< Impact <=28	Probability > 45, 28< Impact <=41	Probability > 45, 41< Impact <=52	Probability > 45, Impact >52
35< Probability <= 45, Impact <= 15	35<Probability <= 45, 15< Impact <= 28	35<Probability <= 45, 28< Impact <= 41	35<Probability <= 45, 41< Impact <= 52	35< Probability <= 45, Impact >52
23< Probability <= 35, Impact <= 15	23< Probability <=35, 15< Impact <= 28	23< Probability <=35, 28< Impact <= 41	23<Probability <=35, 41< Impact <= 52	23< Probability <=35, Impact >52
12< Probability <= 23, Impact <= 15	12< Probability <=23, 15< Impact <= 28	12< Probability <=23, 28< Impact <= 41	12<Probability <=23, 41< Impact <= 52	12<Probability <=23, Impact >52
Probability <= 12, Impact <= 15	Probability <=12, 15< Impact <= 28	Probability <=12, 28< Impact <= 41	Probability <=12, 41< Impact <= 52	Probability <=12, Impact >52

R&D Credit Potential Checklist

Date: 1/14/2025
Activity/Project Name: Line AM07 Pipeline Replacement-Phase 4
Business Unit: NGBU
Project Staff: Major Projects

Activity/Project Scope or Description: 1. 2023 Ecosys SOW:Phase 4 (of 5 Phases) includes the following:*Perform detailed engineering to supp

The intent of this questionnaire is to identify Duke Energy projects /activities that may qualify for the Duke R&D Credit Incentive Program.

Review activity/project and answer the following questions:	Answer (Yes, No, Unknown)
PERMITTED PURPOSE: Does the activity relate to a new/improved business component (Function, Performance, Reliability, Quality)? *A business component includes any product, process, computer software, technique, formula, or invention which is to be(A)held for sale, lease, or license, or (B)used by the taxpayer in a trade or business of the taxpayer.	
TECHNOLOGICAL IN NATURE: Does the activity performed fundamentally rely on principles of Physical/Biological Science, Engineering, and Computer Science?	
ELIMINATION OF UNCERTAINTY: Is the activity intended to discover information to eliminate uncertainty concerning the Capability, Method, and/or Design for developing/improving a business component?	
PROCESS OF EXPERIMENTATION: Will the taxpayer engage in an evaluative process that is capable of identifying and evaluating one or more alternatives to achieve a result (this may include modeling, simulation, or systematic trial & error methodology)?	



	Projected	Cumulative	Cum. Charges	Monthly	Cumulative			
Month	Charges	Charges	for AFUDC	AFUDC	AFUDC			
Mar 2024		\$ -	\$ -	\$ -	\$ -	0.00%	0.00%	0.00%
Apr 2024	\$ -	\$ -	\$ -	\$ -	\$ -	3.00%	0.03%	0.00%
May 2024	\$ 3,056	\$ 3,056	\$ 1,528	\$ 9	\$ 9	4.00%	0.04%	0.01%
Jun 2024	\$ 3,056	\$ 6,112	\$ 4,584	\$ 27	\$ 36	4.50%	0.05%	0.01%
Jul 2024	\$ 3,056	\$ 9,167	\$ 7,639	\$ 45	\$ 80	3.00%	0.05%	0.01%
Aug 2024	\$ 6,112	\$ 15,279	\$ 12,223	\$ 71	\$ 152	3.75%	0.05%	0.02%
Sep 2024	\$ 6,112	\$ 21,390	\$ 18,335	\$ 107	\$ 258	4.25%	0.51%	0.02%
Oct 2024	\$ 18,335	\$ 39,725	\$ 30,558	\$ 178	\$ 437	4.00%	1.18%	0.06%
Nov 2024	\$ 111,536	\$ 151,261	\$ 95,493	\$ 557	\$ 994	4.88%	0.46%	0.37%
Dec 2024	\$ 84,034	\$ 235,294	\$ 193,277	\$ 1,127	\$ 2,121	15.25%	0.43%	0.28%
Jan 2025	\$ 186,402	\$ 421,696	\$ 328,495	\$ 1,916	\$ 4,037	18.50%	0.67%	0.61%
Feb 2025	\$ 183,346	\$ 605,042	\$ 513,369	\$ 2,995	\$ 7,032	16.00%	0.37%	0.60%
Mar 2025	\$ 1,069,520	\$ 1,674,562	\$ 1,139,802	\$ 6,649	\$ 13,681	10.50%	0.83%	3.50%
Apr 2025	\$ 1,069,520	\$ 2,744,081	\$ 2,209,322	\$ 12,888	\$ 26,569	4.88%	0.54%	3.50%
May 2025	\$ 763,943	\$ 3,508,024	\$ 3,126,053	\$ 18,235	\$ 44,804	1.50%	3.04%	2.50%
Jun 2025	\$ 1,986,251	\$ 5,494,274	\$ 4,501,149	\$ 26,257	\$ 71,061	1.25%	2.73%	6.50%
Jul 2025	\$ 611,154	\$ 6,105,428	\$ 5,799,851	\$ 33,832	\$ 104,893	0.50%	3.23%	2.00%
Aug 2025	\$ 305,577	\$ 6,411,005	\$ 6,258,217	\$ 36,506	\$ 141,399	0.25%	4.50%	1.00%
Sep 2025	\$ 479,756	\$ 6,890,761	\$ 6,650,883	\$ 38,797	\$ 180,196		5.30%	1.57%
Oct 2025	\$ 106,952	\$ 6,997,713	\$ 6,944,237	\$ 40,508	\$ 220,704		4.65%	0.35%
Nov 2025	\$ 165,012	\$ 7,162,725	\$ 7,080,219	\$ 41,301	\$ 262,006		8.06%	0.54%
Dec 2025	\$ 165,012	\$ 7,327,736	\$ 7,245,231	\$ 42,264	\$ 304,269		9.52%	0.54%
Jan 2026	\$ 534,760	\$ 7,862,496	\$ 7,595,116	\$ 44,305	\$ 348,574		10.05%	1.75%
Feb 2026	\$ 458,366	\$ 8,320,862	\$ 8,091,679	\$ 47,201	\$ 395,776		12.91%	1.50%
Mar 2026	\$ 458,366	\$ 8,779,227	\$ 8,550,044	\$ 49,875	\$ 445,651		14.08%	1.50%
Apr 2026	\$ 476,700	\$ 9,255,927	\$ 9,017,577	\$ 52,603	\$ 498,253		8.52%	1.56%
May 2026	\$ 3,972,501	\$ 13,228,428	\$ 11,242,178	\$ 65,579	\$ 563,833		3.22%	13.00%
Jun 2026	\$ 3,972,501	\$ 17,200,929	\$ 15,214,679	\$ 88,752	\$ 652,585		2.25%	13.00%
Jul 2026	\$ 3,055,770	\$ 20,256,699	\$ 18,728,814	\$ 109,251	\$ 761,837		1.38%	10.00%
Aug 2026	\$ 2,444,616	\$ 22,701,315	\$ 21,479,007	\$ 125,294	\$ 887,131		0.23%	8.00%
Sep 2026	\$ 2,444,616	\$ 25,145,931	\$ 23,923,623	\$ 139,554	\$ 1,026,685		0.12%	8.00%
Oct 2026	\$ 1,833,462	\$ 26,979,393	\$ 26,062,662	\$ 152,032	\$ 1,178,717		1.00%	6.00%
Nov 2026	\$ 2,139,039	\$ 29,118,432	\$ 28,048,913	\$ 163,619	\$ 1,342,336			7.00%
Dec 2026	\$ 611,154	\$ 29,729,586	\$ 29,424,009	\$ 171,640	\$ 1,513,976			2.00%
Jan 2027	\$ 305,577	\$ 30,035,163	\$ 29,882,375	\$ 174,314	\$ 1,688,290			1.00%
Feb 2027	\$ 152,789	\$ 30,187,952	\$ 30,111,558	\$ 175,651	\$ 1,863,941			0.50%
Mar 2027	\$ 15,279	\$ 30,203,231	\$ 30,195,591	\$ 176,141	\$ 2,040,082			0.05%
Apr 2027	\$ 15,279	\$ 30,218,510	\$ 30,210,870	\$ 176,230	\$ 2,216,312			0.05%
May 2027	\$ 9,167	\$ 30,227,677	\$ 30,223,093	\$ 176,301	\$ 2,392,613			0.03%
Jun 2027	\$ 9,167	\$ 30,236,844	\$ 30,232,260	\$ 176,355	\$ 2,568,968			0.03%
Jul 2027	\$ 3,056	\$ 30,239,900	\$ 30,238,372	\$ 176,391	\$ 2,745,359			0.01%
Aug 2027	\$ 3,056	\$ 30,242,956	\$ 30,241,428	\$ 176,408	\$ 2,921,767			0.01%
Sep 2027	\$ 3,056	\$ 30,246,011	\$ 30,244,484	\$ 176,426	\$ 3,098,193			0.01%
Oct 2027	\$ 3,056	\$ 30,249,067	\$ 30,247,539	\$ 176,444	\$ 3,274,637			0.01%
Nov 2027	\$ 3,056	\$ 30,252,123	\$ 30,250,595	\$ 176,462	\$ 3,451,099			0.01%
Dec 2027	\$ 305,577	\$ 30,557,700	\$ 30,404,912	\$ 177,362	\$ 3,628,461			1.00%
					1 Year Proj AFUDC			\$ 141,399
					2 Year Proj AFUDC			\$ 1,178,717
					3 Year Proj AFUDC			\$ 3,628,461

Object Path ID	Resource Type Path ID	Start Date	End Date	Curve ID	Cost	Currency	Transaction Date	External Key
N/A.CP1.NGCONFC		3/1/2025	1/29/2028	2Y-NGCONFC	\$ -			
N/A.CP1.NGCONPC		3/1/2025	1/29/2028	2Y-NGCONPC	\$ 12,165,700			
N/A.CP1.NGCONT		3/1/2025	1/29/2028	2Y-NGCONT	\$ 3,546,300			
N/A.CP1.NGENGNC		3/1/2025	1/29/2028	2Y-NGENGNC	\$ 1,890,800			
N/A.CP1.NGEXCEP		3/1/2025	1/29/2028	2Y-NGEXCEP	\$ -			
N/A.CP1.NGFITSC		3/1/2025	1/29/2028	2Y-NGFITSC	\$ 1,791,400			
N/A.CP1.NGILIPC		3/1/2025	1/29/2028	2Y-NGILIPC	\$ -			
N/A.CP1.NGLANDC		3/1/2025	1/29/2028	2Y-NGLANDC	\$ 3,610,800			
N/A.CP1.NGMAFD		3/1/2025	1/29/2028	2Y-NGMAFD	\$ 719,600			
N/A.CP1.NGMATEC		3/1/2025	1/29/2028	2Y-NGMATEC	\$ 3,336,600			
N/A.CP1.NGMOTH		3/1/2025	1/29/2028	2Y-NGMOTH	\$ 42,000			
N/A.CP1.NGMOVH		3/1/2025	1/29/2028	2Y-NGMOVH	\$ 3,911,100			
N/A.CP1.NGMPL		3/1/2025	1/29/2028	2Y-NGMPL	\$ 997,500			
N/A.CP1.NGREMPC		3/1/2025	1/29/2028	2Y-NGREMPC	\$ 150,500			

Master Input Data		
Description	User Input	Notes
Estimate Revision Number	D-Initiate	Change number on each draft to be sent out
Ecosys Opportunity Number	N/A	Need to complete from Ecosys for Charter estimates.
Project Name	Line AM07 Pipeline Replacement Phase 5	
Date:	1/16/2025	Update with each revision
Length of Indicative Schedule in Years	2	This is required for Ecosys spend curves. Need to put 1, 2, or 3.
Customer	Duke Energy/PNG	
City / County / Township	Erlanger, KY	
State	Kentucky	
Project manager	Kelsey Pace	
Modeler	System Planning	
Lead Estimator	R. Fredericks	Person who does the estimate
Total Project Schedule	35	1 Year Project - 17 months 2 Year Project - 35 months 3 Year Project - 46 months
Engineering Project Schedule	15	1 Year Project - 5 months 2 Year Project - 15 months 3 Year Project - 16 months
Construction Project Schedule	9	1 Year Project - 4 months 2 Year Project - 9 months 3 Year Project - 10 months
Estimate Requested By	Kelsey Pace	
Rate Requested		firm, interruptible, etc.
Hourly Flow (MCFH)		change unit of measure as needed
Delivery Pressure (PSIG)		
Resource Center	Erlanger	Select from the Drop-down list
Estimate Type	Class 4	
Length of Pipeline	10,982 LF	Enter the overall pipe line footage.
Pipe Size	24"	
Escalation (in Years)	0	Years until start date (not in-service date) (Put '0' if project is kicking off within 6 months)
Escalation Rate (%)	2.5%	Rate of Escalation (use '0' only for commit and build gates)
Contingency (%)	15%	Contingency %
Start Date	3/1/2025	*Either start date from Ecosys or leave as 1/1/2022 for 2022 charters
In-Service Date	8/30/2027	*This will auto-populate when total project schedule is completed
Close-Out Date	1/29/2028	*This will auto-populate when total project schedule is completed
Ecosys In-Service Date	11/30/2027	*From Ecosys for Charters **IF HIGHLIGHTED RED THEN NOT FEASIBLE, CONTACT CHARTER GROUP**

PMCoE

Estimate Uncertainty



Cell requires user entry

Project Name: **Line AM07 Pipeline Replacement Phase 5** Date: **1/16/2025**

Next Stage Gate: **Initiate** Minimum Class: **Class 4**

PMCoE Estimate Uncertainty Tool

Informed Range		Cost Description	Best Case	Estimate Value	Worst Case
- %	+ %		(Optimistic: O)	(Most Likely: ML)	(Pessimistic: P)
-30%	50%	Engineering	\$ 1,323,560	\$ 1,890,800	\$ 2,836,200
-30%	50%	Land	\$ 2,527,560	\$ 3,610,800	\$ 5,416,200
-30%	50%	Materials/Equipment	\$ 2,335,620	\$ 3,336,600	\$ 5,004,900
-30%	50%	Construction Services	\$ 8,380,400	\$ 11,972,000	\$ 17,958,000
-30%	50%	Field Inspections & Testing	\$ 1,088,430	\$ 1,554,900	\$ 2,332,350
-30%	50%	PNG Labor	\$ 698,250	\$ 997,500	\$ 1,496,250
-30%	50%	Other	\$ 29,400	\$ 42,000	\$ 63,000
-30%	50%	AFUDC	\$ 503,720	\$ 719,600	\$ 1,079,400
-30%	50%	Overhead & Allocations	\$ 2,737,770	\$ 3,911,100	\$ 5,866,650
Sub Total			\$ 19,624,710	\$ 28,035,300	\$ 42,052,950

A. Cumulative Risk EMV	\$ -
B. Estimate Uncertainty PERT $((O+P+(ML*4))/6)$ -ML	\$ 934,510
C. Contingency (A+B)	\$ 934,510

	\$ 19,624,710	\$ 28,969,810	\$ 42,052,950
	Best Case	Expected Case	Worst Case
Project Informed Range	-32%		45%
Certainty*	P10	P50	P90

* P10 and P90 are representative values, but not statistically proven by this methodology. These values do not include any Risk EMV and are shown to allow the project to assess if their Project Informed Range is aligned with the AACEI Class of Estimate expectations.

AACEI Estimate Class Reference:

Class	Typical Methodology	Low Range	High Range
5	Capacity Factored. Parametric Models. Judgement, or Analogy	-20%	30%
		-50%	100%
4	Equipment Factored. Parametric Models.	-15%	20%
		-30%	50%
3	Semi-Detailed Unit Costs with Assembly Level Line Items.	-10%	10%
		-20%	30%
2	Detailed Unit Cost with Detailed Take-Off.	-5%	5%
		-15%	20%
1	Detailed Unit Cost with Detailed Take-Off.	-3%	3%
		-10%	15%

Line AM07 Pipeline Replacement Phase 5
Funding Breakdown
 1/16/2025

Description	Budget	
Contract Labor	\$	16,283,400
Material Purchased by PNG	\$	3,336,600
PNG Labor	\$	997,500
Land (Permanent Only)	\$	2,836,300
Other	\$	531,500
Sub-Total	\$	23,985,300
Contingency	\$	3,546,300
Sub-Total	\$	27,531,600
AFUDC	\$	-
Overheads	\$	-
Total	\$	27,531,600
Start Date	3/1/2025	By Project Manager
In-Service Date	8/30/2027	From Project Charter or Project Mgr.
Completion Date	11/30/2027	From Estimating

***ENSURE DISTRIBUTION COSTS HAVE BEEN REMOVED FROM ABOVE**

Line AM07 Pipeline Replacement Phase 5

Notes and Assumptions

1/16/2025

Estimate Revision:

D-Initiate

1. 2023 Ecosys SOW:

Phase 5 (of 5 Phases) includes the following:

*Perform detailed engineering to support replacement of 23,710 feet (4.5 miles) of 24" pipe designed for a pressure of 1000 psig.

*Install new 24" steel pipeline that starts where Phase 2 ends (dead end of Centre View Blvd [39° 1'19.33"N, 84°33'10.31"W]) and ends where Phase 3 starts (in the vicinity of coordinates [39° 1'33.74"N, 84°30'29.44"W]).

*Abandon Line AM07 along this section.

*Address remaining farm taps including elimination of UL26.

*Preliminary proposed pipeline route that was field reviewed by Implemented

2023 Revised Scope per the Project Manager:

1. A routing Factor has been assumed for the pipeline route. Estimate revision assumes 10,835 LF of total Pipelay per the proposed High Level Routing with a 14% Routing Factor. Total Pipelay estimated is 10,835 LF.

2. Estimate assumes AC Mitigation is not required.

3. Estimate assumes basic environmental control design.

4. Estimate assumes SCADA is not required.

5. Estimate assumes that a laydown yard is required.

6. Estimate assumes that traffic control is required.

7. Estimate assumes 20% Rock Pipelay/0% Rock Bores per completed Phase Project AM07 Replacements.

8. Revision assumes no open cut Stream Crossings.

9. Revision assumes 1 Road Bore, Horsebranch Rd. (5OLF).

10. Revision assumes existing Pipeline installed 2017. Retirement and Tie-ins does not require Coal Tar & Asbestos Remediation.

11. Revision assumes a MLV Installation is no longer required along the new Pipelay per Project Manager.

RevD-Initiate Estimate:

1. Pipelay estimate is 10,982 Linear Feet per B&McD Proposal.

2. Estimate assumes 1 dirt bores, 1 rock HDD, and 1 RR crossing.

3. Estimate assumes AC Mitigation is not required.

4. Estimate assumes basic environmental control design.

5. Estimate assumes SCADA is not required.

6. Estimate assumes that a laydown yard is required.

7. Estimate assumes that traffic control is required.

8. Estimate assumes Engineering cost of \$1,486,863 per B&McD Proposal.

9. Revision assumes no open cut Stream Crossings.

10. Estimate assumes existing pipeline built in 1956 per Project Charter. Retirement requires Coal Tar and Asbestos Remediation.

11. Estimate assumes 3 foot section removed of retired pipeline every 5,000 Linear Feet.

This is to document the changes requested in the estimate from reviews.

Piedmont Natural Gas Line AM07 Pipeline Replacement Phase 5 Estimate Change Log								
Revision: D-Initiate								
Item	Revision	Date	Description	Price Before Change	Price After Change	Change Amount	Change Directed By:	Estimate Changed By:
1	A	XX/XX/XX	Starting Estimate	\$0	\$0	\$0		
2	B	8/4/2020	Charter Estimate	\$0	\$64,609,200	\$64,609,200	Charter	K. Gillow
3	C	11/30/2023	Revised Estimate-Class 5 Scope Change in Pipelay footage and Routing Change-Route is High Level and a 14% routing factor is included. 20,000 LF to 10,800 LF Reduction and no MLV Installation	\$64,609,200	\$35,497,500	-\$29,111,700	Brad Seiter	Benton Jones
4	D	1/16/2025	Initiate Estimate: Directional Drill Scope Reduced, Length of pipeline reduced.	\$35,497,500	\$32,162,300	-\$3,335,200	Kelsey Pace	R. Fredericks
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Line AM07 Pipeline Replacement Phase 5

Erlanger, KY

Project Cost Breakdown

Erlanger

1/16/2025

Revision: D-Initiate

WBS 1 Description		Capital Improvement and Retirement	Capital Improvement		Retirement
			Size / Name	24" Steel Pipeline	24" Steel
			Length / Qty	16,036 LF	23,710 LF
			Total	Pipelay 1	Pipe Abandon 1
NGENGNC	Engineering	\$ 1,890,800	\$ 1,878,200	\$ 1,878,200	\$ 12,600
NGLANDC	Land - Permanent	\$ 2,836,300	\$ 2,836,300	\$ 2,836,300	\$ -
NGLANDC	Land - Temporary	\$ 489,500	\$ 489,500	\$ 489,500	\$ -
NGLANDC	Land - Support	\$ 225,000	\$ 225,000	\$ 225,000	\$ -
NGLANDC	Land Legal	\$ 60,000	\$ 60,000	\$ 60,000	\$ -
NGMATEC	Materials/Equipment	\$ 3,336,600	\$ 3,330,400	\$ 3,330,400	\$ 6,200
NGCONPC	Construction Serv - Pipeline	\$ 11,972,000	\$ 11,821,500	\$ 11,821,500	\$ 150,500
NGCONFC	Construction Serv - Facility	\$ -	\$ -		
NGFITSC	Field Inspections	\$ 1,554,900	\$ 1,536,800	\$ 1,536,800	\$ 18,100
NGFITSC	Field Testing	\$ 236,500	\$ 236,500	\$ 236,500	\$ -
NGMPGL	Duke/PNG Labor	\$ 997,500	\$ 980,000	\$ 980,000	\$ 17,500
NGMOTH	Other Direct Costs	\$ 42,000	\$ 38,500	\$ 38,500	\$ 3,500
Subtotal Direct Cost		\$ 23,641,100	\$ 23,432,700	\$ 23,432,700	\$ 208,400
	Project Contingency	\$ 3,546,300	\$ 3,515,000	\$ 3,515,000	\$ 31,300
	Project Escalation	\$ 344,200	\$ 339,900	\$ 339,900	\$ 4,300
Total Contingency & Escalation		\$ 3,890,500	\$ 3,854,900	\$ 3,854,900	\$ 35,600
Total Direct Cost		\$ 27,531,600	\$ 27,287,600	\$ 27,287,600	\$ 244,000
NGMAFD	AFUDC Debt	\$ 719,600	\$ 719,600	\$ 719,600	\$ -
NGMOVH	Overhead and Allocations	\$ 3,911,100	\$ 3,865,900	\$ 3,865,900	\$ 45,200
Total PNG Overhead Cost		\$ 4,630,700	\$ 4,585,500	\$ 4,585,500	\$ 45,200
Project Total		\$ 32,162,300	\$ 31,873,100	\$ 31,873,100	\$ 289,200

Notes:

1. Contingency is not included on escalation.
2. Overheads and Allocations calculated using 19% of Total Direct Cost less Land Purchase, Materials/Equipment and FERC cost.
3. AFUDC calculated using 7% of total Direct Cost. (No AFUDC on Retirement Cost.)
4. Escalation was assumed at 2.5% per year with the project kicking off on 03/01/25.

Line AM07 Pipeline Replacement Phase 5						
1/16/2025	24"			Revision #	D-Initiate	
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	Duke/PNG Labor	35	Month	\$ 28,000	\$ 980,000	
OTH001	Other Direct Cost	35	Month	\$ 1,100	\$ 38,500	
Sub-Total - Internal E&CM					\$	1,018,500
External Engineering						
G801	Pre-Design Activities	1	Lump Sum	\$ 3,334	\$ 3,334	
G802	Route Development	1	Lump Sum	\$ 18,225	\$ 18,225	
G803	Project Management	1	Lump Sum	\$ 71,580	\$ 71,580	
G804	Records Research	1	Lump Sum	\$ 1,182	\$ 1,182	
G805	Estimating & Scoping	0	Lump Sum	\$ -	\$ -	
G806	Land Survey	1	Lump Sum	\$ 85,371	\$ 85,371	
G807	Land Acquisition Support (Engineering)	1	Lump Sum	\$ 29,887	\$ 29,887	
G808	Environmental Services & Permitting	1	Lump Sum	\$ 82,894	\$ 82,894	
G809	Geotechnical Services	1	Lump Sum	\$ 134,586	\$ 134,586	
G810	Design - Pipeline	1	Lump Sum	\$ 246,090	\$ 246,090	
G811	Engineering Adders	1	Lump Sum	\$ 400,259	\$ 400,259	
G812	Cathodic Protection	1	Lump Sum	\$ 11,036	\$ 11,036	
G813	Bid Package Development	1	Lump Sum	\$ 15,644	\$ 15,644	
G814	Construction Support	1	Lump Sum	\$ 320,109	\$ 320,109	
G815	As-Built Survey	1	Lump Sum	\$ 453,937	\$ 453,937	
G815	Project Close-out	1	Lump Sum	\$ 452	\$ 452	
G663	MAOP Oversight	1	Lump Sum	\$ 3,600	\$ 3,600	
Sub-Total - External Engineering					\$	1,878,200
Land Services						
G661	Transmission - Fee Purchase - Rural	0	Acre	\$ -	\$ -	
G661	Transmission - Fee Purchase - Urban	0	Acre	\$ 156,250	\$ -	
G662	Transmission - Permanent Easements - Rural	0	Acre	\$ -	\$ -	
G662	Transmission - Permanent Easements - Urban	15.13	Acre	\$ 187,500	\$ 2,836,300	
G662	Transmission - Stations Easements - Rural	0	Acre	\$ -	\$ -	
G662	Transmission - Stations Easements - Urban	0	Acre	\$ 218,750	\$ -	
G663	Transmission - Temporary Easements - Rural	0	Acre	\$ -	\$ -	
G663	Transmission - Temporary Easements - Urban	10.08	Acre	\$ 39,063	\$ 394,000	
G662 PA	Transmission - Access Roads	2	Each	\$ 10,000	\$ 20,000	
G663	Transmission - Laydown Yard	11	Months	\$ 4,200	\$ 46,200	
G656	Transmission - Damages	9	Per Parcel	\$ 3,250	\$ 29,300	
G656	Transmission - Additional Damages	0	Acre	\$ -	\$ -	
G301	Contract Labor - Land Services	18	Per Parcel	\$ 12,500	\$ 225,000	
G301	Contract Labor - Legal	2	Per Parcel	\$ 30,000	\$ 60,000	
Sub-Total - Land Services					\$	3,610,800
Construction Services - Pipeline						
		10982	Overall LF of Pipe Installed			
820	Mob/Demob	1	Lump Sum	\$ 1,074,682	\$ 1,074,682	
821	Clearing and Grubbing	11.71	acre	\$ 85,000	\$ 995,179	
821	Tree Cutting Only/No Grubbing	1.68	acre	\$ 75,000	\$ 125,861	
829	Conventional Upland Lay	9994	Linear Foot	\$ 475	\$ 4,747,150	
829	Conventional Upland Lay (Residential)	0	Linear Foot	\$ -	\$ -	
830	Conventional Wetland Lay	0	Linear Foot	\$ 385	\$ -	
825	Conventional Bore - Dirt (1 Bore)	48	Linear Foot	\$ 2,500	\$ 120,000	
826	Conventional Bore - Rock	0	Linear Foot	\$ -	\$ -	
827	Directional Drill - Dirt	0	Linear Foot	\$ -	\$ -	
828	Directional Drill - Rock	940	Linear Foot	\$ 1,590	\$ 1,494,600	
828	ScarGuard Application	944	Linear Foot	\$ 269	\$ 253,828	
822	Rock Excavation - Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation - Mechanical	888	Cubic Yard	\$ 300	\$ 266,507	
829	Anomaly Dig	0	Each	\$ -	\$ -	
829	Retrofit Cost	0	Linear Foot	\$ -	\$ -	
829	Material Verification	0	Each	\$ 18,000	\$ -	
829	Bore/Drill Pits	2	Per Bore/Drill	\$ 25,000	\$ 50,000	
829	Extra Depth Ditch	0	Per 1 ft depth / LF	\$ 40	\$ -	
829	Padding - Job Site	1999	Linear Foot	\$ 25	\$ 49,970	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	0	Linear Foot	\$ -	\$ -	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon (AC Mitigation)	0	Linear Foot	\$ -	\$ -	
837	Anode Bed	0	Each	\$ -	\$ -	
835	Temporary Clean-up / Temporary Stabilization	9994	Linear Foot	\$ 50	\$ 499,700	
833	Hydro Test	11922	Lump Sum	\$ 34	\$ 405,348	
833	Hydro Water Testing	0	Lump Sum	\$ 25,000	\$ -	
834	Commissioning	10982	Lump Sum	\$ 4	\$ 43,928	
837	Re-coating of Exposed Pipe (Hand Application)	0	Linear Foot	\$ -	\$ -	
837	Re-coating of Exposed Pipe (Spray Application)	0	Linear Foot	\$ -	\$ -	
837	Armor Plate	0	Linear Foot	\$ -	\$ -	
829	Daylight Existing Utilities (Pot Holing)	4	Lump Sum	\$ 1,500	\$ 6,000	
829	AirVac/Hydro Vac Excavation	0	Cubic Foot	\$ -	\$ -	
829	Pipe Rack Construction (Dirt/Sand Berm)	0	Lump Sum	\$ -	\$ -	
829	Transition Of Bevels	0	Each	\$ -	\$ -	
837	Test Station Installation	7	Each	\$ 1,000	\$ 7,000	
829	Temporary Stabilization	0	Linear Foot	\$ -	\$ -	
630	Silt Fence (metal post & wire backing)	19988	Linear Foot	\$ 25	\$ 499,700	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Super Silt Fence (metal post & chainlink fence backing)	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	200	Square Yard	\$ 5	\$ 1,000	
630	Curlex Double Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Triple Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Premier Coconut Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Premier Straw/Coconut Blanket with Staples	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	Square Yard	\$ -	\$ -	

630	Rip Rap Placement	0	Ton	\$	-	\$	-
630	Gravel Placement	0	Ton	\$	-	\$	-
630	Geo Textile Fabric	0	Square Yard	\$	-	\$	-
630	Safety Fence	900	linear ft	\$	8	\$	7,200
630	Culvert Pipe (CMP)	0	Inch Dia per LF	\$	-	\$	-
630	Sack Breakers	0	Each	\$	-	\$	-
630	Sediment Basin (excludes rock)	0	Each	\$	-	\$	-
630	Trench Breaker (Plug)	0	Each	\$	-	\$	-
630	Foam Breakers	0	Each	\$	-	\$	-
630	Construction (Timber) Mats	100	Linear Foot (Width)	\$	125	\$	12,500
630	Laminated (Truck) Mats	0	Linear Foot (Width)	\$	-	\$	-
630	Bentonite Trench Seals in Wetlands	0	Each	\$	-	\$	-
630	Permanent Seeding (seed straw, and tack)	999400	Square Foot	\$	0.15	\$	149,910
630	Intermediate Seeding (seed straw, and tack)	499700	Square Foot	\$	0.10	\$	49,970
630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$	-	\$	-
630	Sod	0	SF	\$	-	\$	-
630	Straw Wattle 9" x 10'	0	Each	\$	-	\$	-
630	Sediment Log 8"	0	Each	\$	-	\$	-
630	Sediment Log 10"	0	Each	\$	-	\$	-
630	Sediment Log 12"	0	Each	\$	-	\$	-
630	Sediment Log 20"	0	Each	\$	-	\$	-
630	Erosion Eel 10"	0	Each	\$	-	\$	-
630	Erosion Eel 12"	0	Each	\$	-	\$	-
630	Erosion Eel 14"	0	Each	\$	-	\$	-
630	Erosion Eel 20"	0	Each	\$	-	\$	-
630	Permanent Waterbar Installation	0	Each	\$	-	\$	-
630	Temporary Waterbar Installation	0	Each	\$	-	\$	-
630	Filtration Sediment Bags 10' x 15'	0	Each	\$	-	\$	-
630	Dewater Structure	0	Lump Sum	\$	-	\$	-
630	Clear Water Diversion Pit	0	Lump Sum	\$	-	\$	-
630	Stabilized Construction Entrance 20'W x 50'L x 6"D	6	Each	\$	4,500	\$	27,000
831	Well Points	0	Each	\$	-	\$	-
832	Air Bridges	0	Each	\$	-	\$	-
832	Chain Link Fence & Gates – New	0	Linear Foot	\$	-	\$	-
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$	-	\$	-
832	Temporary Pasture Fencing	0	Linear Foot	\$	-	\$	-
832	Permanent Access Roads	0	Linear Foot	\$	-	\$	-
832	Temporary Access Roads	2000	Linear Foot	\$	35	\$	70,000
832	Top Soil	0	Ton	\$	-	\$	-
832	Asphalt Removal	1384	Square Foot	\$	18	\$	24,220
832	Asphalt Restoration	1384	Square Foot	\$	18	\$	24,220
832	Sheet Piling	0	Day	\$	-	\$	-
832	Ditch Shoring	0	Day	\$	5,000	\$	-
832	Road Plates (10' Long)	14	Each	\$	750	\$	10,500
832	Trench Boxes	0	Day	\$	-	\$	-
832	Traffic Control (Flaggers)	40	Day	\$	5,000	\$	200,000
832	Traffic Control (Signage)	60	Day	\$	100	\$	6,000
832	Traffic Control (Barriers)	60	Day	\$	100	\$	6,000
832	Flowable Fill	0	Cubic Yard	\$	-	\$	-
832	Noise Reduction Barriers	0	Day	\$	-	\$	-
837	Rectifier/Groundbed (CP)	1	Lump Sum	\$	9,000	\$	9,000
837	ACVG Testing (less than 10 miles)	2	Mile	\$	9,000	\$	18,000
837	ACVG Testing (greater than 10 miles)	0	Mile	\$	6,000	\$	-
	MLV Installation	0	Each	\$	-	\$	-
	MLV Foundations	0	Each	\$	7,500	\$	-
	SCADA for MLV Sites	0	Each	\$	100,000	\$	-
	Electrical/Controls for MLV Sites	0	Each	\$	50,000	\$	-
	Security for MLV Sites	0	Each	\$	21,000	\$	-
	L/R Installation	0	Each	\$	-	\$	-
	L/R Foundations	0	Each	\$	30,000	\$	-
	Painting & Waxing Flanges	0	Lump Sum	\$	25,000	\$	-
	Staging & Laydown Yard	5	Acre	\$	65,000	\$	325,000
	Railway Crossings	1	Each	\$	20,000	\$	20,000
	Civil or General Conditions	0	Lump Sum	\$	-	\$	-
	Stopple Pit	2	Each	\$	25,000	\$	50,000
	Contractor Tap Support 24"	2	Each	\$	21,273	\$	42,546
	TDW - Hot Tap 24"	2	Each	\$	16,500	\$	33,000
	TDW - Tap & Stop	0	Each	\$	-	\$	-
	TDW - Bypass	0	Each	\$	-	\$	-
	HDD Geo-analytical Design	1	Each	\$	60,000	\$	60,000
	HDD Mudd Disposal	940	Linear Foot	\$	17	\$	15,980
	HDD Mudd Engineer	1	Lump Sum	\$	20,000	\$	20,000
Sub-Total - Construction Services - Pipeline							\$ 11,821,500
Field Inspection & Testing							
G880	Construction Inspection	1808	Per Man-Days	\$	850	\$	1,536,795
G881	Non-Destructive Testing	95	Days	\$	2,500	\$	236,430
Sub-Total - Field Inspection & Testing							\$ 1,773,300
Major Equipment & Materials							
	Pipe						
G205	24" Standard Wall, X52, Coated, DRL	10940	Linear Foot	\$	200	\$	2,188,000
G205	24" Standard Wall, X52, Powercrete	60	Linear Foot	\$	175	\$	10,500
G205	XX" Standard Wall, X52, Bare	0	Linear Foot	\$	-	\$	-
	Fittings						
G205	24" 3R - 45 deg ell - Segmentable	18	Each	\$	4,242	\$	76,356
G205	24" 3R - 90 deg ell - Segmentable	12	Each	\$	6,158	\$	73,896
	Equipment						
G204	XX" TDW Stopple	0	Each	\$	-	\$	-
G204	24" TDW Spherical Tee	2	Each	\$	58,000	\$	116,000
G204	XX" L/R Module	0	Each	\$	-	\$	-
G204	XX" MLV Module	0	Each	\$	-	\$	-
	Miscellaneous						
	Anode Bed Material	0	Each	\$	20,000	\$	-
	Rectifier/Groundbed Material (CP)	1	Each	\$	9,000	\$	9,000
	AC Mitigation Material	0	Each	\$	75,000	\$	-

G204	ScarGuard	944	Linear Foot	\$ 269	\$ 253,828	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 272,758	\$ 272,758	
G205	Taxes & Freight (11% of All Material)	1	Calculated	\$ 330,037	\$ 330,037	
Sub-Total - Materials					\$ 3,330,400	
Sub-Total					\$ 23,432,700	
Escalation					\$ 339,900	
Contingency					\$ 3,515,000	
Pipeline Estimate Total					\$ 27,287,600	

Line AM07 Pipeline Replacement Phase 5						
1/16/2025		Retirement			Revision # D-Initiate	
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	Duke/PNG Labor	35	Month	\$ 500	\$ 17,500	
OTH001	Other Direct Cost	35	Month	\$ 100	\$ 3,500	
Sub-Total - Internal E&CM					\$	21,000
External Engineering						
G810	Design - Pipeline	100	Hour	\$ 125	\$ 12,536	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G663	MAOP	0	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	12,600
Land Services						
G-663	Transmission - Temp Work Space - Rural	0	Acre	\$ 45,000	\$ -	
G-663	Transmission - Temp Work Space - Urban	0	Acre	\$ 5,000	\$ -	
G-662 PA/G-663 TA	Transmission - Access Roads	0	Each	\$ 10,000	\$ -	
G-301	Contract Labor - Land Services	0	Per Parcel	\$ 10,000	\$ -	
Sub-Total - Land Services					\$	-
Construction Services - Pipeline		23710	Overall LF of Pipe to be Abandoned			
850	Mob/Demob	1	Lump Sum	\$ 13,676	\$ 13,676	
	Demo Equipment	3	Days	\$ 7,500	\$ 22,500	
823	Grouting of Abandoned Pipe	0	Cubic Yard	\$ -	\$ -	
824	Removal of Existing Pipeline	14	Linear Foot	\$ 2,125	\$ 30,230	
	Tar Coated Steel Remediation & Removal	5	Per Dig/Site	\$ 3,750	\$ 17,783	
	Install & Remove Flare + Mob/Demob	0	Lump Sum	\$ 50,000	\$ -	
	Methane Recapture	1	Lump Sum	\$ 25,000	\$ 25,000	
G863	Launcher/Receiver Removal	0	Each	\$ 75,000	\$ -	
G863	Small Station Removal	0	Each	\$ 35,000	\$ -	
G863	Medium Station Removal	0	Each	\$ 50,000	\$ -	
G863	Large Station Removal	0	Each	\$ 85,000	\$ -	
	Haul Materials	1	Per Site	\$ 10,000	\$ 10,000	
	Nitrogen Clearing	1	Lump Sum	\$ 25,000	\$ 25,000	
	Line Locating	0.50	Week	\$ 12,500	\$ 6,250	
	Contractor Tap Support	0	Days	\$ -	\$ -	
	Seeding	0	SF	\$ -	\$ -	
	Clean up	0	LF	\$ -	\$ -	
	TDW Tap	0	Each	\$ -	\$ -	
					\$	150,500
Field Inspection & Testing						
G880	Construction Inspection	21	Man-Days	\$ 850	\$ 18,060	
G881	Non-Destructive Testing	0	Days	\$ 2,000	\$ -	
Sub-Total - Field Inspection & Testing					\$	18,100
Major Equipment & Materials						
G205	Purge Materials	1	Lump Sum	\$ 5,000	\$ 5,000	
G204	Stopple	0	Each	\$ -	\$ -	
G204	Stopple	0	Each	\$ -	\$ -	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 500	\$ 500	
G205	Taxes & Freight (11% of All Material)	1	Calculated	\$ 605	\$ 605	
Sub-Total - Materials					\$	6,200
Sub-Total					\$	208,400
Escalation					\$	4,300
Contingency					\$	31,300
Pipeline Estimate Total					\$	244,000

Environmental Justice Assessment Trigger Questionnaire

Date: 1/16/2025
Activity/Project Name: Line AM07 Pipeline Replacement Phase 5
Business Unit: NGBU
Project Staff: Major Projects

Activity/Project Scope or Description: 1. 2023 Ecosys SOW:Phase 5 (of 5 Phases) includes the following:*Perform detailed engineering to supp

The intent of this questionnaire is to identify Duke Energy projects /activities that might have significant environmental or community impacts or required regulatory approvals and/or that are located in or near communities of environmental justice (EJ) concern to further assess for potential EJ risks and planning.

Review activity/project and answer the following questions:	Answer (Yes, No, Unknown)
Does the activity/project anticipate a public regulatory approval that may trigger EJ Assessment requirements? (i.e. federal permitting, NRC licensing, state Public Utility Commission approval) Transmission only, Should only apply to Ohio (OPSB) & Kentucky (CPCN).	No
Does the activity/project anticipate creating significant new, modifying, or increasing discharge, emissions, or waste generation - either amount or type? Compressor Station, Permanent Flare, Heaters over 10 mmBTU/hr (not associated with Duke M&R), Station located near Paper Mill, Pellet, Concrete, Brick Plant, chemical (large emission or smell producing plants)	No
Does the activity/project anticipate significant land use modification, land acquisition, easement acquisition and/or modifications to community aesthetics? Large Stations immediately outside or in the middle of developments, neighborhoods. 20+ miles of pipeline	No
Does the activity/project trigger routing or site selection studies? OPSB, 20+ miles of pipeline, if charter states a routing/site selection study will be required	No
Is the activity/project in a community with known, previous and/or on-going EJ concerns? ACP corridor, Tribal Lands, Known Opposition	No

If the answer is "Yes" or "Unknown" to any of the questions above, consult with Environmental and External Engagement Staff (Nicole Kiser) to determine if an initial EJ Assessment is needed.

Nat Gas Project Public Engagement Level-of-Risk Assessment				
Charter/Project Name:		Date:		
Risk	Public Engagement Questionnaire	Response	Priority	Probability
1. Attributes				
1.1	New Natural Gas Pipeline Length (in new footprint) (miles) (system infrastructure growth)?	Less than 2000 feet		0
1.2	Replace or Retrofit Natural Gas Pipeline Length (miles)(Integrity project)? *	1-5 miles		1
1.3	New Regulator Station(s)/Launcher/Receiver?	No		0
1.4	Expanding the footprint of existing Regulator Station?	No		0
1.5	New Compressor Station(s)?	No		0
1.6	Expanding the footprint of existing Compressor Station?	No		0
1.7	Requires flaring?	No		0
2. Land				
2.1	Urban, Rural or Suburban?	Urban		7
2.2	New Easement acquisition required?	Yes		3
2.3	New Land acquisition required (in fee)?	No		0
2.4	Anticipated number of parcels to be purchased?	< 20 parcels		2
2.5	Amount of new Right of Way tree clearing required	6-33%		2
3. Environment, Historic, Archeological				
3.1	Crossing navigable waterways?	No		0
3.2	Larger environmentally sensitive areas? *	No		0
3.4	Sensitive, Protected, Historical Sites, Cultural Areas? (Not environmental)	No		0
3.5	Zoning Type? *	Residential		6
4. Additional Factors				
4.1	Past opposition from affected land owners and communities?	No		0
4.2	Permitting process requires :	None of the above		0
Final Total				21

*** Notes**

- 1.2 Response should be reflective of actual footage of construction not mileage researched
- 3.2 May not know environment sensitivity initially
- 3.2 Environmentally Sensitive - Named Environmental areas (shows up on a map with a name)
- 3.5 If entire project is in Utility ROW and no known preexisting opposition to construction in or near that ROW then the project can default to 'Yellow' or Green'

Impact - Magnitude of stateholder opposition (Defined by cost, or reputation)

Probability - External stakeholder opposition

Community Engagement Heat Map				
Probability	1	2	3	
Impact				

- 1 Notify Community Relations
- 2 Local Community Relations Engagement at Project Initiation
- 3 Enable Strike Team 24 months prior to Project Kickoff

Probability > 45, Impact <= 15	Probability > 45, 15< Impact <=28	Probability > 45, 28< Impact <=41	Probability > 45, 41< Impact <=52	Probability > 45, Impact >52
35< Probability <= 45, Impact <= 15	35<Probability <= 45, 15< Impact <= 28	35<Probability <= 45, 28< Impact <= 41	35<Probability <= 45, 41< Impact <= 52	35< Probability <= 45, Impact >52
23 < Probability <= 35, Impact <= 15	23< Probability <=35, 15 < Impact <= 28	23< Probability <=35, 28< Impact <= 41	23<Probability <=35, 41< Impact <= 52	23< Probability <=35, Impact >52
12 < Probability <= 23, Impact <= 15	12< Probability <=23, 15 < Impact <= 28	12< Probability <=23, 28< Impact <= 41	12<Probability <=23, 41< Impact <= 52	12<Probability <=23, Impact >52
Probability <= 12, Impact <= 15	Probability <=12, 15 < Impact <= 28	Probability <=12, 28 < Impact <= 41	Probability <=12, 41< Impact <= 52	Probability <=12, Impact >52

R&D Credit Potential Checklist

Date: 1/16/2025
Activity/Project Name: Line AM07 Pipeline Replacement Phase 5
Business Unit: NGBU
Project Staff: Major Projects

Activity/Project Scope or Description: 1. 2023 Ecosys SOW:Phase 5 (of 5 Phases) includes the following:*Perform detailed engineering to supp

The intent of this questionnaire is to identify Duke Energy projects /activities that may qualify for the Duke R&D Credit Incentive Program.

Review activity/project and answer the following questions:	Answer (Yes, No, Unknown)
PERMITTED PURPOSE: Does the activity relate to a new/improved business component (Function, Performance, Reliability, Quality)? *A business component includes any product, process, computer software, technique, formula, or invention which is to be(A)held for sale, lease, or license, or (B)used by the taxpayer in a trade or business of the taxpayer.	
TECHNOLOGICAL IN NATURE: Does the activity performed fundamentally rely on principles of Physical/Biological Science, Engineering, and Computer Science?	
ELIMINATION OF UNCERTAINTY: Is the activity intended to discover information to eliminate uncertainty concerning the Capability, Method, and/or Design for developing/improving a business component?	
PROCESS OF EXPERIMENTATION: Will the taxpayer engage in an evaluative process that is capable of identifying and evaluating one or more alternatives to achieve a result (this may include modeling, simulation, or systematic trial & error methodology)?	



	Projected	Cumulative	Cum. Charges	Monthly	Cumulative			
Month	Charges	Charges	for AFUDC	AFUDC	AFUDC			
Mar 2025		\$ -	\$ -	\$ -	\$ -	0.00%	0.00%	0.00%
Apr 2025	\$ 7,030	\$ 7,030	\$ 3,515	\$ 21	\$ 21	3.00%	0.03%	0.00%
May 2025	\$ 9,373	\$ 16,403	\$ 11,716	\$ 68	\$ 89	4.00%	0.04%	0.01%
Jun 2025	\$ 11,716	\$ 28,119	\$ 22,261	\$ 130	\$ 219	4.50%	0.05%	0.01%
Jul 2025	\$ 11,716	\$ 39,836	\$ 33,977	\$ 198	\$ 417	3.00%	0.05%	0.01%
Aug 2025	\$ 11,716	\$ 51,552	\$ 45,694	\$ 267	\$ 683	3.75%	0.05%	0.02%
Sep 2025	\$ 119,507	\$ 171,059	\$ 111,305	\$ 649	\$ 1,333	4.25%	0.51%	0.02%
Oct 2025	\$ 276,506	\$ 447,565	\$ 309,312	\$ 1,804	\$ 3,137	4.00%	1.18%	0.06%
Nov 2025	\$ 107,790	\$ 555,355	\$ 501,460	\$ 2,925	\$ 6,062	4.88%	0.46%	0.37%
Dec 2025	\$ 100,761	\$ 656,116	\$ 605,735	\$ 3,533	\$ 9,596	15.25%	0.43%	0.28%
Jan 2026	\$ 156,999	\$ 813,115	\$ 734,615	\$ 4,285	\$ 13,881	18.50%	0.67%	0.61%
Feb 2026	\$ 86,701	\$ 899,816	\$ 856,465	\$ 4,996	\$ 18,877	16.00%	0.37%	0.60%
Mar 2026	\$ 194,491	\$ 1,094,307	\$ 997,061	\$ 5,816	\$ 24,693	10.50%	0.83%	3.50%
Apr 2026	\$ 126,537	\$ 1,220,844	\$ 1,157,575	\$ 6,753	\$ 31,446	4.88%	0.54%	3.50%
May 2026	\$ 712,354	\$ 1,933,198	\$ 1,577,021	\$ 9,199	\$ 40,645	1.50%	3.04%	2.50%
Jun 2026	\$ 639,713	\$ 2,572,910	\$ 2,253,054	\$ 13,143	\$ 53,788	1.25%	2.73%	6.50%
Jul 2026	\$ 756,876	\$ 3,329,787	\$ 2,951,349	\$ 17,216	\$ 71,004	0.50%	3.23%	2.00%
Aug 2026	\$ 1,054,472	\$ 4,384,258	\$ 3,857,022	\$ 22,499	\$ 93,503	0.25%	4.50%	1.00%
Sep 2026	\$ 1,241,933	\$ 5,626,191	\$ 5,005,225	\$ 29,197	\$ 122,700		5.30%	1.57%
Oct 2026	\$ 1,089,621	\$ 6,715,812	\$ 6,171,002	\$ 35,998	\$ 158,698		4.65%	0.35%
Nov 2026	\$ 1,888,676	\$ 8,604,487	\$ 7,660,150	\$ 44,684	\$ 203,382		8.06%	0.54%
Dec 2026	\$ 2,230,793	\$ 10,835,280	\$ 9,719,884	\$ 56,699	\$ 260,081		9.52%	0.54%
Jan 2027	\$ 2,354,986	\$ 13,190,267	\$ 12,012,774	\$ 70,075	\$ 330,156		10.05%	1.75%
Feb 2027	\$ 3,025,162	\$ 16,215,428	\$ 14,702,848	\$ 85,767	\$ 415,923		12.91%	1.50%
Mar 2027	\$ 3,299,324	\$ 19,514,753	\$ 17,865,090	\$ 104,213	\$ 520,136		14.08%	1.50%
Apr 2027	\$ 1,996,466	\$ 21,511,219	\$ 20,512,986	\$ 119,659	\$ 639,795		8.52%	1.56%
May 2027	\$ 754,533	\$ 22,265,752	\$ 21,888,485	\$ 127,683	\$ 767,478		3.22%	13.00%
Jun 2027	\$ 527,236	\$ 22,792,987	\$ 22,529,369	\$ 131,421	\$ 898,899		2.25%	13.00%
Jul 2027	\$ 323,371	\$ 23,116,359	\$ 22,954,673	\$ 133,902	\$ 1,032,801		1.38%	10.00%
Aug 2027	\$ 53,895	\$ 23,170,254	\$ 23,143,306	\$ 135,003	\$ 1,167,804		0.23%	8.00%
Sep 2027	\$ 28,119	\$ 23,198,373	\$ 23,184,313	\$ 135,242	\$ 1,303,046		0.12%	8.00%
Oct 2027	\$ 234,327	\$ 23,432,700	\$ 23,315,537	\$ 136,007	\$ 1,439,053		1.00%	6.00%
Nov 2027	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 1,575,744			7.00%
Dec 2027	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 1,712,434			2.00%
Jan 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 1,849,125			1.00%
Feb 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 1,985,816			0.50%
Mar 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 2,122,507			0.05%
Apr 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 2,259,197			0.05%
May 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 2,395,888			0.03%
Jun 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 2,532,579			0.03%
Jul 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 2,669,270			0.01%
Aug 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 2,805,960			0.01%
Sep 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 2,942,651			0.01%
Oct 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 3,079,342			0.01%
Nov 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 3,216,033			0.01%
Dec 2028	\$ -	\$ 23,432,700	\$ 23,432,700	\$ 136,691	\$ 3,352,723			1.00%
					1 Year Proj AFUDC	\$ 93,503		
					2 Year Proj AFUDC	\$ 1,439,053		
					3 Year Proj AFUDC	\$ 3,352,723		

	Object Path ID	Resource Type Path ID	Start Date	End Date	Curve ID	Cost	Currency	Transaction Date	External Key
	OPP-000XXX.CP1.NGCONFC		1/1/2021	5/1/2024	3Y-NGCONFC	\$ 5,564,900			
	OPP-000XXX.CP1.NGCONPC		1/1/2021	5/1/2024	3Y-NGCONPC	\$ 10,359,400			
	OPP-000XXX.CP1.NGCONT		1/1/2021	5/1/2024	3Y-NGCONT	\$ 3,976,600			
	OPP-000XXX.CP1.NGENGNC		1/1/2021	5/1/2024	3Y-NGENGNC	\$ 2,479,900			
	OPP-000XXX.CP1.NGFITSC		1/1/2021	5/1/2024	3Y-NGFITSC	\$ 3,040,900			
	OPP-000XXX.CP1.NGLANDC		1/1/2021	5/1/2024	3Y-NGLANDC	\$ 1,227,774			
	OPP-000XXX.CP1.NGMAFD		1/1/2021	5/1/2024	3Y-NGMAFD	\$ 203,300			
	OPP-000XXX.CP1.NGMATEC		1/1/2021	5/1/2024	3Y-NGMATEC	\$ 3,308,100			
	OPP-000XXX.CP1.NGMOTH		1/1/2021	5/1/2024	3Y-NGMOTH	\$ 48,400			
	OPP-000XXX.CP1.NGMOVH		1/1/2021	5/1/2024	3Y-NGMOVH	\$ 1,557,200			
	OPP-000XXX.CP1.NGMPGL		1/1/2021	5/1/2024	3Y-NGMPGL	\$ 480,000			

Master Input Data		
Description	User Input	Notes
Estimate Revision Number	E-Initiate	Change number on each draft to be sent out
Ecosys Opportunity Number	OPP-000XXX	Need to complete from Ecosys for Charter estimates.
Project Name	Line AM07 Pipeline Replacement PH 1	
Date:	1/27/2022	Update with each revision
Length of Indicative Schedule in Years	3	This is required for Ecosys spend curves. Need to put 1, 2, or 3.
Customer	Duke	
Physical Location	Erlanger, KY	City, State
Project manager	Brad Seiter	
Modeler	System Planning	
Lead Estimator	Kyle Gillow	Person who does the estimate
Total Project Schedule	40	1 Year Project - 17 months 2 Year Project - 31 months 3 Year Project - 40 months
Engineering Project Schedule	22	1 Year Project - 7 months 2 Year Project - 16 months 3 Year Project - 22 months
Construction Project Schedule	8	1 Year Project - 3 months 2 Year Project - 6 months 3 Year Project - 8 months
Estimate Requested By	Matt Gramstad	
Rate Requested		firm, interruptible, etc.
Hourly Flow (MCFH)		change unit of measure as needed
Delivery Pressure (PSIG)		
Resource Center	Erlanger	
Estimate Type	Class IV	
Length of Pipeline	Pipe Length	Enter the overall pipe line footage.
Add Sales tax (PNG Materials Only)	7.75%	Input Percentage - Will automatically apply to materials
Pipe Size	Pipe NPS	
Escalation (in Years)	0	Years until start date (not in-service date) (Put '0' if project is kicking off within 6 months)
Escalation Rate (%)	0.0%	Rate of Escalation (use '0' only for commit and build gates)
Contingency (%)	15%	Contingency %
Start Date	1/1/2021	*Either start date from Ecosys or leave as 1/1/2022 for 2022 charters
In-Service Date	12/1/2023	*This will auto-populate when total project schedule is completed
Close-Out Date	5/1/2024	*This will auto-populate when total project schedule is completed
Ecosys In-Service Date	1/30/2026	*From Ecosys for Charters **IF HIGHLIGHTED RED THEN NOT FEASIBLE, CONTACT CHARTER GROUP**

Line AM07 Pipeline Replacement PH 1		
Funding Breakdown		
1/27/2022		
Description	Budget	
Contract Labor	\$	21,711,474
Material Purchased by PNG	\$	3,308,100
PNG Labor	\$	480,000
Land (Permanent Only)	\$	593,600
Other	\$	416,200
Sub-Total	\$	26,509,374
Contingency	\$	3,976,600
Sub-Total	\$	30,485,974
AFUDC	\$	-
Overheads	\$	-
Total	\$	30,485,974
Start Date	1/1/2021	By Project Manager
In-Service Date	12/1/2023	From Project Charter or Project Mgr.
Completion Date	1/30/2026	From Estimating

External Engineering, Construction Services, Field Inspection & Testing, Escalation
 Major Equipment and Testing
 Internal Engineering and Construction Management
 Permanent Land purchases only
 Land Rights (temporary land, land services, etc), Other Direct Costs - travel, meals, hotel, misc expenses
 Contingency
 By Finance
 By Finance

***ENSURE DISTRIBUTION COSTS HAVE BEEN REMOVED FROM ABOVE**

Line AM07 Pipeline Replacement PH 1

Notes and Assumptions

1/27/2022

Estimate Revision: E-Initiate

1. Scope is based off the 60% design drawings which include the packages for pipeline alignment and Queens Qt Station.
2. Road Bores and HDD's are considered to be dirt
3. The Receiver located at Turfway Rd RS is included in the Line AM07 Section 2 Pipeline cost.
4. Includes Burns & Mac proposal for Engineering amount of \$1,783,776.10
5. Includes Power Engineers Proposal amount of \$71,832.00 for engineering.
6. Includes Environmental Tech proposal for land support amount of \$48,832.00
7. Includes Burns and Mac proposal amount of \$195,000.00 for land support

Line AM07 Pipeline Replacement PH 1

Erlanger, KY

Project Cost Breakdown

Class IV

1/27/2022

Revision: E-Initiate

WBS 1	Description	Capital Improvement and Retirement	Capital Improvement				Retirement
			Size / Name	24"	24"	Queens Qt	24"
			Length / Qty	7500 LF	2,800 LF	Regulator Station	10,300 LF
			Total	Line AM07 Replace - Section 1	Line AM07 Replace - Section 2	Station 1	Existing Line AM07
NGENGNC	Engineering	\$ 2,479,900	\$ 2,467,200	\$ 1,002,300	\$ 740,100	\$ 724,800	\$ 12,700
NGLANDC	Land - Permanent	\$ 593,600	\$ 593,600	\$ 216,000	\$ 361,800	\$ 15,800	\$ -
NGLANDC	Land - Temporary	\$ 367,800	\$ 367,800	\$ 231,600	\$ 121,200	\$ 15,000	\$ -
NGLANDC	Land - Support	\$ 244,374	\$ 244,374	\$ 169,274	\$ 50,300	\$ 24,800	\$ -
NGLANDC	Land Legal	\$ 22,000	\$ 22,000	\$ 2,000	\$ 20,000	\$ -	\$ -
NGMATEC	Materials/Equipment	\$ 3,308,100	\$ 3,296,100	\$ 1,537,500	\$ 902,400	\$ 856,200	\$ 12,000
NGCONPC	Construction Serv - Pipeline	\$ 10,359,400	\$ 10,054,900	\$ 5,433,600	\$ 4,621,300		\$ 304,500
NGCONFC	Construction Serv - Facility	\$ 5,564,900	\$ 5,564,900			\$ 5,564,900	
NGFITSC	Field Inspections	\$ 2,561,400	\$ 2,530,900	\$ 1,086,800	\$ 831,900	\$ 612,200	\$ 30,500
NGFITSC	Field Testing	\$ 479,500	\$ 479,500	\$ 108,700	\$ 92,500	\$ 278,300	\$ -
NGMPGL	Duke Labor	\$ 480,000	\$ 360,000	\$ 120,000	\$ 120,000	\$ 120,000	\$ 120,000
NGMOTH	Other Direct Costs	\$ 48,400	\$ 48,000	\$ 20,000	\$ 8,000	\$ 20,000	\$ 400
	Subtotal Direct Cost	\$ 26,509,374	\$ 26,029,274	\$ 9,927,774	\$ 7,869,500	\$ 8,232,000	\$ 480,100
	Project Contingency	\$ 3,976,600	\$ 3,904,500	\$ 1,489,200	\$ 1,180,500	\$ 1,234,800	\$ 72,100
	Project Escalation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total Contingency & Escalation	\$ 3,976,600	\$ 3,904,500	\$ 1,489,200	\$ 1,180,500	\$ 1,234,800	\$ 72,100
	Total Direct Cost	\$ 30,485,974	\$ 29,933,774	\$ 11,416,974	\$ 9,050,000	\$ 9,466,800	\$ 552,200
NGMAFD	AFUDC Debt	\$ 203,300	\$ 203,300	\$ 77,500	\$ 61,500	\$ 64,300	\$ -
NGMOVH	Overhead and Allocations	\$ 1,557,200	\$ 1,524,700	\$ 555,700	\$ 455,700	\$ 513,300	\$ 32,500
	Total PNG Overhead Cost	\$ 1,760,500	\$ 1,728,000	\$ 633,200	\$ 517,200	\$ 577,600	\$ 32,500
	Project Total	\$ 32,246,474	\$ 31,661,774	\$ 12,050,174	\$ 9,567,200	\$ 10,044,400	\$ 584,700

Notes:

1. Contingency is not included on escalation.
2. Overheads and Allocations calculated using 12% of Total Direct Cost less Land Purchase, Materials/Equipment and FERC cost.
3. AFUDC calculated using 0.80% of total Direct Cost. (No AFUDC on Retirement Cost.)
4. No Project Escalation is assumed.

Line AM07 Pipeline Replacement PH 1						
1/27/2022		Pipe NPS			Revision #	E-Initiate
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	PNG Labor	1	Lump Sum	\$ 120,000	\$ 120,000	
OTH001	Other Direct Cost	40	Month	\$ 500	\$ 20,000	
Sub-Total - Internal E&CM					\$	140,000
External Engineering						
G801	Pre-Design Activities	79	Hour	\$ 125	\$ 9,867	
G802	Route Development	87	Hour	\$ 125	\$ 10,854	
G803	Project Management	339	Hour	\$ 125	\$ 42,428	
G804	Records Research	16	Hour	\$ 125	\$ 1,973	
G805	Estimating & Scoping	55	Hour	\$ 125	\$ 6,907	
G806	Land Survey	884	Hour	\$ 125	\$ 110,510	
G807	Land Acquisition Support (Engineering)	363	Hour	\$ 125	\$ 45,388	
G808	Environmental Services & Permitting	316	Hour	\$ 125	\$ 39,468	
G809	Geotechnical Services	434	Hour	\$ 125	\$ 54,268	
G810	Design - Pipeline	726	Hour	\$ 125	\$ 90,776	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G812	Cathodic Protection	16	Hour	\$ 125	\$ 1,973	
G813	Bid Package Development	134	Hour	\$ 125	\$ 16,774	
G814	Construction Support	1026	Hour	\$ 125	\$ 128,271	
G815	As-Built Survey	3315	Hour	\$ 125	\$ 414,413	
G815	Project Close-out	95	Hour	\$ 125	\$ 11,840	
G663	MAOP	1	Lump Sum	\$ 16,500	\$ 16,500	
Sub-Total - External Engineering					\$	1,002,300
Land Services						
G661	Transmission - Fee Purchase - Rural	0	Acre	\$ 45,000	\$ -	
G661	Transmission - Fee Purchase - Urban	0	Acre	\$ 125,000	\$ -	
G662	Transmission - Permanent Easements - Rural	4.00	Acre	\$ 54,000	\$ 216,000	
G662	Transmission - Permanent Easements - Urban	0	Acre	\$ 150,000	\$ -	
G662	Transmission - Stations Easements - Rural	0	Acre	\$ 63,000	\$ -	
G662	Transmission - Stations Easements - Urban	0	Acre	\$ 175,000	\$ -	
G663	Transmission - Temporary Easements - Rural	13.00	Acre	\$ 11,250	\$ 146,300	
G663	Transmission - Temporary Easements - Urban	0	Acre	\$ 31,250	\$ -	
G662 PA	Transmission - Access Roads	4	Each	\$ 10,000	\$ 40,000	
G663	Transmission - Laydown Yard	10	Months	\$ 4,200	\$ 42,000	
G656	Transmission - Damages	1	Per Parcel	\$ 3,250	\$ 3,300	
G656	Transmission - Additional Damages	0	Acre	\$ -	\$ -	
G301	Contract Labor - Land Services	1	Lump Sum	\$ 169,274	\$ 169,274	
G301	Contract Labor - Legal	0	Per Parcel	\$ 20,000	\$ 2,000	
Sub-Total - Land Services					\$	618,874
Construction Services - Pipeline		7500	Overall LF of Pipe Installed			
820	Mob/Demob	1	Lump Sum	\$ 493,961	\$ 493,961	
821	Clearing and Grubbing	17.00	acre	\$ 37,800	\$ 642,600	
821	Tree Cutting Only/No Grubbing	0	acre	\$ -	\$ -	
829	Conventional Upland Lay	7360	Linear Foot	\$ 335	\$ 2,465,600	
829	Conventional Upland Lay (Residential)	0	Linear Foot	\$ -	\$ -	
830	Conventional Wetland Lay	0	Linear Foot	\$ -	\$ -	
825	Conventional Bore - Dirt	140	Linear Foot	\$ 635	\$ 88,900	
826	Conventional Bore - Rock	0	Linear Foot	\$ -	\$ -	
827	Directional Drill - Dirt	0	Linear Foot	\$ -	\$ -	
828	Directional Drill - Rock	0	Linear Foot	\$ -	\$ -	
822	Rock Excavation - Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation - Mechanical	0	Cubic Yard	\$ -	\$ -	
829	Extra Depth Ditch	1200	Per 1 ft depth / LF	\$ 40	\$ 48,000	
829	Padding - Job Site	0	Linear Foot	\$ -	\$ -	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	0	Linear Foot	\$ -	\$ -	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon (AC Mitigation)	0	Linear Foot	\$ -	\$ -	
837	Anode Bed	0	Each	\$ -	\$ -	
835	Temporary Clean-up / Temporary Stabilization	7360	Linear Foot	\$ 4	\$ 29,440	
833	Hydro Test	1	Lump Sum	\$ 158,553	\$ 158,553	
833	Hydro Water Testing	0	Lump Sum	\$ 25,000	\$ -	
834	Commissioning	7500	Lump Sum	\$ 3	\$ 22,500	
837	Re-coating of Exposed Pipe (Hand Application)	0	Linear Foot	\$ -	\$ -	
837	Re-coating of Exposed Pipe (Spray Application)	0	Linear Foot	\$ -	\$ -	
837	Armor Plate	0	Linear Foot	\$ -	\$ -	
829	Daylight Existing Utilities (Pot Holing)	10	Lump Sum	\$ 1,500	\$ 15,000	
829	AirVac/Hydro Vac Excavation	0	Cubic Foot	\$ -	\$ -	

829	Pipe Rack Construction (Dirt/Sand Berm)	0	Lump Sum	\$ -	\$ -	
829	Transition Of Bevels	0	Each	\$ -	\$ -	
837	Test Station Installation	3	Each	\$ 1,000	\$ 3,000	
829	Temporary Stabilization	0	Linear Foot	\$ -	\$ -	
630	Silt Fence (metal post & wire backing)	15000	Linear Foot	\$ 15	\$ 225,000	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Super Silt Fence (metal post & chainlink fence backi	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Double Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Triple Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Curlex Premier Coconut Blanket with Staples (4 x 10	0	Square Yard	\$ -	\$ -	
630	Curlex Premier Straw/Coconut Blanket with Staples	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	Square Yard	\$ -	\$ -	
630	Rip Rap Placement	0	Ton	\$ -	\$ -	
630	Gravel Placement	0	Ton	\$ -	\$ -	
630	Geo Textile Fabric	0	Square Yard	\$ -	\$ -	
630	Safety Fence	600	linear ft	\$ 7	\$ 4,200	
630	Culvert Pipe (CMP)	0	Inch Dia per LF	\$ -	\$ -	
630	Sack Breakers	0	Each	\$ -	\$ -	
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -	
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -	
630	Foam Breakers	0	Each	\$ -	\$ -	
630	Construction (Timber) Mats	50	Linear Foot (Width)	\$ 700	\$ 35,000	
630	Laminated (Truck) Mats	0	Linear Foot (Width)	\$ -	\$ -	
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -	
630	Permanent Seeding (seed straw, and tack)	750000	Square Foot	\$ 0.13	\$ 97,500	
630	Intermediate Seeding (seed straw, and tack)	750000	Square Foot	\$ 0.21	\$ 157,500	
630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ -	\$ -	
630	Sod	0	SF	\$ -	\$ -	
630	Straw Wattle 9" x 10'	0	Each	\$ -	\$ -	
630	Sediment Log 8"	0	Each	\$ -	\$ -	
630	Sediment Log 10"	0	Each	\$ -	\$ -	
630	Sediment Log 12"	0	Each	\$ -	\$ -	
630	Sediment Log 20"	0	Each	\$ -	\$ -	
630	Erosion Eel 10"	0	Each	\$ -	\$ -	
630	Erosion Eel 12"	0	Each	\$ -	\$ -	
630	Erosion Eel 14"	0	Each	\$ -	\$ -	
630	Erosion Eel 20"	0	Each	\$ -	\$ -	
630	Permanent Waterbar Installation	0	Each	\$ -	\$ -	
630	Temporary Waterbar Installation	0	Each	\$ -	\$ -	
630	Filtration Sediment Bags 10' x 15'	0	Each	\$ -	\$ -	
630	Dewater Structure	0	Lump Sum	\$ -	\$ -	
630	Clear Water Diversion Pit	0	Lump Sum	\$ -	\$ -	
630	Stabilized Construction Entrance 20'W x 50'L x 6"D	0	Lump Sum	\$ -	\$ -	
831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	0	Each	\$ -	\$ -	
832	Chain Link Fence & Gates – New	0	Linear Foot	\$ -	\$ -	
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Roads	0	Linear Foot	\$ -	\$ -	
832	Temporary Access Roads	200	Linear Foot	\$ 145	\$ 29,000	
832	Top Soil	0	Ton	\$ -	\$ -	
832	Asphalt Removal/Restoration	0	Square Foot	\$ -	\$ -	
832	Sheet Piling	0	Day	\$ -	\$ -	
832	Ditch Shoring	0	Day	\$ -	\$ -	
832	Road Plates (10' Long)	0	Each	\$ -	\$ -	
832	Trench Boxes	0	Day	\$ -	\$ -	
832	Traffic Control (Flaggers)	10	Day	\$ 5,000	\$ 50,000	
832	Traffic Control (Signage)	20	Day	\$ 100	\$ 2,000	
832	Traffic Control (Barriers)	20	Day	\$ 100	\$ 2,000	
832	Flowable Fill	0	Cubic Yard	\$ -	\$ -	
832	Noise Reduction Barriers	0	Day	\$ -	\$ -	
837	Rectifier/Groundbed (CP)	1	Each	\$ 45,000	\$ 45,000	
837	ACVG Testing (less than 10 miles)	2	Mile	\$ 9,000	\$ 13,500	
837	ACVG Testing (greater than 10 miles)	0	Mile	\$ 6,000	\$ -	
	MLV Installation	0	Each	\$ -	\$ -	
	SCADA for MLV Sites	0	Each	\$ 100,000	\$ -	
	Electrical/Controls for MLV Sites	0	Each	\$ 50,000	\$ -	
	Security for MLV Sites	0	Each	\$ 21,000	\$ -	
	L/R Installation	0	Each	\$ -	\$ -	
	Painting & Waxing Flanges	0	Lump Sum	\$ 25,000	\$ -	
	Staging & Laydown Yard	7	Acre	\$ 65,000	\$ 422,500	
	Railway Crossings	0	Each	\$ 20,000	\$ -	
	Civil or General Conditions	0	Lump Sum	\$ -	\$ -	
	Contractor Tap Support	4	Each	\$ 10,705	\$ 42,820	

	TDW - Hot Tap	0	Each	\$ -	\$ -	
	TDW - Tap & Stop	4	Each	\$ 74,100	\$ 296,400	
	TDW - Bypass	2	Each	\$ 21,800	\$ 43,600	
	HDD Mudd Disposal	0	Linear Foot	\$ -	\$ -	
	HDD Mudd Engineer	0	Per HDD	\$ 20,000	\$ -	
Sub-Total - Construction Services - Pipeline					\$ 5,433,600	
Field Inspection & Testing						
G880	Construction Inspection	1294	Man-Days	\$ 840	\$ 1,086,720	
G881	Non-Destructive Testing	54	Days	\$ 2,000	\$ 108,672	
Sub-Total - Field Inspection & Testing					\$ 1,195,400	
Major Equipment & Materials						
	Pipe					
G205	24" Standard Wall, X52, Coated, DRL	7300	Linear Foot	\$ 120	\$ 876,000	
G205	24" Standard Wall, X52, Powercrete	140	Linear Foot	\$ 124	\$ 17,360	
G205	24" Standard Wall, X52, Bare	40	Linear Foot	\$ 112	\$ 4,480	
	Fittings					
G205	24" 3R - 45 deg ell - Segmentable	25	Each	\$ 4,265	\$ 106,625	
G205	24" 3R - 90 deg ell - Segmentable	11	Each	\$ 5,052	\$ 55,572	
	Equipment					
G204	24" TDW Stopple	4	Each	\$ 44,300	\$ 177,200	
G204	XX" TDW Spherical Tee	0	Each	\$ -	\$ -	
G204	XX" L/R Module	0	Each	\$ -	\$ -	
G204	XX" MLV Module	0	Each	\$ -	\$ -	
	Miscellaneous					
	Rectifier/Groundbed Material (CP)	1	Each	\$ 45,000	\$ 45,000	
	AC Mitigation Material	0	Each	\$ 45,000	\$ -	
G204	SCAR Guard	0	Linear Foot	\$ -	\$ -	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 128,224	\$ 128,224	
G205	Taxes & Freight (9% of All Material)	1	Calculated	\$ 126,941	\$ 126,941	
Sub-Total - Materials					\$ 1,537,500	
Sub-Total					\$ 9,927,674	
Escalation					\$ -	
Contingency					\$ 1,489,200	
Pipeline Estimate Total					\$ 11,416,874	

Line AM07 Pipeline Replacement PH 1						
1/27/2022		Pipe NPS			Revision #	E-Initiate
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	PNG Labor	1	Lump Sum	\$ 120,000	\$ 120,000	
OTH001	Other Direct Cost	40	Month	\$ 200	\$ 8,000	
Sub-Total - Internal E&CM					\$	128,000
External Engineering						
G801	Pre-Design Activities	58	Hour	\$ 125	\$ 7,292	
G802	Route Development	64	Hour	\$ 125	\$ 8,022	
G803	Project Management	251	Hour	\$ 125	\$ 31,357	
G804	Records Research	12	Hour	\$ 125	\$ 1,458	
G805	Estimating & Scoping	41	Hour	\$ 125	\$ 5,105	
G806	Land Survey	653	Hour	\$ 125	\$ 81,675	
G807	Land Acquisition Support (Engineering)	268	Hour	\$ 125	\$ 33,545	
G808	Environmental Services & Permitting	233	Hour	\$ 125	\$ 29,170	
G809	Geotechnical Services	321	Hour	\$ 125	\$ 40,108	
G810	Design - Pipeline	537	Hour	\$ 125	\$ 67,090	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G812	Cathodic Protection	12	Hour	\$ 125	\$ 1,458	
G813	Bid Package Development	99	Hour	\$ 125	\$ 12,397	
G814	Construction Support	758	Hour	\$ 125	\$ 94,801	
G815	As-Built Survey	2450	Hour	\$ 125	\$ 306,281	
G815	Project Close-out	70	Hour	\$ 125	\$ 8,751	
G663	MAOP	1	Lump Sum	\$ 11,500	\$ 11,500	
Sub-Total - External Engineering					\$	740,100
Land Services						
G661	Transmission - Fee Purchase - Rural	0	Acre	\$ 45,000	\$ -	
G661	Transmission - Fee Purchase - Urban	0	Acre	\$ 125,000	\$ -	
G662	Transmission - Permanent Easements - Rural	6.7	Acre	\$ 54,000	\$ 361,800	
G662	Transmission - Permanent Easements - Urban	0	Acre	\$ 150,000	\$ -	
G662	Transmission - Stations Easements - Rural	0	Acre	\$ 63,000	\$ -	
G662	Transmission - Stations Easements - Urban	0	Acre	\$ 175,000	\$ -	
G663	Transmission - Temporary Easements - Rural	8.7	Acre	\$ 11,250	\$ 97,900	
G663	Transmission - Temporary Easements - Urban	0	Acre	\$ 31,250	\$ -	
G662 PA	Transmission - Access Roads	2	Each	\$ 10,000	\$ 20,000	
G663	Transmission - Laydown Yard	0	Months	\$ 4,200	\$ -	
G656	Transmission - Damages	1	Per Parcel	\$ 3,250	\$ 3,300	
G656	Transmission - Additional Damages	0	Acre	\$ -	\$ -	
G301	Contract Labor - Land Services	1	Lump Sum	\$ 50,274	\$ 50,300	
G301	Contract Labor - Legal	1	Per Parcel	\$ 20,000	\$ 20,000	
Sub-Total - Land Services					\$	553,300
Construction Services - Pipeline		2800	Overall LF of Pipe Installed			
820	Mob/Demob	1	Lump Sum	\$ 420,115	\$ 420,115	
821	Clearing and Grubbing	8.00	acre	\$ 37,800	\$ 302,400	
821	Tree Cutting Only/No Grubbing	0.5	acre	\$ 39,000	\$ 19,500	
829	Conventional Upland Lay	2700	Linear Foot	\$ 335	\$ 904,500	
829	Conventional Upland Lay (Residential)	0	Linear Foot	\$ -	\$ -	
830	Conventional Wetland Lay	0	Linear Foot	\$ -	\$ -	
825	Conventional Bore - Dirt	100	Linear Foot	\$ 635	\$ 63,500	
826	Conventional Bore - Rock	0	Linear Foot	\$ -	\$ -	
827	Directional Drill - Dirt	1200	Linear Foot	\$ 1,500	\$ 1,800,000	
828	Directional Drill - Rock	0	Linear Foot	\$ -	\$ -	
822	Rock Excavation - Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation - Mechanical	0	Cubic Yard	\$ -	\$ -	
829	Extra Depth Ditch	2400	Per 1 ft depth / LF	\$ 40	\$ 96,000	
829	Padding - Job Site	0	Linear Foot	\$ -	\$ -	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	0	Linear Foot	\$ -	\$ -	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon (AC Mitigation)	0	Linear Foot	\$ -	\$ -	
837	Anode Bed	0	Each	\$ -	\$ -	
835	Temporary Clean-up / Temporary Stabilization	2700	Linear Foot	\$ 4	\$ 10,800	
833	Hydro Test	1	Lump Sum	\$ 237,830	\$ 237,830	
833	Hydro Water Testing	0	Lump Sum	\$ 25,000	\$ -	
834	Commissioning	1	Lump Sum	\$ 10,000	\$ 10,000	
837	Re-coating of Exposed Pipe (Hand Application)	0	Linear Foot	\$ -	\$ -	
837	Re-coating of Exposed Pipe (Spray Application)	0	Linear Foot	\$ -	\$ -	
837	Armor Plate	0	Linear Foot	\$ -	\$ -	
829	Daylight Existing Utilities (Pot Holing)	5	Lump Sum	\$ 1,500	\$ 7,500	
829	AirVac/Hydro Vac Excavation	0	Cubic Foot	\$ -	\$ -	

829	Pipe Rack Construction (Dirt/Sand Berm)	0	Lump Sum	\$ -	\$ -
829	Transition Of Bevels	0	Each	\$ -	\$ -
837	Test Station Installation	4	Each	\$ 1,000	\$ 4,000
829	Temporary Stabilization	0	Linear Foot	\$ -	\$ -
630	Silt Fence (metal post & wire backing)	5600	Linear Foot	\$ 15	\$ 84,000
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -
630	Super Silt Fence (metal post & chainlink fence backi	0	Linear Foot	\$ -	\$ -
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Double Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Triple Net Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -
630	Curlex Premier Coconut Blanket with Staples (4 x 10	0	Square Yard	\$ -	\$ -
630	Curlex Premier Straw/Coconut Blanket with Staples	0	Square Yard	\$ -	\$ -
630	Hydroseeding Temporary Stabilization	0	Square Yard	\$ -	\$ -
630	Hydroseeding Permanent Stabilization	0	Square Yard	\$ -	\$ -
630	Rip Rap Placement	0	Ton	\$ -	\$ -
630	Gravel Placement	0	Ton	\$ -	\$ -
630	Geo Textile Fabric	0	Square Yard	\$ -	\$ -
630	Safety Fence	600	linear ft	\$ 7	\$ 4,200
630	Culvert Pipe (CMP)	0	Inch Dia per LF	\$ -	\$ -
630	Sack Breakers	0	Each	\$ -	\$ -
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -
630	Foam Breakers	0	Each	\$ -	\$ -
630	Construction (Timber) Mats	50	Linear Foot (Width)	\$ 700	\$ 35,000
630	Laminated (Truck) Mats	0	Linear Foot (Width)	\$ -	\$ -
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -
630	Permanent Seeding (seed straw, and tack)	300000	Square Foot	\$ 0.13	\$ 39,000
630	Intermediate Seeding (seed straw, and tack)	300000	Square Foot	\$ 0.21	\$ 63,000
630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ -	\$ -
630	Sod	0	SF	\$ -	\$ -
630	Straw Wattle 9" x 10'	0	Each	\$ -	\$ -
630	Sediment Log 8"	0	Each	\$ -	\$ -
630	Sediment Log 10"	0	Each	\$ -	\$ -
630	Sediment Log 12"	0	Each	\$ -	\$ -
630	Sediment Log 20"	0	Each	\$ -	\$ -
630	Erosion Eel 10"	0	Each	\$ -	\$ -
630	Erosion Eel 12"	0	Each	\$ -	\$ -
630	Erosion Eel 14"	0	Each	\$ -	\$ -
630	Erosion Eel 20"	0	Each	\$ -	\$ -
630	Permanent Waterbar Installation	0	Each	\$ -	\$ -
630	Temporary Waterbar Installation	0	Each	\$ -	\$ -
630	Filtration Sediment Bags 10' x 15'	0	Each	\$ -	\$ -
630	Dewater Structure	0	Lump Sum	\$ -	\$ -
630	Clear Water Diversion Pit	0	Lump Sum	\$ -	\$ -
630	Stabilized Construction Entrance 20'W x 50'L x 6"D	0	Lump Sum	\$ -	\$ -
831	Well Points	0	Each	\$ -	\$ -
832	Air Bridges	0	Each	\$ -	\$ -
832	Chain Link Fence & Gates – New	0	Linear Foot	\$ -	\$ -
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -
832	Permanent Access Roads	0	Linear Foot	\$ -	\$ -
832	Temporary Access Roads	100	Linear Foot	\$ 145	\$ 14,500
832	Top Soil	0	Ton	\$ -	\$ -
832	Asphalt Removal/Restoration	0	Square Foot	\$ -	\$ -
832	Sheet Piling	0	Day	\$ -	\$ -
832	Ditch Shoring	0	Day	\$ -	\$ -
832	Road Plates (10' Long)	0	Each	\$ -	\$ -
832	Trench Boxes	0	Day	\$ -	\$ -
832	Traffic Control (Flaggers)	12	Day	\$ 5,000	\$ 60,000
832	Traffic Control (Signage)	16	Day	\$ 100	\$ 1,600
832	Traffic Control (Barriers)	16	Day	\$ 100	\$ 1,600
832	Flowable Fill	0	Cubic Yard	\$ -	\$ -
832	Noise Reduction Barriers	0	Day	\$ -	\$ -
837	Rectifier/Groundbed (CP)	1	Each	\$ 10,000	\$ 10,000
837	ACVG Testing (less than 10 miles)	1	Mile	\$ 9,000	\$ 9,000
837	ACVG Testing (greater than 10 miles)	0	Mile	\$ 6,000	\$ -
	MLV Installation	0	Each	\$ -	\$ -
	SCADA for MLV Sites	0	Each	\$ 100,000	\$ -
	Electrical/Controls for MLV Sites	0	Each	\$ 50,000	\$ -
	Security for MLV Sites	0	Each	\$ 21,000	\$ -
	L/R Installation	0	Each	\$ -	\$ -
	Painting & Waxing Flanges	0	Lump Sum	\$ 25,000	\$ -
	Staging & Laydown Yard	0	Acre	\$ 65,000	\$ -
	Railway Crossings	0	Each	\$ 20,000	\$ -
	Civil or General Conditions	0	Lump Sum	\$ -	\$ -
	Contractor Tap Support	4	Each	\$ 10,705	\$ 42,820

	TDW - Hot Tap	0	Each	\$ -	\$ -	
	TDW - Tap & Stop	4	Each	\$ 74,100	\$ 296,400	
	TDW - Bypass	2	Each	\$ 21,800	\$ 43,600	
	HDD Mudd Disposal	1200	Linear Foot	\$ 17	\$ 20,400	
	HDD Mudd Engineer	1	Per HDD	\$ 20,000	\$ 20,000	
Sub-Total - Construction Services - Pipeline					\$ 4,621,300	
Field Inspection & Testing						
G880	Construction Inspection	990	Man-Days	\$ 840	\$ 831,834	
G881	Non-Destructive Testing	46	Days	\$ 2,000	\$ 92,426	
Sub-Total - Field Inspection & Testing					\$ 924,300	
Major Equipment & Materials						
	Pipe					
G205	24" Standard Wall, X52, Coated, DRL	2700	Linear Foot	\$ 120	\$ 324,000	
G205	24" Standard Wall, X52, Powercrete	1300	Linear Foot	\$ 124	\$ 161,200	
G205	24" Standard Wall, X52, Bare	40	Linear Foot	\$ 112	\$ 4,480	
	Fittings					
G205	24" 3R - 45 deg ell - Segmentable	6	Each	\$ 4,265	\$ 25,590	
G205	24" 3R - 90 deg ell - Segmentable	3	Each	\$ 5,052	\$ 15,156	
	Equipment					
G204	24" TDW Stopple	4	Each	\$ 44,300	\$ 177,200	
G204	XX" TDW Spherical Tee	0	Each	\$ -	\$ -	
G204	XX" L/R Module	0	Each	\$ -	\$ -	
G204	XX" MLV Module	0	Each	\$ -	\$ -	
	Miscellaneous					
	Rectifier/Groundbed Material (CP)	1	Each	\$ 45,000	\$ 45,000	
	AC Mitigation Material	0	Each	\$ 45,000	\$ -	
G204	SCAR Guard	0	Linear Foot	\$ -	\$ -	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 75,263	\$ 75,263	
G205	Taxes & Freight (9% of All Material)	1	Calculated	\$ 74,510	\$ 74,510	
Sub-Total - Materials					\$ 902,400	
Sub-Total					\$ 7,869,400	
Escalation					\$ -	
Contingency					\$ 1,180,500	
Pipeline Estimate Total					\$ 9,049,900	

Line AM07 Pipeline Replacement PH 1						
1/27/2022		STATION			Revision # E-Initiate	
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	PNG Labor	1	Lump Sum	\$ 120,000	\$ 120,000	
OTH001	Other Direct Cost	40	Month	\$ 500	\$ 20,000	
Sub-Total - Internal E&CM					\$	140,000
External Engineering						
G801	Pre-Design Activities	68	Hour	\$ 125	\$ 8,549	
G802	Route Development	91	Hour	\$ 125	\$ 11,399	
G803	Project Management	724	Hour	\$ 125	\$ 90,479	
G804	Records Research	46	Hour	\$ 125	\$ 5,699	
G805	Estimating & Scoping	28	Hour	\$ 125	\$ 3,562	
G806	Land Survey	205	Hour	\$ 125	\$ 25,648	
G807	Land Acquisition Support (Engineering)	40	Hour	\$ 125	\$ 4,987	
G808	Environmental Services & Permitting	319	Hour	\$ 125	\$ 39,896	
G809	Geotechnical Services	353	Hour	\$ 125	\$ 44,171	
G810	Design - Pipeline	0	Hour	\$ 125	\$ -	
G811	Design - Facility	923	Hour	\$ 125	\$ 115,415	
G812	Cathodic Protection	46	Hour	\$ 125	\$ 5,699	
G813	Bid Package Development	85	Hour	\$ 125	\$ 10,687	
G814	Construction Support	1841	Hour	\$ 125	\$ 230,117	
G815	As-Built Survey	861	Hour	\$ 125	\$ 107,578	
G815	Project Close-out	51	Hour	\$ 125	\$ 6,412	
G663	MAOP	1	Lump Sum	\$ 14,500	\$ 14,500	
Sub-Total - External Engineering					\$	724,800
Land Services						
G-661	Transmission - Fee Purchase - Rural	0	Acre	\$ 45,000	\$ -	
G-661	Transmission - Fee Purchase - Urban	0	Acre	\$ 125,000	\$ -	
G-662	Transmission - Permanent Easements - Rural	0	Acre	\$ 54,000	\$ -	
G-662	Transmission - Permanent Easements - Urban	0	Acre	\$ 150,000	\$ -	
G-662	Transmission - Stations Easements - Rural	0.25	Acre	\$ 63,000	\$ 15,800	
G-662	Transmission - Stations Easements - Urban	0	Acre	\$ 175,000	\$ -	
G-663	Transmission - Temporary Easements - Rural	0.15	Acre	\$ 11,250	\$ 1,700	
G-663	Transmission - Temporary Easements - Urban	0	Acre	\$ 31,250	\$ -	
G-662 PA/G-663 TA	Transmission - Access Roads	1	Each	\$ 10,000	\$ 10,000	
G-663	Transmission - Laydown Yard	0	Months	\$ 4,200	\$ -	
G-656	Transmission - Damages	1	Per Parcel	\$ 3,250	\$ 3,300	
G-656	Transmission - Additional Damages	0	Acre	\$ -	\$ -	
G-301	Contract Labor - Land Services	1	Lump Sum	\$ 24,774	\$ 24,800	
G-301	Contract Labor - Legal	0	Per Parcel	\$ 20,000	\$ -	
Sub-Total - Land Services					\$	55,600
Construction Services - Facility						
850	Mob/Demob	1	Lump Sum	\$ 505,894	\$ 505,894	
851	Clearing and Grubbing / Site Prep	0.40	acre	\$ 37,800	\$ 15,120	
851	Tree Cutting Only/No Grubbing	0	acre	\$ -	\$ -	
851	Rock Excavation – Blasting	0	Cubic Yard	\$ -	\$ -	
851	Rock Excavation – Mechanical	0	Cubic Yard	\$ -	\$ -	
852	Concrete, Paving and Gravel	1	Cubic Feet	\$ 650,000	\$ 650,000	
853	Building Erection	1	Each	\$ 1,125,000	\$ 1,125,000	
854	Fabrication	66	Days	\$ 15,000	\$ 990,000	
855	Installation	66	Days	\$ 11,000	\$ 726,000	
856	Security, Fire Alarm, Instrumentation and Controls	1	Lump Sum	\$ 251,111	\$ 251,111	
857	Chain Link Fence & Gates – New	0	Linear Foot	\$ -	\$ -	
857	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
858	Tie-In	0	Each	\$ -	\$ -	
859	Hydro Test	1	Lump Sum	\$ 270,000	\$ 270,000	
860	Zinc Ribbon / AC Mitigation	0	Lump Sum	\$ 75,000	\$ -	
860	Anode Bed	1	Each	\$ 21,000	\$ 21,000	
861	Commissioning	1	Lump Sum	\$ 126,000	\$ 126,000	
851	AirVac/HydroVac Excation	0	Linear Foot	\$ -	\$ -	
860	AC/CP Clear Bands	1	Lump Sum	\$ 45,000	\$ 45,000	
855	Spray Coat Application	1	Lump Sum	\$ 65,000	\$ 65,000	
630	Silt Fence (metal post & wire backing)	500	Linear Foot	\$ 15	\$ 7,500	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	Square Yard	\$ -	\$ -	
630	Gravel Placement	275	Ton	\$ 67	\$ 18,425	
630	Geo Textile Fabric	1200	Square Yard	\$ 10	\$ 12,000	
630	Safety Fence	600	linear ft	\$ 7	\$ 4,200	
630	Permanent Seeding (seed straw, and tack)	6000	Square Foot	\$ 0.13	\$ 780	
630	Intermediate Seeding (seed straw, and tack)	0	Square Foot	\$ -	\$ -	
630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ -	\$ -	
630	Sod	0	SF	\$ -	\$ -	
630	Sediment Log	0	Each	\$ -	\$ -	
630	Erosion Eel	0	Each	\$ -	\$ -	

831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	0	Each	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Roads	100	Linear Foot	\$ 160	\$ 16,000	
832	Temporary Access Roads	0	Linear Foot	\$ -	\$ -	
832	Top Soil	0	Ton	\$ -	\$ -	
832	Asphalt Removal/Restoration	0	Square Foot	\$ -	\$ -	
832	Temporary Fence Panels	400	Linear Foot	\$ 25	\$ 10,000	
832	Shoring	0	Linear Foot	\$ -	\$ -	
832	Sheet Piling	0	Linear Foot	\$ -	\$ -	
832	Composite matting	0	Square Foot	\$ -	\$ -	
	DATA line for SCADA	1	Lump Sum	\$ 100,000	\$ 100,000	
	Station Security	1	Lump Sum	\$ 21,000	\$ 21,000	
	Contractor Tap Support	1	Each	\$ 10,705	\$ 10,705	
	TDW Tap	0	Each	\$ -	\$ -	
	TDW Tap & Stop	1	Each	\$ 74,100	\$ 74,100	
	Civil and General Conditions - Retaining Wall	1	Lump Sum	\$ 500,000	\$ 500,000	
Sub-Total - Construction Services - Station					\$ 5,564,900	
Field Inspection & Testing						
G880	Construction Inspection	729	Man-Days	\$ 840	\$ 612,139	
G881	Non-Destructive Testing	139	Days	\$ 2,000	\$ 278,245	
Sub-Total - Field Inspection & Testing					\$ 890,400	
Major Equipment & Materials						
	Pipe					
G205	24" Standard Wall, X52, Bare	40	Linear Foot	\$ 112	\$ 4,480	
G205	24" Standard Wall, X52, FBE	440	Linear Foot	\$ 120	\$ 52,800	
G205	16" Standard Wall, X52, Bare	30	Linear Foot	\$ 93	\$ 2,790	
G205	16" Standard Wall, X52, FBE	20	Linear Foot	\$ 110	\$ 2,200	
G205	12" Standard Wall, X52, FBE	20	Linear Foot	\$ 61	\$ 1,220	
G205	12" Standard Wall, X52, Bare	20	Linear Foot	\$ 52	\$ 1,040	
	Major Equipment					
G204	24" Elbow 90	9	Each	\$ 2,722	\$ 24,498	
G204	16" FxF Valves	2	Each	\$ 27,669	\$ 55,338	
G204	24" WxW Valves	2	Each	\$ 63,041	\$ 126,082	
G204	24" TDW Spherical	1	Each	\$ 56,146	\$ 56,146	
G204	16" Elbow 90	12	Each	\$ 944	\$ 11,328	
G204	24" Elbow 45	2	Each	\$ 8,000	\$ 16,000	
G204	24" Elbow 45	2	Each	\$ 5,052	\$ 10,104	
G204	12" Elbow 90	2	Each	\$ 489	\$ 978	
G204	X" x X" Relief Valve	0	Each	\$ -	\$ -	
G204	16" Insulators	8	Each	\$ 8,902	\$ 71,216	
G204	24" Insulators	1	Each	\$ 20,164	\$ 20,164	
G204	12" Insulators	1	Each	\$ 7,520	\$ 7,520	
G204	Heater	1	Each	\$ 117,139	\$ 117,139	
G204	Meter	0	Each	\$ -	\$ -	
	Miscellaneous					
	Cathodic Protection Supplies	1	Lump Sum	\$ 10,000	\$ 10,000	
	RTU	1	Each	\$ 23,000	\$ 23,000	
	RTU Building	1	Each	\$ 100,000	\$ 100,000	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 71,404	\$ 71,404	
G205	Taxes & Freight (9% of All Material)	1	Calculated	\$ 70,690	\$ 70,690	
Sub-Total - Materials					\$ 856,200	
Sub-Total					\$ 8,231,900	
Escalation					\$ -	
Contingency					\$ 1,234,800	
Pipeline Estimate Total					\$ 9,466,700	

Line AM07 Pipeline Replacement PH 1						
1/27/2022		Retirement		Revision #		E-Initiate
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
G101	PNG Labor	1	Lump Sum	\$ 120,000	\$ 120,000	
OTH001	Other Direct Cost	40	Month	\$ 10	\$ 400	
Sub-Total - Internal E&CM						\$ 120,400
External Engineering						
G810	Design - Pipeline	101	Hour	\$ 125	\$ 12,660	
G811	Design - Facility	0	Hour	\$ 125	\$ -	
G663	MAOP	1	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering						\$ 12,700
Land Services						
G-663	Transmission - Temp Work Space - Rural	0	Acre	\$ 45,000	\$ -	
G-663	Transmission - Temp Work Space - Urban	0	Acre	\$ 5,000	\$ -	
G-662 PA/G-663 TA	Transmission - Access Roads	0	Each	\$ 10,000	\$ -	
G-301	Contract Labor - Land Services	0	Per Parcel	\$ 10,000	\$ -	
Sub-Total - Land Services						\$ -
Construction Services - Pipeline		10300	Overall LF of Pipe to be Abandoned			
850	Mob/Demob	1	Lump Sum	\$ 27,676	\$ 27,676	
	Demo Equipment	6	Days	\$ 7,500	\$ 45,000	
823	Grouting of Abandoned Pipe	300	Linear Foot	\$ 149	\$ 44,700	
824	Removal of Existing Pipeline	110	Linear Foot	\$ 248	\$ 27,280	
	Tar Coated Steel Remediation & Removal	110	LF	\$ 248	\$ 27,280	
	Install & Remove Flare + Mob/Demob	0	Lump Sum	\$ 50,000	\$ -	
G863	Launcher/Receiver Removal	0	Each	\$ 75,000	\$ -	
G863	Small Station Removal	0	Each	\$ 35,000	\$ -	
G863	Medium Station Removal	0	Each	\$ 50,000	\$ -	
G863	Large Station Removal	0	Each	\$ 85,000	\$ -	
	Haul Materials	2	Lump Sum	\$ 10,000	\$ 20,000	
	Nitrogen Clearing	2	Lump Sum	\$ 50,000	\$ 100,000	
	Line Locating	1	Week	\$ 12,500	\$ 12,500	
	Contractor Tap Support	0	Days	\$ -	\$ -	
	Seeding	0	SF	\$ -	\$ -	
	Clean up	0	LF	\$ -	\$ -	
	TDW Tap	0	Each	\$ -	\$ -	
						\$ 304,500
Field Inspection & Testing						
G880	Construction Inspection	36	Man-Days	\$ 840	\$ 30,450	
G881	Non-Destructive Testing	0	Days	\$ 2,000	\$ -	
Sub-Total - Field Inspection & Testing						\$ 30,500
Major Equipment & Materials						
G205	Purge Materials	2	Lump Sum	\$ 5,000	\$ 10,000	
G204	Stopple	0	Each	\$ -	\$ -	
G204	Stopple	0	Each	\$ -	\$ -	
G205	Misc. Materials (10% of Total Major)	1	Calculated	\$ 1,000	\$ 1,000	
G205	Taxes & Freight (9% of All Material)	1	Calculated	\$ 990	\$ 990	
Sub-Total - Materials						\$ 12,000
Sub-Total						\$ 480,100
Escalation						\$ -
Contingency						\$ 72,100
Pipeline Estimate Total						\$ 552,200

Object Path ID	Resource Type Path ID	Start Date	End Date	Curve ID	Cost	Currency	Transaction Date	External Key
OPP-000XXX.CP1.NGCONFC		1/1/2022	5/31/2025	BEL	\$ -			
OPP-000XXX.CP1.NGCONPC		1/1/2022	5/31/2025	BEL	\$ 17,468,400			
OPP-000XXX.CP1.NGCONT		1/1/2022	5/31/2025	BEL	\$ 6,676,000			
OPP-000XXX.CP1.NGENGNC		1/1/2022	5/31/2025	BEL	\$ 1,750,800			
OPP-000XXX.CP1.NGFITSC		1/1/2022	5/31/2025	BEL	\$ 1,952,000			
OPP-000XXX.CP1.NGLANDC		1/1/2022	5/31/2025	BEL	\$ 3,860,000			
OPP-000XXX.CP1.NGMAFD		1/1/2022	5/31/2025	BEL	\$ 1,021,400			
OPP-000XXX.CP1.NGMATEC		1/1/2022	5/31/2025	BEL	\$ 2,948,200			
OPP-000XXX.CP1.NGMOTH		1/1/2022	5/31/2025	BEL	\$ 60,000			
OPP-000XXX.CP1.NGMOVH		1/1/2022	5/31/2025	BEL	\$ 3,377,500			
OPP-000XXX.CP1.NGMPGL		1/1/2022	5/31/2025	BEL	\$ 238,000			

Estimate Document Checklist			
Line AM07 PH 2			
Class 5			
8/3/2020	Revision: B		
Document Type	Yes	No	Comment
Engineering			
Design Basis Document			
Input from System Planning			
Was project Modeled by PNG			
Were Engineering drawings provided			
Project Location			
Flow Rate			
Pressure			
In-service Date			
Quantities			
Land			
Land price Estimate			
Pricing			
Current Equipment Pricing			
Contractor Construction Quote			
External Engineer's Estimate			
Long Lead Material Analysis			
Schedule			
Project Schedule			
Project Schedule Contingency			
Long Lead Material Analysis			
Other			
Does the design route parallel existing facilities?			
Does the design route parallel other ROW's			
Are there Plant Safety Requirements			
Military Base			
OM			
OM Estimate			

Line AM07 PH 2													
Revision: B													
8/3/2020													
Description	TOTAL PROJECT COST	Pipeline 1	Pipeline 2	Pipeline 3	Station 1	Station 2	Station 3	Station 4	Station 5	Demo 1	Demo 2	Demo 3	Demo 4
Engineering	5.36%	5.29%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	7.04%	#REF!	#REF!	#REF!
Land Services	11.81%	12.27%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Materials/Equipment	9.02%	9.33%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.91%	#REF!	#REF!	#REF!
Construction Serv - Pipeline	53.46%	53.09%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	63.09%	#REF!	#REF!	#REF!
Construction Serv - Facility	0.00%	0.00%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Field Inspections	5.97%	5.84%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	9.47%	#REF!	#REF!	#REF!
PNG Labor	0.73%	0.55%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	5.31%	#REF!	#REF!	#REF!
Other Direct Costs	0.18%	0.14%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	1.33%	#REF!	#REF!	#REF!
AFUDC Debt	3.13%	3.25%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Overhead and Allocations	10.34%	10.24%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	12.84%	#REF!	#REF!	#REF!

Indicative Percentages								
Pipeline			Station			ILI Projects		
NC	TN	OH/KY	NC	TN	OH/KY	NC	TN	OH/KY
6%	5%	7%	13%	10%	7%	13%	10%	7%
12%	15%	7%	8%	8%	8%	8%	8%	8%
13%	6%	6%	29%	24%	19%	29%	24%	19%
48%	54%	55%	0%	0%	0%	0%	0%	0%
0%	0%	0%	14%	23%	31%	14%	23%	31%
7%	7%	8%	13%	11%	9%	13%	11%	9%
2%	2%	1%	4%	4%	4%	4%	4%	4%
1%	0%	0%	1%	1%	1%	1%	1%	1%
4%	4%	5%	6%	5%	4%	6%	5%	4%
8%	6%	11%	13%	15%	16%	13%	15%	16%

Master Input Data		
Description	User Input	Notes
Estimate Revision Number	B	Change number on each draft to be sent out
Ecosys Opportunity Number	OPP-000XXX	Need to complete from Ecosys for Charter estimates.
Project Name	Line AM07 PH 2	
Date:	8/3/2020	Update with each revision
Customer	PNG	
Physical Location	Erlanger,Ky	City, State
Project manager	PM	
Modeler	System Planning	
Lead Estimator	Kyle Gillow	Person who does the estimate
Total Project Schedule	40	1 Year Project - 17 months 2 Year Project - 31 months 3 Year Project - 40 months
Engineering Project Schedule	22	1 Year Project - 7 months 2 Year Project - 16 months 3 Year Project - 22 months
Construction Project Schedule	10	1 Year Project - 5 months 2 Year Project - 8 months 3 Year Project - 10 months
Estimate Requested By	Requestor	
Rate Requested		firm, interruptible, etc.
Hourly Flow (MCFH)		change unit of measure as needed
Delivery Pressure (PSIG)		
Resource Center	GD70	
Estimate Type	Class 5	
Length of Pipeline	17,356	Enter the overall pipe line footage.
Add Sales tax (PNG Materials Only)	7.75%	Input Percentage - Will automatically apply to materials
Pipe Size	24"	
Escalation (in Years)	3	Years until start date (not in-service date) (Put '0' if project is kicking off within 6 months)
Escalation Rate (%)	2.5%	Rate of Escalation (use '0' only for commit and build gates)
Contingency (%)	15%	Contingency %
Start Date	1/1/2022	*Either start date from Ecosys or leave as 1/1/2022 for 2022 charters
In-Service Date	5/1/2025	*This will auto-populate when total project schedule is completed
Completion Date	5/31/2025	*This will auto-populate when total project schedule is completed
Ecosys In-Service Date	10/1/2023	*From Ecosys for Charters **IF HIGHLIGHTED RED THEN NOT FEASIBLE, CONTACT CHARTER GROUP**

PMCoE

Estimate Uncertainty



Cell requires user entry

Project Name: Date:

Next Stage Gate: Minimum Class:

PMCoE Estimate Uncertainty Tool

Informed Range		Cost Description	Best Case	Estimate Value	Worst Case
- %	+ %		(Optimistic: O)	(Most Likely: ML)	(Pessimistic: P)
-20%	30%	Engineering	\$ 1,400,640	\$ 1,750,800	\$ 2,276,040
-20%	30%	Land	\$ 3,088,000	\$ 3,860,000	\$ 5,018,000
-20%	30%	Materials/Equipment	\$ 2,358,560	\$ 2,948,200	\$ 3,832,660
-20%	30%	Construction Services	\$ 13,974,720	\$ 17,468,400	\$ 22,708,920
-20%	30%	Field Inspections & Testing	\$ 1,561,600	\$ 1,952,000	\$ 2,537,600
-20%	30%	PNG Labor	\$ 190,400	\$ 238,000	\$ 309,400
-20%	30%	Other	\$ 48,000	\$ 60,000	\$ 78,000
-20%	30%	AFUDC	\$ 817,120	\$ 1,021,400	\$ 1,327,820
-20%	30%	Overhead & Allocations	\$ 2,702,000	\$ 3,377,500	\$ 4,390,750
Sub Total			\$ 26,141,040	\$ 32,676,300	\$ 42,479,190

A. Cumulative Risk EMV	\$ -
B. Estimate Uncertainty PERT $((O+P+(ML*4))/6)$ -ML	\$ 544,605
C. Contingency (A+B)	\$ 544,605

	\$ 26,141,040	\$ 33,220,905	\$ 42,479,190
	Best Case	Expected Case	Worst Case
Project Informed Range	-21%		28%
Certainty*	P10	P50	P90

* P10 and P90 are representative values, but not statistically proven by this methodology. These values do not include any Risk EMV and are shown to allow the project to assess if their Project Informed Range is aligned with the AACEI Class of Estimate expectations.

AACEI Estimate Class Reference:

Class	Typical Methodology	Low Range	High Range
5	Capacity Factored. Parametric Models. Judgement, or Analogy	-20%	30%
		-50%	100%
4	Equipment Factored. Parametric Models.	-15%	20%
		-30%	50%
3	Semi-Detailed Unit Costs with Assembly Level Line Items.	-10%	10%
		-20%	30%
2	Detailed Unit Cost with Detailed Take-Off.	-5%	5%
		-15%	20%
1	Detailed Unit Cost with Detailed Take-Off.	-3%	3%
		-10%	15%

Line AM07 PH 2 Funding Breakdown 8/3/2020		
Description	Budget	
Contract Labor	\$	24,235,500
Material Purchased by PNG	\$	2,948,200
PNG Labor	\$	238,000
Land (Permanent Only)	\$	3,050,000
Other	\$	240,000
Sub-Total	\$	30,711,700
Contingency	\$	4,241,700
Sub-Total	\$	34,953,400
AFUDC	\$	-
Overheads	\$	-
Total	\$	34,953,400
Start Date	1/1/2022	By Project Manager
In-Service Date	5/1/2025	From Project Charter or Project Mgr.
Completion Date	10/1/2023	From Estimating
*ENSURE DISTRIBUTION COSTS HAVE BEEN REMOVED FROM ABOVE		

External Engineering, Construction Services, Field Inspection & Testing, Escalation
 Major Equipment and Testing
 Internal Engineering and Construction Management
 Permanent Land purchases only
 Land Rights (temporary land, land services, etc), Other Direct Costs - travel, meals, hotel, misc expenses
 Contingency
 By Finance
 By Finance

Line AM07 PH 2

Notes and Assumptions

8/3/2020

Estimate Revision: B

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

This is to document the changes requested in the estimate from reviews.

Piedmont Natural Gas Line AM07 PH 2 Estimate Change Log								
Revision: B								
Item	Revision	Date	Description	Price Before Change	Price After Change	Change Amount	Change Directed By:	Estimate Changed By:
1	A	XX/XX/XX	Starting Estimate	\$0	\$0	\$0		
2								
3								
4								
5								
6								
7								
8								
9								
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15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

Line AM07 PH 2

Erlanger,Ky

Project Cost Breakdown

Class 5

Revision: B

8/3/2020

WBS 1 Description		Capital Improvement and Retirement	Capital Improvement		Retirement
			Size / Name	24"/Line AM07	Line AM07
			Length / Qty	17,356	17356
			Total	Pipelay 1	Pipe Abandonment
NGENGNC	Engineering	\$ 1,750,800	\$ 1,665,900	\$ 1,665,900	\$ 84,900
NGLANDC	Land Purchase	\$ 3,050,000	\$ 3,050,000	\$ 3,050,000	\$ -
NGLANDC	Land - Rights	\$ 180,000	\$ 180,000	\$ 180,000	\$ -
NGLANDC	Land - Support	\$ 540,000	\$ 540,000	\$ 540,000	\$ -
NGLANDC	Land Legal	\$ 90,000	\$ 90,000	\$ 90,000	\$ -
NGMATEC	Materials/Equipment	\$ 2,948,200	\$ 2,937,200	\$ 2,937,200	\$ 11,000
NGCONPC	Construction Serv - Pipeline	\$ 17,468,400	\$ 16,708,000	\$ 16,708,000	\$ 760,400
NGCONFC	Construction Serv - Facility	\$ -	\$ -	\$ -	\$ -
NGFITSC	Field Inspections	\$ 1,952,000	\$ 1,837,900	\$ 1,837,900	\$ 114,100
NGMPGL	PNG Labor	\$ 238,000	\$ 174,000	\$ 174,000	\$ 64,000
NGMOTH	Other Direct Costs	\$ 60,000	\$ 44,000	\$ 44,000	\$ 16,000
Subtotal Direct Cost		\$ 28,277,400	\$ 27,227,000	\$ 27,227,000	\$ 1,050,400
	Project Contingency	\$ 4,241,700	\$ 4,084,100	\$ 4,084,100	\$ 157,600
	Project Escalation	\$ 2,434,300	\$ 2,341,700	\$ 2,341,700	\$ 92,600
Total Contingency & Escalation		\$ 6,676,000	\$ 6,425,800	\$ 6,425,800	\$ 250,200
Total Direct Cost		\$ 34,953,400	\$ 33,652,800	\$ 33,652,800	\$ 1,300,600
NGMPGL	AFUDC Debt	\$ 1,021,400	\$ 1,021,400	\$ 1,021,400	\$ -
NGMOVH	Overhead and Allocations	\$ 3,377,500	\$ 3,222,700	\$ 3,222,700	\$ 154,800
Total PNG Overhead Cost		\$ 4,398,900	\$ 4,244,100	\$ 4,244,100	\$ 154,800
Project Total		\$ 39,352,300	\$ 37,896,900	\$ 37,896,900	\$ 1,455,400

Notes:

1. Contingency is not included on escalation.
2. Overheads and Allocations calculated using 12% of Total Direct Cost less Land Purchase, Materials/Equipment and FERC cost.
3. AFUDC calculated using 6.07% of total Direct Cost. (No AFUDC on Retirement Cost.)
4. Project Escalation is assumed for 3 Year at 2.5%.

Line AM07 PH 2						
8/3/2020		24"		Revision # B		
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
	PNG Labor	40	Month	\$ 4,350	\$ 174,000	
	Other Direct Cost	40	Month	\$ 1,100	\$ 44,000	
Sub-Total - Internal E&CM					\$	218,000
External Engineering						
	Design - Pipeline	13163	Hour	\$ 125	\$ 1,645,364	
	Design - Facility	0	Hour	\$ 125	\$ -	
	MAOP	1	Lump Sum	\$ 20,500	\$ 20,500	
Sub-Total - External Engineering					\$	1,665,900
Land Services						
	Transmission - Fee Simple Purchases	6	Acre	\$ 150,000	\$ 900,000	
	Transmission - Permanent Easements (Rural)	0	Acre	\$ 20,000	\$ -	
	Transmission - Permanent Easements (Urban)	43	Acre	\$ 50,000	\$ 2,150,000	
	Transmission - Stations Easements (Rural)	0	Acre	\$ 30,000	\$ -	
	Transmission - Stations Easements (Urban)	0	Acre	\$ 30,000	\$ -	
	Transmission - Temp Work Space (Rural)	0	Acre	\$ 5,000	\$ -	
	Transmission - Temp Work Space (Urban)	0	Acre	\$ 12,500	\$ -	
	Transmission - Access Roads	0	Each	\$ 7,500	\$ -	
	Transmission - Laydown Yard	36	Months	\$ 5,000	\$ 180,000	
	Land Services - Contractor	45	Per Parcel	\$ 12,000	\$ 540,000	
	Contract Labor - Legal	5	Per Parcel	\$ 20,000	\$ 90,000	
Sub-Total - Land Services					\$	3,860,000
Construction Services - Pipeline		20710	Overall LF of Pipe installed			
820	Mob/Demob	1	Lump Sum	\$ 1,518,900	\$ 1,518,900	
821	Clearing and Grubbing	46	acre	\$ 37,800	\$ 1,738,800	
821	Tree Cutting Only/No Grubbing	0	acre	\$ -	\$ -	
829	Conventional Upland Lay	18930	Linear Foot	\$ 335	\$ 6,341,550	
829	Conventional Wetland Lay	780	Lump Sum	\$ 385	\$ 300,300	
825	Conventional Bore - Dirt	0	Linear Foot	\$ -	\$ -	
826	Conventional Bore - Rock	1000	Linear Foot	\$ 390	\$ 390,000	
827	Directional Drill - Dirt	0	Linear Foot	\$ -	\$ -	
828	Directional Drill - Rock	0	Linear Foot	\$ -	\$ -	
822	Rock Excavation - Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation - Mechanical	6115	Cubic Yard	\$ 275	\$ 1,681,625	
829	Extra Depth Ditch	0	Per 1 ft depth/ LF	\$ -	\$ -	
829	Padding - Job Site	0	Linear Foot	\$ -	\$ -	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	0	Linear Foot	\$ -	\$ -	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon	20710	Linear Foot	\$ 16	\$ 331,360	
837	Anode Bed	0	Each	\$ -	\$ -	
835	Temporary Clean-up	20710	Linear Foot	\$ 14	\$ 289,940	
833	Hydro Test	1	Lump Sum	\$ 300,000	\$ 300,000	
834	Commissioning	1	Lump Sum	\$ 75,000	\$ 75,000	
829	Additional Hill Resources	0	Lump Sum	\$ -	\$ -	
828	Scar Guard	0	Linear Foot	\$ -	\$ -	
630	Silt Fence (metal post & wire backing)	41420	Linear Foot	\$ 14	\$ 579,880	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	SF	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	SF	\$ -	\$ -	
630	Rip Rap Placement	0	Ton	\$ -	\$ -	
630	Gravel Placement	0	Ton	\$ -	\$ -	
630	Geo Textile Fabric	0	Square Yard	\$ -	\$ -	
630	Safety Fence	20710	linear ft	\$ 7	\$ 144,970	
630	Culvert Pipe (CMP)	0	Inch Diameter/LF	\$ -	\$ -	
630	Sack Breakers	0	Each	\$ -	\$ -	
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -	
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -	
630	Foam Breakers	0	Each	\$ -	\$ -	
630	Construction (Timber) Mats (4'x18')	215	Each	\$ 200	\$ 43,000	
630	Laminated (Truck) Mats (8'x16')	0	Each	\$ -	\$ -	
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -	
630	Permanent Seeding (seed straw, and tack)	2134440	SF	\$ 0.21	\$ 448,232	
630	Intermediate Seeding (seed straw, and tack)	2134440	SF	\$ 0.13	\$ 277,477	
630	Dry Crossing (Flume or Dam/Pump Method)	2	Each	\$ 38,500	\$ 77,000	
630	Sod	0	SF	\$ -	\$ -	
630	12" Sediment Log	0	Each	\$ -	\$ -	

630	Erosion Eel	0	Each	\$ -	\$ -	
630	Rock Filter Outlet	0	Each	\$ -	\$ -	
630	Block and Gravel Basin Filter	0	Each	\$ -	\$ -	
630	Permanent Wetland Seeding	0	SF	\$ -	\$ -	
831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	0	Each	\$ -	\$ -	
832	Chain Link Fence & Gates – New	0	Linear Foot	\$ -	\$ -	
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Roads	0	Linear Foot	\$ -	\$ -	
832	Temporary Access Roads	1200	Linear Foot	\$ 150	\$ 180,000	
832	Top Soil	0	Ton	\$ -	\$ -	
832	Asphalt Removal/Restoration	52000	Square Foot	\$ 20	\$ 1,040,000	
823	Grouting of Abandoned Pipe	0	Cubic Yard	\$ -	\$ -	
824	Removal of Existing Pipeline	0	Linear Foot	\$ -	\$ -	
832	Farm Gate	0	Linear Foot	\$ -	\$ -	
	MLV Installation	0	Each	\$ -	\$ -	
	L/R Installation	0	Each	\$ -	\$ -	
	Staging & Laydown Yard	12	Acre	\$ 65,000	\$ 780,000	
	Civil or General Conditions	0	Lump Sum	\$ -	\$ -	
	HDD Mudd Disposal	0	Linear Foot	\$ -	\$ -	
	HDD Mudd Engineer	0	Per HDD	\$ 20,000	\$ -	
	Contractor Tap Support	4	Each	\$ 31,967	\$ 127,868	
	TDW Tap	4	Each	\$ 10,500	\$ 42,000	
	TDW Tap	0	Each	\$ -	\$ -	
					\$ 16,708,000	
Field Inspection & Testing						
	Construction Inspection	1591	Man-Days	\$ 840	\$ 1,336,640	
	Non-Destructive Testing	251	Days	\$ 2,000	\$ 501,240	
Sub-Total - Field Inspection & Testing					\$ 1,837,900	
Major Equipment & Materials						
	Pipe					
	24" Standard Wall, X52, Coated, DRL	19790	Linear Foot	\$ 109	\$ 2,157,110	
	24" Standard Wall, X52, Powercrete	1000	Linear Foot	\$ 117	\$ 117,000	
	XX" Standard Wall, X52, Bare	0	Linear Foot	\$ -	\$ -	
	Fittings					
	24" 3R - 45 deg ell - Segmentable	10	Each	\$ 5,000	\$ 50,000	
	24" 3R - 90 deg ell - Segmentable	8	Each	\$ 5,575	\$ 44,600	
	Equipment					
	XX" TDW Stopples	0	Each	\$ -	\$ -	
	24" TDW Spherical Tee	4	Each	\$ 65,000	\$ 260,000	
	XX" L/R Module	0	Each	\$ -	\$ -	
	XX" MLV Module	0	Each	\$ -	\$ -	
	Miscellaneous					
	Cathodic Protection Supplies	20710	Linear Foot	\$ 2	\$ 41,420	
	Misc. Materials (10% of Total Major)	1	Calculated	\$ 267,013	\$ 267,013	
Sub-Total - Materials					\$ 2,937,200	
Sub-Total					\$ 27,227,000	
Escalation					\$ 2,341,700	
Contingency					\$ 4,084,100	
Pipeline Estimate Total					\$ 33,652,800	

Line AM07 PH 2						
8/3/2020		Retirement			Revision # B	
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
	PNG Labor	40	Month	\$ 1,600	\$ 64,000	
	Other Direct Cost	40	Month	\$ 400	\$ 16,000	
Sub-Total - Internal E&CM					\$	80,000
External Engineering						
	Design - Pipeline	679	Hour	\$ 125	\$ 84,854	
	Design - Facility	0	Hour	\$ 125	\$ -	
	MAOP	1	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	84,900
Land Services						
	Transmission - Land Purchase	0	Acre	\$ 50,000	\$ -	
	Transmission - Pipeline Easements	0	Acre	\$ 20,000	\$ -	
	Transmission - Stations Easements	0	Acre	\$ 30,000	\$ -	
	Transmission - Temp Work Space	0	Acre	\$ 5,000	\$ -	
	Transmission - Access Roads	0	Each	\$ 7,500	\$ -	
	Transmission - Laydown Yard	0	Years	\$ 60,000	\$ -	
	Construction Support - Land	0	Per Parcel	\$ 12,000	\$ -	
	Contract Labor - Legal	0	Per Parcel	\$ 20,000	\$ -	
Sub-Total - Land Services					\$	-
Construction Services - Pipeline		17356	Overall LF of Pipe to be Abandoned			
	Mob/Demob	1	Lump Sum	\$ 69,125	\$ 69,125	
	Demo Equipment	4	Days	\$ 7,500	\$ 30,000	
	Grouting	0	LF	\$ -	\$ -	
	Pipe Removal	170	LF	\$ 2,125	\$ 361,250	
	Dig Cut & Remove (Every 1000')	17	Each	\$ 12,500	\$ 212,500	
	Install & Remove Flare + Mob/Demob	1	Lump Sum	\$ 50,000	\$ 50,000	
	Launcher/Receiver Removal	0	Each	\$ 75,000	\$ -	
	Small Station Removal	0	Each	\$ 35,000	\$ -	
	Medium Station Removal	0	Each	\$ 50,000	\$ -	
	Large Station Removal	0	Each	\$ 85,000	\$ -	
	Haul Materials	1	Lump Sum	\$ 25,000	\$ 25,000	
	Nitrogen Clearing	0	Lump Sum	\$ 50,000	\$ -	
	Line Locating	1	Week	\$ 12,500	\$ 12,500	
	Contractor Tap Support	0	Days	\$ -	\$ -	
	TDW Tap	0	Each	\$ -	\$ -	
					\$	760,400
Field Inspection & Testing						
	Construction Inspection	136	Man-Days	\$ 840	\$ 114,060	
	Non-Destructive Testing	0	Days	\$ 2,000	\$ -	
Sub-Total - Field Inspection & Testing					\$	114,100
Major Equipment & Materials						
	Purge Materials	1	Lump Sum	\$ 10,000	\$ 10,000	
	Stopples	0	Each	\$ -	\$ -	
	Stopples	0	Each	\$ -	\$ -	
	Misc. Materials (10% of Total Major)	1	Calculated	\$ 1,000	\$ 1,000	
Sub-Total - Materials					\$	11,000
Sub-Total					\$	1,050,400
Escalation					\$	92,600
Contingency					\$	157,600
Pipeline Estimate Total					\$	1,300,600

Object Path ID	Resource Type Path ID	Start Date	End Date	Curve ID	Cost	Currency	Transaction Date	External Key
OPP-000XXX.CP1.NGCONFC		1/1/2022	5/31/2025	BEL	\$ -			
OPP-000XXX.CP1.NGCONPC		1/1/2022	5/31/2025	BEL	\$ 22,016,700			
OPP-000XXX.CP1.NGCONT		1/1/2022	5/31/2025	BEL	\$ 7,995,800			
OPP-000XXX.CP1.NGENGNC		1/1/2022	5/31/2025	BEL	\$ 2,065,700			
OPP-000XXX.CP1.NGFITSC		1/1/2022	5/31/2025	BEL	\$ 2,443,800			
OPP-000XXX.CP1.NGLANDC		1/1/2022	5/31/2025	BEL	\$ 4,060,000			
OPP-000XXX.CP1.NGMAFD		1/1/2022	5/31/2025	BEL	\$ 1,239,100			
OPP-000XXX.CP1.NGMATEC		1/1/2022	5/31/2025	BEL	\$ 2,912,500			
OPP-000XXX.CP1.NGMOTH		1/1/2022	5/31/2025	BEL	\$ 60,000			
OPP-000XXX.CP1.NGMOVH		1/1/2022	5/31/2025	BEL	\$ 4,178,500			
OPP-000XXX.CP1.NGMPGL		1/1/2022	5/31/2025	BEL	\$ 238,000			

Estimate Document Checklist
Line AM07 PH 3
Class 5

8/3/2020

Revision: B

Document Type	Yes	No	Comment
Engineering			
Design Basis Document			
Input from System Planning			
Was project Modeled by PNG			
Were Engineering drawings provided			
Project Location			
Flow Rate			
Pressure			
In-service Date			
Quantities			
Land			
Land price Estimate			
Pricing			
Current Equipment Pricing			
Contractor Construction Quote			
External Engineer's Estimate			
Long Lead Material Analysis			
Schedule			
Project Schedule			
Project Schedule Contingency			
Long Lead Material Analysis			
Other			
Does the design route parallel existing facilities?			
Does the design route parallel other ROW's			
Are there Plant Safety Requirements			
Military Base			
OM			
OM Estimate			

Line AM07 PH 3													
Revision: B													
8/3/2020													
Description	TOTAL PROJECT COST	Pipelay 1	Pipelay 2	Pipelay 3	Station 1	Station 2	Station 3	Station 4	Station 5	Demo 1	Demo 2	Demo 3	Demo 4
Engineering	5.27%	5.23%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	6.86%	#REF!	#REF!	#REF!
Land Services	10.35%	10.60%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Materials/Equipment	7.43%	7.57%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	1.23%	#REF!	#REF!	#REF!
Construction Serv - Pipeline	56.14%	56.03%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	61.03%	#REF!	#REF!	#REF!
Construction Serv - Facility	0.00%	0.00%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Field Inspections	6.23%	6.16%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	9.15%	#REF!	#REF!	#REF!
PNG Labor	0.61%	0.45%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	7.14%	#REF!	#REF!	#REF!
Other Direct Costs	0.15%	0.11%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	1.78%	#REF!	#REF!	#REF!
AFUDC Debt	3.16%	3.23%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Overhead and Allocations	10.66%	10.61%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	12.81%	#REF!	#REF!	#REF!

Indicative Percentages								
Pipeline			Station			ILI Projects		
NC	TN	OH/KY	NC	TN	OH/KY	NC	TN	OH/KY
6%	5%	7%	13%	10%	7%	13%	10%	7%
12%	15%	7%	8%	8%	8%	8%	8%	8%
13%	6%	6%	29%	24%	19%	29%	24%	19%
48%	54%	55%	0%	0%	0%	0%	0%	0%
0%	0%	0%	14%	23%	31%	14%	23%	31%
7%	7%	8%	13%	11%	9%	13%	11%	9%
2%	2%	1%	4%	4%	4%	4%	4%	4%
1%	0%	0%	1%	1%	1%	1%	1%	1%
4%	4%	5%	6%	5%	4%	6%	5%	4%
8%	6%	11%	13%	15%	16%	13%	15%	16%

Master Input Data		
Description	User Input	Notes
Estimate Revision Number	B	Change number on each draft to be sent out
Ecosys Opportunity Number	OPP-000XXX	Need to complete from Ecosys for Charter estimates.
Project Name	Line AM07 PH 3	
Date:	8/3/2020	Update with each revision
Customer	PNG	
Physical Location	Erlanger,Ky	City, State
Project manager	PM	
Modeler	System Planning	
Lead Estimator	Kyle Gillow	Person who does the estimate
Total Project Schedule	40	1 Year Project - 17 months 2 Year Project - 31 months 3 Year Project - 40 months
Engineering Project Schedule	22	1 Year Project - 7 months 2 Year Project - 16 months 3 Year Project - 22 months
Construction Project Schedule	10	1 Year Project - 5 months 2 Year Project - 8 months 3 Year Project - 10 months
Estimate Requested By	Requestor	
Rate Requested		firm, interruptible, etc.
Hourly Flow (MCFH)		change unit of measure as needed
Delivery Pressure (PSIG)		
Resource Center	GD70	
Estimate Type	Class 5	
Length of Pipeline	18870	Enter the overall pipe line footage.
Add Sales tax (PNG Materials Only)	7.75%	Input Percentage - Will automatically apply to materials
Pipe Size	24"	
Escalation (in Years)	3	Years until start date (not in-service date) (Put '0' if project is kicking off within 6 months)
Escalation Rate (%)	2.5%	Rate of Escalation (use '0' only for commit and build gates)
Contingency (%)	15%	Contingency %
Start Date	1/1/2022	*Either start date from Ecosys or leave as 1/1/2022 for 2022 charters
In-Service Date	5/1/2025	*This will auto-populate when total project schedule is completed
Completion Date	5/31/2025	*This will auto-populate when total project schedule is completed
Ecosys In-Service Date	10/1/2023	*From Ecosys for Charters **IF HIGHLIGHTED RED THEN NOT FEASIBLE, CONTACT CHARTER GROUP**

PMCoE

Estimate Uncertainty



Cell requires user entry

Project Name: Date:

Next Stage Gate: Minimum Class:

PMCoE Estimate Uncertainty Tool

Informed Range		Cost Description	Best Case	Estimate Value	Worst Case
- %	+ %		(Optimistic: O)	(Most Likely: ML)	(Pessimistic: P)
-20%	30%	Engineering	\$ 1,652,560	\$ 2,065,700	\$ 2,685,410
-20%	30%	Land	\$ 3,248,000	\$ 4,060,000	\$ 5,278,000
-20%	30%	Materials/Equipment	\$ 2,330,000	\$ 2,912,500	\$ 3,786,250
-20%	30%	Construction Services	\$ 17,613,360	\$ 22,016,700	\$ 28,621,710
-20%	30%	Field Inspections & Testing	\$ 1,955,040	\$ 2,443,800	\$ 3,176,940
-20%	30%	PNG Labor	\$ 190,400	\$ 238,000	\$ 309,400
-20%	30%	Other	\$ 48,000	\$ 60,000	\$ 78,000
-20%	30%	AFUDC	\$ 991,280	\$ 1,239,100	\$ 1,610,830
-20%	30%	Overhead & Allocations	\$ 3,342,800	\$ 4,178,500	\$ 5,432,050
Sub Total			\$ 31,371,440	\$ 39,214,300	\$ 50,978,590

A. Cumulative Risk EMV	\$ -
B. Estimate Uncertainty PERT $((O+P+(ML*4))/6)$ -ML	\$ 653,572
C. Contingency (A+B)	\$ 653,572

	\$ 31,371,440	\$ 39,867,872	\$ 50,978,590
	Best Case	Expected Case	Worst Case
Project Informed Range	-21%		28%
Certainty*	P10	P50	P90

* P10 and P90 are representative values, but not statistically proven by this methodology. These values do not include any Risk EMV and are shown to allow the project to assess if their Project Informed Range is aligned with the AACEI Class of Estimate expectations.

AACEI Estimate Class Reference:

Class	Typical Methodology	Low Range	High Range
5	Capacity Factored. Parametric Models. Judgement, or Analogy	-20%	30%
		-50%	100%
4	Equipment Factored. Parametric Models.	-15%	20%
		-30%	50%
3	Semi-Detailed Unit Costs with Assembly Level Line Items.	-10%	10%
		-20%	30%
2	Detailed Unit Cost with Detailed Take-Off.	-5%	5%
		-15%	20%
1	Detailed Unit Cost with Detailed Take-Off.	-3%	3%
		-10%	15%

Line AM07 PH 3 Funding Breakdown 8/3/2020		
Description	Budget	
Contract Labor	\$ 30,082,400	External Engineering, Construction Services, Field Inspection & Testing, Escalation
Material Purchased by PNG	\$ 2,912,500	Major Equipment and Testing
PNG Labor	\$ 238,000	Internal Engineering and Construction Management
Land (Permanent Only)	\$ 3,250,000	Permanent Land purchases only
Other	\$ 240,000	Land Rights (temporary land, land services, etc), Other Direct Costs - travel, meals, hotel, misc expenses
Sub-Total	\$ 36,722,900	
Contingency	\$ 5,069,600	Contingency
Sub-Total	\$ 41,792,500	
AFUDC	\$ -	By Finance
Overheads	\$ -	By Finance
Total	\$ 41,792,500	
Start Date	1/1/2022	By Project Manager
In-Service Date	5/1/2025	From Project Charter or Project Mgr.
Completion Date	10/1/2023	From Estimating
*ENSURE DISTRIBUTION COSTS HAVE BEEN REMOVED FROM ABOVE		

Line AM07 PH 3	
Notes and Assumptions	
8/3/2020	
Estimate Revision: B	
1.	
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This is to document the changes requested in the estimate from reviews.

Piedmont Natural Gas Line AM07 PH 3 Estimate Change Log								
Revision: B								
Item	Revision	Date	Description	Price Before Change	Price After Change	Change Amount	Change Directed By:	Estimate Changed By:
1	A	XX/XX/XX	Starting Estimate	\$0	\$0	\$0		
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

Line AM07 PH 3					
Erlanger,Ky					
Project Cost Breakdown					
Class 5					
Revision: B		8/3/2020			
WBS 1 Description		Capital Improvement and Retirement	Capital Improvement		Retirement
			Size / Name	24"/Line AM07 PH3	24"/Line AM07
			Length / Qty	10,491LF	10,419
			Total	Pipelay 1	Pipe Abandonment
NGENGNC	Engineering	\$ 2,065,700	\$ 2,004,200	\$ 2,004,200	\$ 61,500
NGLANDC	Land Purchase	\$ 3,250,000	\$ 3,250,000	\$ 3,250,000	\$ -
NGLANDC	Land - Rights	\$ 180,000	\$ 180,000	\$ 180,000	\$ -
NGLANDC	Land - Support	\$ 540,000	\$ 540,000	\$ 540,000	\$ -
NGLANDC	Land Legal	\$ 90,000	\$ 90,000	\$ 90,000	\$ -
NGMATEC	Materials/Equipment	\$ 2,912,500	\$ 2,901,500	\$ 2,901,500	\$ 11,000
NGCONPC	Construction Serv - Pipeline	\$ 22,016,700	\$ 21,469,400	\$ 21,469,400	\$ 547,300
NGCONF	Construction Serv - Facility	\$ -	\$ -		
NGFITSC	Field Inspections	\$ 2,443,800	\$ 2,361,700	\$ 2,361,700	\$ 82,100
NGMPGL	PNG Labor	\$ 238,000	\$ 174,000	\$ 174,000	\$ 64,000
NGMOTH	Other Direct Costs	\$ 60,000	\$ 44,000	\$ 44,000	\$ 16,000
Subtotal Direct Cost		\$ 33,796,700	\$ 33,014,800	\$ 33,014,800	\$ 781,900
	Project Contingency	\$ 5,069,600	\$ 4,952,300	\$ 4,952,300	\$ 117,300
	Project Escalation	\$ 2,926,200	\$ 2,857,500	\$ 2,857,500	\$ 68,700
Total Contingency & Escalation		\$ 7,995,800	\$ 7,809,800	\$ 7,809,800	\$ 186,000
Total Direct Cost		\$ 41,792,500	\$ 40,824,600	\$ 40,824,600	\$ 967,900
NGMPGL	AFUDC Debt	\$ 1,239,100	\$ 1,239,100	\$ 1,239,100	\$ -
NGMOVH	Overhead and Allocations	\$ 4,178,500	\$ 4,063,600	\$ 4,063,600	\$ 114,900
Total PNG Overhead Cost		\$ 5,417,600	\$ 5,302,700	\$ 5,302,700	\$ 114,900
Project Total		\$ 47,210,100	\$ 46,127,300	\$ 46,127,300	\$ 1,082,800

Notes:

1. Contingency is not included on escalation.
2. Overheads and Allocations calculated using 12% of Total Direct Cost less Land Purchase, Materials/Equipment and FERC co
3. AFUDC calculated using 6.07% of total Direct Cost. (No AFUDC on Retirement Cost.)
4. Project Escalation is assumed for 3 Year at 2.5%.

Line AM07 PH 3						
8/3/2020		24"		Revision # B		
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
	PNG Labor	40	Month	\$ 4,350	\$ 174,000	
	Other Direct Cost	40	Month	\$ 1,100	\$ 44,000	
Sub-Total - Internal E&CM					\$	218,000
External Engineering						
	Design - Pipeline	15921	Hour	\$ 125	\$ 1,990,163	
	Design - Facility	0	Hour	\$ 125	\$ -	
	MAOP	1	Lump Sum	\$ 14,000	\$ 14,000	
Sub-Total - External Engineering					\$	2,004,200
Land Services						
	Transmission - Fee Simple Purchases	11	Acre	\$ 150,000	\$ 1,650,000	
	Transmission - Permanent Easements (Rural)	0	Acre	\$ 20,000	\$ -	
	Transmission - Permanent Easements (Urban)	32	Acre	\$ 50,000	\$ 1,600,000	
	Transmission - Stations Easements (Rural)	0	Acre	\$ 30,000	\$ -	
	Transmission - Stations Easements (Urban)	0	Acre	\$ 30,000	\$ -	
	Transmission - Temp Work Space (Rural)	0	Acre	\$ 5,000	\$ -	
	Transmission - Temp Work Space (Urban)	0	Acre	\$ 12,500	\$ -	
	Transmission - Access Roads	0	Each	\$ 7,500	\$ -	
	Transmission - Laydown Yard	36	Months	\$ 5,000	\$ 180,000	
	Land Services - Contractor	45	Per Parcel	\$ 12,000	\$ 540,000	
	Contract Labor - Legal	5	Per Parcel	\$ 20,000	\$ 90,000	
Sub-Total - Land Services					\$	4,060,000
Construction Services - Pipeline		18870	Overall LF of Pipe installed			
820	Mob/Demob	1	Lump Sum	\$ 1,951,758	\$ 1,951,758	
821	Clearing and Grubbing	43	acre	\$ 37,800	\$ 1,625,400	
821	Tree Cutting Only/No Grubbing	0	acre	\$ -	\$ -	
829	Conventional Upland Lay	15090	Linear Foot	\$ 335	\$ 5,055,150	
829	Conventional Wetland Lay	780	Lump Sum	\$ 385	\$ 300,300	
825	Conventional Bore - Dirt	0	Linear Foot	\$ -	\$ -	
826	Conventional Bore - Rock	1000	Linear Foot	\$ 390	\$ 390,000	
827	Directional Drill - Dirt	0	Linear Foot	\$ -	\$ -	
828	Directional Drill - Rock	2000	Linear Foot	\$ 2,500	\$ 5,000,000	
822	Rock Excavation - Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation - Mechanical	6115	Cubic Yard	\$ 275	\$ 1,681,625	
829	Extra Depth Ditch	0	Per 1 ft depth/ LF	\$ -	\$ -	
829	Padding - Job Site	0	Linear Foot	\$ -	\$ -	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	0	Linear Foot	\$ -	\$ -	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon	18870	Linear Foot	\$ 16	\$ 301,920	
837	Anode Bed	1	Each	\$ 21,000	\$ 21,000	
835	Temporary Clean-up	18870	Linear Foot	\$ 14	\$ 264,180	
833	Hydro Test	1	Lump Sum	\$ 300,000	\$ 300,000	
834	Commissioning	1	Lump Sum	\$ 75,000	\$ 75,000	
829	Additional Hill Resources	0	Lump Sum	\$ -	\$ -	
828	Scar Guard	2000	Linear Foot	\$ 269	\$ 538,000	
630	Silt Fence (metal post & wire backing)	37740	Linear Foot	\$ 14	\$ 528,360	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	SF	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	SF	\$ -	\$ -	
630	Rip Rap Placement	0	Ton	\$ -	\$ -	
630	Gravel Placement	300	Ton	\$ 67	\$ 20,100	
630	Geo Textile Fabric	0	Square Yard	\$ -	\$ -	
630	Safety Fence	18870	linear ft	\$ 7	\$ 132,090	
630	Culvert Pipe (CMP)	0	Inch Diameter/LF	\$ -	\$ -	
630	Sack Breakers	0	Each	\$ -	\$ -	
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -	
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -	
630	Foam Breakers	0	Each	\$ -	\$ -	
630	Construction (Timber) Mats (4'x18')	215	Each	\$ 200	\$ 43,000	
630	Laminated (Truck) Mats (8'x16')	0	Each	\$ -	\$ -	
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -	
630	Permanent Seeding (seed straw, and tack)	1887000	SF	\$ 0.21	\$ 396,270	
630	Intermediate Seeding (seed straw, and tack)	1887000	SF	\$ 0.13	\$ 245,310	
630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ -	\$ -	
630	Sod	0	SF	\$ -	\$ -	
630	12" Sediment Log	0	Each	\$ -	\$ -	

630	Erosion Eel	0	Each	\$ -	\$ -	
630	Rock Filter Outlet	0	Each	\$ -	\$ -	
630	Block and Gravel Basin Filter	0	Each	\$ -	\$ -	
630	Permanent Wetland Seeding	0	SF	\$ -	\$ -	
831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	0	Each	\$ -	\$ -	
832	Chain Link Fence & Gates – New	200	Linear Foot	\$ 75	\$ 15,000	
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Roads	100	Linear Foot	\$ 150	\$ 15,000	
832	Temporary Access Roads	1200	Linear Foot	\$ 150	\$ 180,000	
832	Top Soil	0	Ton	\$ -	\$ -	
832	Asphalt Removal/Restoration	52000	Square Foot	\$ 20	\$ 1,040,000	
823	Grouting of Abandoned Pipe	0	Cubic Yard	\$ -	\$ -	
824	Removal of Existing Pipeline	0	Linear Foot	\$ -	\$ -	
	SCADA Line	1	Lump Sum	\$ 100,000	\$ 100,000	
	MLV Installation	1	Each	\$ 226,002	\$ 226,002	
	L/R Installation	0	Each	\$ -	\$ -	
	Staging & Laydown Yard	12	Acre	\$ 65,000	\$ 780,000	
	Civil or General Conditions	0	Lump Sum	\$ -	\$ -	
	HDD Mudd Disposal	2000	Linear Foot	\$ 17	\$ 34,000	
	HDD Mudd Engineer	2	Per HDD	\$ 20,000	\$ 40,000	
	Contractor Tap Support	4	Each	\$ 31,967	\$ 127,868	
	TDW Tap	4	Each	\$ 10,500	\$ 42,000	
	TDW Tap	0	Each	\$ -	\$ -	
					\$ 21,469,400	
Field Inspection & Testing						
	Construction Inspection	2045	Man-Days	\$ 840	\$ 1,717,552	
	Non-Destructive Testing	322	Days	\$ 2,000	\$ 644,082	
Sub-Total - Field Inspection & Testing					\$ 2,361,700	
Major Equipment & Materials						
	Pipe					
	24" Standard Wall, X52, Coated, DRL	15100	Linear Foot	\$ 109	\$ 1,645,900	
	24" Standard Wall, X52, Powercrete	3000	Linear Foot	\$ 117	\$ 351,000	
	XX" Standard Wall, X52, Bare	0	Linear Foot	\$ -	\$ -	
	Fittings					
	24" 3R - 45 deg ell - Segmentable	16	Each	\$ 5,000	\$ 80,000	
	24" 3R - 90 deg ell - Segmentable	14	Each	\$ 5,575	\$ 78,050	
	Equipment					
	XX" TDW Stopple	0	Each	\$ -	\$ -	
	24" TDW Spherical Tee	4	Each	\$ 65,000	\$ 260,000	
	XX" L/R Module	0	Each	\$ -	\$ -	
	24" MLV Module	1	Each	\$ 184,964	\$ 184,964	
	Miscellaneous					
	Cathodic Protection Supplies	18870	Linear Foot	\$ 2	\$ 37,740	
	Misc. Materials (10% of Total Major)	1	Calculated	\$ 263,765	\$ 263,765	
Sub-Total - Materials					\$ 2,901,500	
Sub-Total					\$ 33,014,800	
Escalation					\$ 2,857,500	
Contingency					\$ 4,952,300	
Pipeline Estimate Total					\$ 40,824,600	

Line AM07 PH 3						
8/3/2020		Retirement			Revision # B	
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
	PNG Labor	40	Month	\$ 1,600	\$ 64,000	
	Other Direct Cost	40	Month	\$ 400	\$ 16,000	
Sub-Total - Internal E&CM					\$	80,000
External Engineering						
	Design - Pipeline	491	Hour	\$ 125	\$ 61,413	
	Design - Facility	0	Hour	\$ 125	\$ -	
	MAOP	1	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	61,500
Land Services						
	Transmission - Land Purchase	0	Acre	\$ 50,000	\$ -	
	Transmission - Pipeline Easements	0	Acre	\$ 20,000	\$ -	
	Transmission - Stations Easements	0	Acre	\$ 30,000	\$ -	
	Transmission - Temp Work Space	0	Acre	\$ 5,000	\$ -	
	Transmission - Access Roads	0	Each	\$ 7,500	\$ -	
	Transmission - Laydown Yard	0	Years	\$ 60,000	\$ -	
	Construction Support - Land	0	Per Parcel	\$ 12,000	\$ -	
	Contract Labor - Legal	0	Per Parcel	\$ 20,000	\$ -	
Sub-Total - Land Services					\$	-
Construction Services - Pipeline		10491	Overall LF of Pipe to be Abandoned			
	Mob/Demob	1	Lump Sum	\$ 49,750	\$ 49,750	
	Demo Equipment	5	Days	\$ 7,500	\$ 37,500	
	Grouting	0	LF	\$ -	\$ -	
	Pipe Removal	100	LF	\$ 2,125	\$ 212,500	
	Dig Cut & Remove (Every 1000')	10	Each	\$ 12,500	\$ 125,000	
	Install & Remove Flare + Mob/Demob	1	Lump Sum	\$ 50,000	\$ 50,000	
	Launcher/Receiver Removal	0	Each	\$ 75,000	\$ -	
	Small Station Removal	0	Each	\$ 35,000	\$ -	
	Medium Station Removal	0	Each	\$ 50,000	\$ -	
	Large Station Removal	0	Each	\$ 85,000	\$ -	
	Haul Materials	1	Lump Sum	\$ 10,000	\$ 10,000	
	Nitrogen Clearing	1	Lump Sum	\$ 50,000	\$ 50,000	
	Line Locating	1	Week	\$ 12,500	\$ 12,500	
	Contractor Tap Support	0	Days	\$ -	\$ -	
	TDW Tap	0	Each	\$ -	\$ -	
					\$	547,300
Field Inspection & Testing						
	Construction Inspection	98	Man-Days	\$ 840	\$ 82,095	
	Non-Destructive Testing	0	Days	\$ 2,000	\$ -	
Sub-Total - Field Inspection & Testing					\$	82,100
Major Equipment & Materials						
	Purge Materials	1	Lump Sum	\$ 10,000	\$ 10,000	
	Stopple	0	Each	\$ -	\$ -	
	Stopple	0	Each	\$ -	\$ -	
	Misc. Materials (10% of Total Major)	1	Calculated	\$ 1,000	\$ 1,000	
Sub-Total - Materials					\$	11,000
Sub-Total					\$	781,900
Escalation					\$	68,700
Contingency					\$	117,300
Pipeline Estimate Total					\$	967,900

Object Path ID	Resource Type Path ID	Start Date	End Date	Curve ID	Cost	Currency	Transaction Date	External Key
OPP-000XXX.CP1.NGCONFC		1/1/2022	5/31/2025	BEL	\$ -			
OPP-000XXX.CP1.NGCONPC		1/1/2022	5/31/2025	BEL	\$ 13,313,300			
OPP-000XXX.CP1.NGCONT		1/1/2022	5/31/2025	BEL	\$ 5,456,000			
OPP-000XXX.CP1.NGENGNC		1/1/2022	5/31/2025	BEL	\$ 1,438,400			
OPP-000XXX.CP1.NGFITSC		1/1/2022	5/31/2025	BEL	\$ 1,492,400			
OPP-000XXX.CP1.NGLANDC		1/1/2022	5/31/2025	BEL	\$ 4,470,000			
OPP-000XXX.CP1.NGMAFD		1/1/2022	5/31/2025	BEL	\$ 832,500			
OPP-000XXX.CP1.NGMATEC		1/1/2022	5/31/2025	BEL	\$ 2,160,500			
OPP-000XXX.CP1.NGMOTH		1/1/2022	5/31/2025	BEL	\$ 60,000			
OPP-000XXX.CP1.NGMOVH		1/1/2022	5/31/2025	BEL	\$ 2,639,900			
OPP-000XXX.CP1.NGMPGL		1/1/2022	5/31/2025	BEL	\$ 238,000			

Estimate Document Checklist
Line AM07 PH 4
Class 5

8/4/2020

Revision: B

Document Type	Yes	No	Comment
Engineering			
Design Basis Document			
Input from System Planning			
Was project Modeled by PNG			
Were Engineering drawings provided			
Project Location			
Flow Rate			
Pressure			
In-service Date			
Quantities			
Land			
Land price Estimate			
Pricing			
Current Equipment Pricing			
Contractor Construction Quote			
External Engineer's Estimate			
Long Lead Material Analysis			
Schedule			
Project Schedule			
Project Schedule Contingency			
Long Lead Material Analysis			
Other			
Does the design route parallel existing facilities?			
Does the design route parallel other ROW's			
Are there Plant Safety Requirements			
Military Base			
OM			
OM Estimate			

Line AM07 PH 4													
Revision: B													
Description	TOTAL PROJECT COST	Pipeline 1	Pipeline 2	Pipeline 3	Station 1	Station 2	Station 3	Station 4	Station 5	Demo 1	Demo 2	Demo 3	Demo 4
Engineering	5.40%	5.33%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	7.00%	#REF!	#REF!	#REF!
Land Services	16.78%	17.51%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Materials/Equipment	8.11%	8.42%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.99%	#REF!	#REF!	#REF!
Construction Serv - Pipeline	49.97%	49.42%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	62.59%	#REF!	#REF!	#REF!
Construction Serv - Facility	0.00%	0.00%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Field Inspections	5.60%	5.44%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	9.39%	#REF!	#REF!	#REF!
PNG Labor	0.89%	0.68%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	5.76%	#REF!	#REF!	#REF!
Other Direct Costs	0.23%	0.17%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	1.44%	#REF!	#REF!	#REF!
AFUDC Debt	3.12%	3.26%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Overhead and Allocations	9.91%	9.78%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	12.84%	#REF!	#REF!	#REF!

Indicative Percentages								
Pipeline			Station			ILI Projects		
NC	TN	OH/KY	NC	TN	OH/KY	NC	TN	OH/KY
6%	5%	7%	13%	10%	7%	13%	10%	7%
12%	15%	7%	8%	8%	8%	8%	8%	8%
13%	6%	6%	29%	24%	19%	29%	24%	19%
48%	54%	55%	0%	0%	0%	0%	0%	0%
0%	0%	0%	14%	23%	31%	14%	23%	31%
7%	7%	8%	13%	11%	9%	13%	11%	9%
2%	2%	1%	4%	4%	4%	4%	4%	4%
1%	0%	0%	1%	1%	1%	1%	1%	1%
4%	4%	5%	6%	5%	4%	6%	5%	4%
8%	6%	11%	13%	15%	16%	13%	15%	16%

Master Input Data		
Description	User Input	Notes
Estimate Revision Number	B	Change number on each draft to be sent out
Ecosys Opportunity Number	OPP-000XXX	Need to complete from Ecosys for Charter estimates.
Project Name	Line AM07 PH 4	
Date:	8/4/2020	Update with each revision
Customer	PNG	
Physical Location	Erlanger,Ky	City, State
Project manager	PM	
Modeler	System Planning	
Lead Estimator	Kyle Gillow	Person who does the estimate
Total Project Schedule	40	1 Year Project - 17 months 2 Year Project - 31 months 3 Year Project - 40 months
Engineering Project Schedule	22	1 Year Project - 7 months 2 Year Project - 16 months 3 Year Project - 22 months
Construction Project Schedule	10	1 Year Project - 5 months 2 Year Project - 8 months 3 Year Project - 10 months
Estimate Requested By	Requestor	
Rate Requested		firm, interruptible, etc.
Hourly Flow (MCFH)		change unit of measure as needed
Delivery Pressure (PSIG)		
Resource Center	GD70	
Estimate Type	Class 5	
Length of Pipeline	11,690	Enter the overall pipe line footage.
Add Sales tax (PNG Materials Only)	7.75%	Input Percentage - Will automatically apply to materials
Pipe Size	24	
Escalation (in Years)	3	Years until start date (not in-service date) (Put '0' if project is kicking off within 6 months)
Escalation Rate (%)	2.5%	Rate of Escalation (use '0' only for commit and build gates)
Contingency (%)	15%	Contingency %
Start Date	1/1/2022	*Either start date from Ecosys or leave as 1/1/2022 for 2022 charters
In-Service Date	5/1/2025	*This will auto-populate when total project schedule is completed
Completion Date	5/31/2025	*This will auto-populate when total project schedule is completed
Ecosys In-Service Date	1/30/2026	*From Ecosys for Charters **IF HIGHLIGHTED RED THEN NOT FEASIBLE, CONTACT CHARTER GROUP**

PMCoE

Estimate Uncertainty



Cell requires user entry

Project Name: Date:

Next Stage Gate: Minimum Class:

PMCoE Estimate Uncertainty Tool

Informed Range		Cost Description	Best Case	Estimate Value	Worst Case
- %	+ %		(Optimistic: O)	(Most Likely: ML)	(Pessimistic: P)
-20%	30%	Engineering	\$ 1,150,720	\$ 1,438,400	\$ 1,869,920
-20%	30%	Land	\$ 3,576,000	\$ 4,470,000	\$ 5,811,000
-20%	30%	Materials/Equipment	\$ 1,728,400	\$ 2,160,500	\$ 2,808,650
-20%	30%	Construction Services	\$ 10,650,640	\$ 13,313,300	\$ 17,307,290
-20%	30%	Field Inspections & Testing	\$ 1,193,920	\$ 1,492,400	\$ 1,940,120
-20%	30%	PNG Labor	\$ 190,400	\$ 238,000	\$ 309,400
-20%	30%	Other	\$ 48,000	\$ 60,000	\$ 78,000
-20%	30%	AFUDC	\$ 666,000	\$ 832,500	\$ 1,082,250
-20%	30%	Overhead & Allocations	\$ 2,111,920	\$ 2,639,900	\$ 3,431,870
Sub Total			\$ 21,316,000	\$ 26,645,000	\$ 34,638,500

A. Cumulative Risk EMV	\$ -
B. Estimate Uncertainty PERT $((O+P+(ML*4))/6)$ -ML	\$ 444,083
C. Contingency (A+B)	\$ 444,083

	\$ 21,316,000	\$ 27,089,083	\$ 34,638,500
	Best Case	Expected Case	Worst Case
Project Informed Range	-21%		28%
Certainty*	P10	P50	P90

* P10 and P90 are representative values, but not statistically proven by this methodology. These values do not include any Risk EMV and are shown to allow the project to assess if their Project Informed Range is aligned with the AACEI Class of Estimate expectations.

AACEI Estimate Class Reference:

Class	Typical Methodology	Low Range	High Range
5	Capacity Factored. Parametric Models. Judgement, or Analogy	-20%	30%
		-50%	100%
4	Equipment Factored. Parametric Models.	-15%	20%
		-30%	50%
3	Semi-Detailed Unit Costs with Assembly Level Line Items.	-10%	10%
		-20%	30%
2	Detailed Unit Cost with Detailed Take-Off.	-5%	5%
		-15%	20%
1	Detailed Unit Cost with Detailed Take-Off.	-3%	3%
		-10%	15%

Line AM07 PH 4 Funding Breakdown 8/4/2020		
Description	Budget	
Contract Labor	\$	19,064,100
Material Purchased by PNG	\$	2,160,500
PNG Labor	\$	238,000
Land (Permanent Only)	\$	3,450,000
Other	\$	240,000
Sub-Total	\$	25,152,600
Contingency	\$	3,476,000
Sub-Total	\$	28,628,600
AFUDC	\$	-
Overheads	\$	-
Total	\$	28,628,600
Start Date	1/1/2022	By Project Manager
In-Service Date	5/1/2025	From Project Charter or Project Mgr.
Completion Date	1/30/2026	From Estimating
*ENSURE DISTRIBUTION COSTS HAVE BEEN REMOVED FROM ABOVE		

External Engineering, Construction Services, Field Inspection & Testing, Escalation
Major Equipment and Testing
Internal Engineering and Construction Management
Permanent Land purchases only
Land Rights (temporary land, land services, etc), Other Direct Costs - travel, meals, hotel, misc expenses
Contingency
By Finance
By Finance

Line AM07 PH 4

Notes and Assumptions

8/4/2020

Estimate Revision: B

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

This is to document the changes requested in the estimate from reviews.

Piedmont Natural Gas								
Line AM07 PH 4								
Estimate Change Log								
Revision: B								
Item	Revision	Date	Description	Price Before Change	Price After Change	Change Amount	Change Directed By:	Estimate Changed By:
1	A	XX/XX/XX	Starting Estimate	\$0	\$0	\$0		
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

Line AM07 PH 4						
Erlanger, Ky						
Project Cost Breakdown						
Class 5						
Revision: B		8/4/2020				
WBS 1 Description		Capital Improvement and Retirement	Capital Improvement		Retirement	
			Size / Name	24"/Line AM07	24" Line AM07	
			Length / Qty	14716LF	13862	
			Total	Pipelay 1	Pipe Abandonment	
NGENGNC	Engineering	\$ 1,438,400	\$ 1,360,600	\$ 1,360,600	\$ 77,800	
NGLANDC	Land Purchase	\$ 3,450,000	\$ 3,450,000	\$ 3,450,000	\$ -	
NGLANDC	Land - Rights	\$ 180,000	\$ 180,000	\$ 180,000	\$ -	
NGLANDC	Land - Support	\$ 720,000	\$ 720,000	\$ 720,000	\$ -	
NGLANDC	Land Legal	\$ 120,000	\$ 120,000	\$ 120,000	\$ -	
NGMATEC	Materials/Equipment	\$ 2,160,500	\$ 2,149,500	\$ 2,149,500	\$ 11,000	
NGCONPC	Construction Serv - Pipeline	\$ 13,313,300	\$ 12,617,500	\$ 12,617,500	\$ 695,800	
NGCONF	Construction Serv - Facility	\$ -	\$ -			
NGFITSC	Field Inspections	\$ 1,492,400	\$ 1,388,000	\$ 1,388,000	\$ 104,400	
NGMPGL	PNG Labor	\$ 238,000	\$ 174,000	\$ 174,000	\$ 64,000	
NGMOTH	Other Direct Costs	\$ 60,000	\$ 44,000	\$ 44,000	\$ 16,000	
Subtotal Direct Cost		\$ 23,172,600	\$ 22,203,600	\$ 22,203,600	\$ 969,000	
	Project Contingency	\$ 3,476,000	\$ 3,330,600	\$ 3,330,600	\$ 145,400	
	Project Escalation	\$ 1,980,000	\$ 1,894,700	\$ 1,894,700	\$ 85,300	
Total Contingency & Escalation		\$ 5,456,000	\$ 5,225,300	\$ 5,225,300	\$ 230,700	
Total Direct Cost		\$ 28,628,600	\$ 27,428,900	\$ 27,428,900	\$ 1,199,700	
NGMPGL	AFUDC Debt	\$ 832,500	\$ 832,500	\$ 832,500	\$ -	
NGMOVH	Overhead and Allocations	\$ 2,639,900	\$ 2,497,200	\$ 2,497,200	\$ 142,700	
Total PNG Overhead Cost		\$ 3,472,400	\$ 3,329,700	\$ 3,329,700	\$ 142,700	
Project Total		\$ 32,101,000	\$ 30,758,600	\$ 30,758,600	\$ 1,342,400	

Notes:

1. Contingency is not included on escalation.
2. Overheads and Allocations calculated using 12% of Total Direct Cost less Land Purchase, Materials/Equipment and FERC cost.
3. AFUDC calculated using 6.07% of total Direct Cost. (No AFUDC on Retirement Cost.)
4. Project Escalation is assumed for 3 Year at 2.5%.

Line AM07 PH 4						
8/4/2020		24		Revision # B		
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
	PNG Labor	40	Month	\$ 4,350	\$ 174,000	
	Other Direct Cost	40	Month	\$ 1,100	\$ 44,000	
Sub-Total - Internal E&CM					\$	218,000
External Engineering						
	Design - Pipeline	10773	Hour	\$ 125	\$ 1,346,590	
	Design - Facility	0	Hour	\$ 125	\$ -	
	MAOP	1	Lump Sum	\$ 14,000	\$ 14,000	
Sub-Total - External Engineering					\$	1,360,600
Land Services						
	Transmission - Fee Simple Purchases	11	Acre	\$ 150,000	\$ 1,650,000	
	Transmission - Permanent Easements (Rural)	0	Acre	\$ 20,000	\$ -	
	Transmission - Permanent Easements (Urban)	36	Acre	\$ 50,000	\$ 1,800,000	
	Transmission - Stations Easements (Rural)	0	Acre	\$ 30,000	\$ -	
	Transmission - Stations Easements (Urban)	0	Acre	\$ 30,000	\$ -	
	Transmission - Temp Work Space (Rural)	0	Acre	\$ 5,000	\$ -	
	Transmission - Temp Work Space (Urban)	0	Acre	\$ 12,500	\$ -	
	Transmission - Access Roads	0	Each	\$ 7,500	\$ -	
	Transmission - Laydown Yard	36	Months	\$ 5,000	\$ 180,000	
	Land Services - Contractor	60	Per Parcel	\$ 12,000	\$ 720,000	
	Contract Labor - Legal	6	Per Parcel	\$ 20,000	\$ 120,000	
Sub-Total - Land Services					\$	4,470,000
Construction Services - Pipeline		11690	Overall LF of Pipe installed			
820	Mob/Demob	1	Lump Sum	\$ 1,147,045	\$ 1,147,045	
821	Clearing and Grubbing	44	acre	\$ 37,800	\$ 1,663,200	
821	Tree Cutting Only/No Grubbing	0	acre	\$ -	\$ -	
829	Conventional Upland Lay	9910	Linear Foot	\$ 335	\$ 3,319,850	
829	Conventional Wetland Lay	780	Lump Sum	\$ 385	\$ 300,300	
825	Conventional Bore - Dirt	0	Linear Foot	\$ -	\$ -	
826	Conventional Bore - Rock	1000	Linear Foot	\$ 390	\$ 390,000	
827	Directional Drill - Dirt	0	Linear Foot	\$ -	\$ -	
828	Directional Drill - Rock	0	Linear Foot	\$ -	\$ -	
822	Rock Excavation - Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation - Mechanical	6115	Cubic Yard	\$ 275	\$ 1,681,625	
829	Extra Depth Ditch	0	Per 1 ft depth/ LF	\$ -	\$ -	
829	Padding - Job Site	0	Linear Foot	\$ -	\$ -	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	0	Linear Foot	\$ -	\$ -	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon	11690	Linear Foot	\$ 16	\$ 187,040	
837	Anode Bed	1	Each	\$ 20,400	\$ 20,400	
835	Temporary Clean-up	11690	Linear Foot	\$ 14	\$ 163,660	
833	Hydro Test	1	Lump Sum	\$ 300,000	\$ 300,000	
834	Commissioning	1	Lump Sum	\$ 75,000	\$ 75,000	
829	Additional Hill Resources	0	Lump Sum	\$ -	\$ -	
828	Scar Guard	0	Linear Foot	\$ -	\$ -	
630	Silt Fence (metal post & wire backing)	23380	Linear Foot	\$ 14	\$ 327,320	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	SF	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	SF	\$ -	\$ -	
630	Rip Rap Placement	0	Ton	\$ -	\$ -	
630	Gravel Placement	300	Ton	\$ 67	\$ 20,100	
630	Geo Textile Fabric	0	Square Yard	\$ -	\$ -	
630	Safety Fence	11690	linear ft	\$ 7	\$ 81,830	
630	Culvert Pipe (CMP)	0	Inch Diameter/LF	\$ -	\$ -	
630	Sack Breakers	0	Each	\$ -	\$ -	
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -	
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -	
630	Foam Breakers	0	Each	\$ -	\$ -	
630	Construction (Timber) Mats (4'x18')	215	Each	\$ 200	\$ 43,000	
630	Laminated (Truck) Mats (8'x16')	0	Each	\$ -	\$ -	
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -	
630	Permanent Seeding (seed straw, and tack)	1169000	SF	\$ 0.21	\$ 245,490	
630	Intermediate Seeding (seed straw, and tack)	1169000	SF	\$ 0.13	\$ 151,970	
630	Dry Crossing (Flume or Dam/Pump Method)	2	Each	\$ 38,500	\$ 77,000	
630	Sod	0	SF	\$ -	\$ -	
630	12" Sediment Log	0	Each	\$ -	\$ -	

630	Erosion Eel	0	Each	\$ -	\$ -	
630	Rock Filter Outlet	0	Each	\$ -	\$ -	
630	Block and Gravel Basin Filter	0	Each	\$ -	\$ -	
630	Permanent Wetland Seeding	0	SF	\$ -	\$ -	
831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	0	Each	\$ -	\$ -	
832	Chain Link Fence & Gates – New	200	Linear Foot	\$ 64	\$ 12,800	
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Roads	100	Linear Foot	\$ 150	\$ 15,000	
832	Temporary Access Roads	1200	Linear Foot	\$ 150	\$ 180,000	
832	Top Soil	0	Ton	\$ -	\$ -	
832	Asphalt Removal/Restoration	52000	Square Foot	\$ 20	\$ 1,040,000	
823	Grouting of Abandoned Pipe	0	Cubic Yard	\$ -	\$ -	
824	Removal of Existing Pipeline	0	Linear Foot	\$ -	\$ -	
832	Farm Gate	0	Linear Foot	\$ -	\$ -	
	MLV Installation	0	Each	\$ -	\$ -	
	L/R Installation	1	Each	\$ 225,000	\$ 225,000	
	Staging & Laydown Yard	12	Acre	\$ 65,000	\$ 780,000	
	Civil or General Conditions	0	Lump Sum	\$ -	\$ -	
	HDD Mudd Disposal	0	Linear Foot	\$ -	\$ -	
	HDD Mudd Engineer	0	Per HDD	\$ 20,000	\$ -	
	Contractor Tap Support	4	Each	\$ 31,967	\$ 127,868	
	TDW Tap	4	Each	\$ 10,500	\$ 42,000	
	TDW Tap	0	Each	\$ -	\$ -	
					\$ 12,617,500	
Field Inspection & Testing						
	Construction Inspection	1202	Man-Days	\$ 840	\$ 1,009,400	
	Non-Destructive Testing	189	Days	\$ 2,000	\$ 378,525	
Sub-Total - Field Inspection & Testing					\$ 1,388,000	
Major Equipment & Materials						
	Pipe					
	24 Standard Wall, X52, Coated, DRL	11000	Linear Foot	\$ 109	\$ 1,199,000	
	24" Standard Wall, X52, Powercrete	1000	Linear Foot	\$ 117	\$ 117,000	
	XX" Standard Wall, X52, Bare	0	Linear Foot	\$ -	\$ -	
	Fittings					
	24" 3R - 45 deg ell - Segmentable	15	Each	\$ 5,000	\$ 75,000	
	24" 3R - 90 deg ell - Segmentable	16	Each	\$ 5,575	\$ 89,200	
	Equipment					
	XX" TDW Stopples	0	Each	\$ -	\$ -	
	24" TDW Spherical Tee	4	Each	\$ 65,000	\$ 260,000	
	24" L/R Module	1	Each	\$ 190,444	\$ 190,444	
	XX" MLV Module	0	Each	\$ -	\$ -	
	Miscellaneous					
	Cathodic Protection Supplies	11690	Linear Foot	\$ 2	\$ 23,380	
	Misc. Materials (10% of Total Major)	1	Calculated	\$ 195,402	\$ 195,402	
Sub-Total - Materials					\$ 2,149,500	
Sub-Total					\$ 22,203,600	
Escalation					\$ 1,894,700	
Contingency					\$ 3,330,600	
Pipeline Estimate Total					\$ 27,428,900	

Line AM07 PH 4						
8/4/2020 Retirement			Revision # B			
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
	PNG Labor	40	Month	\$ 1,600	\$ 64,000	
	Other Direct Cost	40	Month	\$ 400	\$ 16,000	
Sub-Total - Internal E&CM					\$	80,000
External Engineering						
	Design - Pipeline	622	Hour	\$ 125	\$ 77,748	
	Design - Facility	0	Hour	\$ 125	\$ -	
	MAOP	1	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	77,800
Land Services						
	Transmission - Land Purchase	0	Acre	\$ 50,000	\$ -	
	Transmission - Pipeline Easements	0	Acre	\$ 20,000	\$ -	
	Transmission - Stations Easements	0	Acre	\$ 30,000	\$ -	
	Transmission - Temp Work Space	0	Acre	\$ 5,000	\$ -	
	Transmission - Access Roads	0	Each	\$ 7,500	\$ -	
	Transmission - Laydown Yard	0	Years	\$ 60,000	\$ -	
	Construction Support - Land	0	Per Parcel	\$ 12,000	\$ -	
	Contract Labor - Legal	0	Per Parcel	\$ 20,000	\$ -	
Sub-Total - Land Services					\$	-
Construction Services - Pipeline		0	Overall LF of Pipe to be Abandoned			
	Mob/Demob	1	Lump Sum	\$ 63,250	\$ 63,250	
	Demo Equipment	5	Days	\$ 7,500	\$ 37,500	
	Grouting	0	LF	\$ -	\$ -	
	Pipe Removal	140	LF	\$ 2,125	\$ 297,500	
	Dig Cut & Remove (Every 1000')	14	Each	\$ 12,500	\$ 175,000	
	Install & Remove Flare + Mob/Demob	1	Lump Sum	\$ 50,000	\$ 50,000	
	Launcher/Receiver Removal	0	Each	\$ 75,000	\$ -	
	Small Station Removal	0	Each	\$ 35,000	\$ -	
	Medium Station Removal	0	Each	\$ 50,000	\$ -	
	Large Station Removal	0	Each	\$ 85,000	\$ -	
	Haul Materials	1	Lump Sum	\$ 10,000	\$ 10,000	
	Nitrogen Clearing	1	Lump Sum	\$ 50,000	\$ 50,000	
	Line Locating	1	Week	\$ 12,500	\$ 12,500	
	Contractor Tap Support	0	Days	\$ -	\$ -	
	TDW Tap	0	Each	\$ -	\$ -	
					\$	695,800
Field Inspection & Testing						
	Construction Inspection	124	Man-Days	\$ 840	\$ 104,370	
	Non-Destructive Testing	0	Days	\$ 2,000	\$ -	
Sub-Total - Field Inspection & Testing					\$	104,400
Major Equipment & Materials						
	Purge Materials	1	Lump Sum	\$ 10,000	\$ 10,000	
	Stopples	0	Each	\$ -	\$ -	
	Stopples	0	Each	\$ -	\$ -	
	Misc. Materials (10% of Total Major)	1	Calculated	\$ 1,000	\$ 1,000	
Sub-Total - Materials					\$	11,000
Sub-Total					\$	969,000
Escalation					\$	85,300
Contingency					\$	145,400
Pipeline Estimate Total					\$	1,199,700

Object Path ID	Resource Type Path ID	Start Date	End Date	Curve ID	Cost	Currency	Transaction Date	External Key
OPP-000XXX.CP1.NGCONFC		1/1/2022	5/31/2025	BEL	\$ -			
OPP-000XXX.CP1.NGCONPC		1/1/2022	5/31/2025	BEL	\$ 13,378,200			
OPP-000XXX.CP1.NGCONT		1/1/2022	5/31/2025	BEL	\$ 5,155,900			
OPP-000XXX.CP1.NGENGNC		1/1/2022	5/31/2025	BEL	\$ 1,361,000			
OPP-000XXX.CP1.NGFITSC		1/1/2022	5/31/2025	BEL	\$ 1,499,800			
OPP-000XXX.CP1.NGLANDC		1/1/2022	5/31/2025	BEL	\$ 2,620,000			
OPP-000XXX.CP1.NGMAFD		1/1/2022	5/31/2025	BEL	\$ 782,800			
OPP-000XXX.CP1.NGMATEC		1/1/2022	5/31/2025	BEL	\$ 2,688,700			
OPP-000XXX.CP1.NGMOTH		1/1/2022	5/31/2025	BEL	\$ 60,000			
OPP-000XXX.CP1.NGMOVH		1/1/2022	5/31/2025	BEL	\$ 2,603,200			
OPP-000XXX.CP1.NGMPGL		1/1/2022	5/31/2025	BEL	\$ 238,000			

Estimate Document Checklist
Line AM07 PH5
Class 5

1/25/2021

Revision: C

Document Type	Yes	No	Comment
Engineering			
Design Basis Document			
Input from System Planning			
Was project Modeled by PNG			
Were Engineering drawings provided			
Project Location			
Flow Rate			
Pressure			
In-service Date			
Quantities			
Land			
Land price Estimate			
Pricing			
Current Equipment Pricing			
Contractor Construction Quote			
External Engineer's Estimate			
Long Lead Material Analysis			
Schedule			
Project Schedule			
Project Schedule Contingency			
Long Lead Material Analysis			
Other			
Does the design route parallel existing facilities?			
Does the design route parallel other ROW's			
Are there Plant Safety Requirements			
Military Base			
OM			
OM Estimate			

Line AM07 PHS													
Revision: C													
Description	TOTAL PROJECT COST	Pipeline 1	Pipeline 2	Pipeline 3	Station 1	Station 2	Station 3	Station 4	Station 5	Demo 1	Demo 2	Demo 3	Demo 4
Engineering	5.39%	5.32%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	7.00%	#REF!	#REF!	#REF!
Land Services	10.38%	10.87%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Materials/Equipment	10.66%	11.11%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.98%	#REF!	#REF!	#REF!
Construction Serv - Pipeline	53.02%	52.57%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	62.66%	#REF!	#REF!	#REF!
Construction Serv - Facility	0.00%	0.00%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Field Inspections	5.94%	5.78%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	9.40%	#REF!	#REF!	#REF!
PNG Labor	0.94%	0.72%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	5.70%	#REF!	#REF!	#REF!
Other Direct Costs	0.24%	0.18%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	1.42%	#REF!	#REF!	#REF!
AFUDC Debt	3.10%	3.25%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00%	#REF!	#REF!	#REF!
Overhead and Allocations	10.32%	10.20%	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	12.83%	#REF!	#REF!	#REF!

Indicative Percentages								
Pipeline			Station			ILI Projects		
NC	TN	OH/KY	NC	TN	OH/KY	NC	TN	OH/KY
6%	5%	7%	13%	10%	7%	13%	10%	7%
12%	15%	7%	8%	8%	8%	8%	8%	8%
13%	6%	6%	29%	24%	19%	29%	24%	19%
48%	54%	55%	0%	0%	0%	0%	0%	0%
0%	0%	0%	14%	23%	31%	14%	23%	31%
7%	7%	8%	13%	11%	9%	13%	11%	9%
2%	2%	1%	4%	4%	4%	4%	4%	4%
1%	0%	0%	1%	1%	1%	1%	1%	1%
4%	4%	5%	6%	5%	4%	6%	5%	4%
8%	6%	11%	13%	15%	16%	13%	15%	16%

Master Input Data		
Description	User Input	Notes
Estimate Revision Number	C	Change number on each draft to be sent out
Ecosys Opportunity Number	OPP-000XXX	Need to complete from Ecosys for Charter estimates.
Project Name	Line AM07 PH5	
Date:	1/25/2021	Update with each revision
Customer	PNG	
Physical Location	Erlanger,Ky	City, State
Project manager	PM	
Modeler	System Planning	
Lead Estimator	Kyle Gillow	Person who does the estimate
Total Project Schedule	40	1 Year Project - 17 months 2 Year Project - 31 months 3 Year Project - 40 months
Engineering Project Schedule	22	1 Year Project - 7 months 2 Year Project - 16 months 3 Year Project - 22 months
Construction Project Schedule	10	1 Year Project - 5 months 2 Year Project - 8 months 3 Year Project - 10 months
Estimate Requested By	Requestor	
Rate Requested		firm, interruptible, etc.
Hourly Flow (MCFH)		change unit of measure as needed
Delivery Pressure (PSIG)		
Resource Center	GD70	
Estimate Type	Class 5	
Length of Pipeline	14,310	Enter the overall pipe line footage.
Add Sales tax (PNG Materials Only)	7.75%	Input Percentage - Will automatically apply to materials
Pipe Size	24"	
Escalation (in Years)	3	Years until start date (not in-service date) (Put '0' if project is kicking off within 6 months)
Escalation Rate (%)	2.5%	Rate of Escalation (use '0' only for commit and build gates)
Contingency (%)	15%	Contingency %
Start Date	1/1/2022	*Either start date from Ecosys or leave as 1/1/2022 for 2022 charters
In-Service Date	5/1/2025	*This will auto-populate when total project schedule is completed
Completion Date	5/31/2025	*This will auto-populate when total project schedule is completed
Ecosys In-Service Date	1/30/2026	*From Ecosys for Charters **IF HIGHLIGHTED RED THEN NOT FEASIBLE, CONTACT CHARTER GROUP**

PMCoE

Estimate Uncertainty



Cell requires user entry

Project Name: Date:

Next Stage Gate: Minimum Class:

PMCoE Estimate Uncertainty Tool

Informed Range		Cost Description	Best Case	Estimate Value	Worst Case
- %	+ %		(Optimistic: O)	(Most Likely: ML)	(Pessimistic: P)
-20%	30%	Engineering	\$ 1,088,800	\$ 1,361,000	\$ 1,769,300
-20%	30%	Land	\$ 2,096,000	\$ 2,620,000	\$ 3,406,000
-20%	30%	Materials/Equipment	\$ 2,150,960	\$ 2,688,700	\$ 3,495,310
-20%	30%	Construction Services	\$ 10,702,560	\$ 13,378,200	\$ 17,391,660
-20%	30%	Field Inspections & Testing	\$ 1,199,840	\$ 1,499,800	\$ 1,949,740
-20%	30%	PNG Labor	\$ 190,400	\$ 238,000	\$ 309,400
-20%	30%	Other	\$ 48,000	\$ 60,000	\$ 78,000
-20%	30%	AFUDC	\$ 626,240	\$ 782,800	\$ 1,017,640
-20%	30%	Overhead & Allocations	\$ 2,082,560	\$ 2,603,200	\$ 3,384,160
Sub Total			\$ 20,185,360	\$ 25,231,700	\$ 32,801,210

A. Cumulative Risk EMV	\$ -
B. Estimate Uncertainty PERT $((O+P+(ML*4))/6)$ -ML	\$ 420,528
C. Contingency (A+B)	\$ 420,528

	\$ 20,185,360	\$ 25,652,228	\$ 32,801,210
	Best Case	Expected Case	Worst Case
Project Informed Range	-21%		28%
Certainty*	P10	P50	P90

* P10 and P90 are representative values, but not statistically proven by this methodology. These values do not include any Risk EMV and are shown to allow the project to assess if their Project Informed Range is aligned with the AACEI Class of Estimate expectations.

AACEI Estimate Class Reference:

Class	Typical Methodology	Low Range	High Range
5	Capacity Factored. Parametric Models. Judgement, or Analogy	-20%	30%
		-50%	100%
4	Equipment Factored. Parametric Models.	-15%	20%
		-30%	50%
3	Semi-Detailed Unit Costs with Assembly Level Line Items.	-10%	10%
		-20%	30%
2	Detailed Unit Cost with Detailed Take-Off.	-5%	5%
		-15%	20%
1	Detailed Unit Cost with Detailed Take-Off.	-3%	3%
		-10%	15%

Line AM07 PH5 Funding Breakdown 1/25/2021		
Description	Budget	
Contract Labor	\$	18,958,000
Material Purchased by PNG	\$	2,688,700
PNG Labor	\$	238,000
Land (Permanent Only)	\$	1,600,000
Other	\$	240,000
Sub-Total	\$	23,724,700
Contingency	\$	3,276,900
Sub-Total	\$	27,001,600
AFUDC	\$	-
Overheads	\$	-
Total	\$	27,001,600
Start Date	1/1/2022	By Project Manager
In-Service Date	5/1/2025	From Project Charter or Project Mgr.
Completion Date	1/30/2026	From Estimating
*ENSURE DISTRIBUTION COSTS HAVE BEEN REMOVED FROM ABOVE		

External Engineering, Construction Services, Field Inspection & Testing, Escalation
 Major Equipment and Testing
 Internal Engineering and Construction Management
 Permanent Land purchases only
 Land Rights (temporary land, land services, etc), Other Direct Costs - travel, meals, hotel, misc expenses
 Contingency
 By Finance
 By Finance

Line AM07 PH5

Notes and Assumptions

1/25/2021

Estimate Revision: C

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

This is to document the changes requested in the estimate from reviews.

Piedmont Natural Gas Line AM07 PH5 Estimate Change Log								
Revision: C								
Item	Revision	Date	Description	Price Before Change	Price After Change	Change Amount	Change Directed By:	Estimate Changed By:
1	A	XX/XX/XX	Starting Estimate	\$0	\$0	\$0		
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

Line AM07 PH5						
Erlanger, Ky						
Project Cost Breakdown						
Class 5						
Revision: C		1/25/2021				
WBS 1 Description		Capital Improvement and Retirement	Capital Improvement		Retirement	
			Size / Name	24" Line AM07		
			Length / Qty	PH5 / 14,310		
			Total	Pipelay 1	Pipe Abandonment	
NGENGNC	Engineering	\$ 1,361,000	\$ 1,282,300	\$ 1,282,300	\$ 78,700	
NGLANDC	Land Purchase	\$ 1,600,000	\$ 1,600,000	\$ 1,600,000	\$ -	
NGLANDC	Land - Rights	\$ 180,000	\$ 180,000	\$ 180,000	\$ -	
NGLANDC	Land - Support	\$ 720,000	\$ 720,000	\$ 720,000	\$ -	
NGLANDC	Land Legal	\$ 120,000	\$ 120,000	\$ 120,000	\$ -	
NGMATEC	Materials/Equipment	\$ 2,688,700	\$ 2,677,700	\$ 2,677,700	\$ 11,000	
NGCONPC	Construction Serv - Pipeline	\$ 13,378,200	\$ 12,674,200	\$ 12,674,200	\$ 704,000	
NGCONF	Construction Serv - Facility	\$ -	\$ -			
NGFITSC	Field Inspections	\$ 1,499,800	\$ 1,394,200	\$ 1,394,200	\$ 105,600	
NGMPGL	PNG Labor	\$ 238,000	\$ 174,000	\$ 174,000	\$ 64,000	
NGMOTH	Other Direct Costs	\$ 60,000	\$ 44,000	\$ 44,000	\$ 16,000	
Subtotal Direct Cost		\$ 21,845,700	\$ 20,866,400	\$ 20,866,400	\$ 979,300	
	Project Contingency	\$ 3,276,900	\$ 3,130,000	\$ 3,130,000	\$ 146,900	
	Project Escalation	\$ 1,879,000	\$ 1,792,800	\$ 1,792,800	\$ 86,200	
Total Contingency & Escalation		\$ 5,155,900	\$ 4,922,800	\$ 4,922,800	\$ 233,100	
Total Direct Cost		\$ 27,001,600	\$ 25,789,200	\$ 25,789,200	\$ 1,212,400	
NGMPGL	AFUDC Debt	\$ 782,800	\$ 782,800	\$ 782,800	\$ -	
NGMOVH	Overhead and Allocations	\$ 2,603,200	\$ 2,459,000	\$ 2,459,000	\$ 144,200	
Total PNG Overhead Cost		\$ 3,386,000	\$ 3,241,800	\$ 3,241,800	\$ 144,200	
Project Total		\$ 30,387,600	\$ 29,031,000	\$ 29,031,000	\$ 1,356,600	

Notes:

1. Contingency is not included on escalation.
2. Overheads and Allocations calculated using 12% of Total Direct Cost less Land Purchase, Materials/Equipment and FERC co:
3. AFUDC calculated using 6.07% of total Direct Cost. (No AFUDC on Retirement Cost.)
4. Project Escalation is assumed for 3 Year at 2.5%.

Line AM07 PH5						
1/25/2021		24"		Revision # C		
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
	PNG Labor	40	Month	\$ 4,350	\$ 174,000	
	Other Direct Cost	40	Month	\$ 1,100	\$ 44,000	
Sub-Total - Internal E&CM					\$	218,000
External Engineering						
	Design - Pipeline	10064	Hour	\$ 125	\$ 1,258,033	
	Design - Facility	0	Hour	\$ 125	\$ -	
	MAOP	1	Lump Sum	\$ 24,250	\$ 24,250	
Sub-Total - External Engineering					\$	1,282,300
Land Services						
	Transmission - Fee Simple Purchases	8	Acre	\$ 150,000	\$ 1,200,000	
	Transmission - Permanent Easements (Rural)	0	Acre	\$ 20,000	\$ -	
	Transmission - Permanent Easements (Urban)	8	Acre	\$ 50,000	\$ 400,000	
	Transmission - Stations Easements (Rural)	0	Acre	\$ 30,000	\$ -	
	Transmission - Stations Easements (Urban)	0	Acre	\$ 30,000	\$ -	
	Transmission - Temp Work Space (Rural)	0	Acre	\$ 5,000	\$ -	
	Transmission - Temp Work Space (Urban)	0	Acre	\$ 12,500	\$ -	
	Transmission - Access Roads	0	Each	\$ 7,500	\$ -	
	Transmission - Laydown Yard	36	Months	\$ 5,000	\$ 180,000	
	Land Services - Contractor	60	Per Parcel	\$ 12,000	\$ 720,000	
	Contract Labor - Legal	6	Per Parcel	\$ 20,000	\$ 120,000	
Sub-Total - Land Services					\$	2,620,000
Construction Services - Pipeline		14310	Overall LF of Pipe installed			
820	Mob/Demob	1	Lump Sum	\$ 1,152,193	\$ 1,152,193	
821	Clearing and Grubbing	25	acre	\$ 37,800	\$ 945,000	
821	Tree Cutting Only/No Grubbing	0	acre	\$ -	\$ -	
829	Conventional Upland Lay	12980	Linear Foot	\$ 335	\$ 4,348,300	
829	Conventional Wetland Lay	780	Lump Sum	\$ 385	\$ 300,300	
825	Conventional Bore - Dirt	0	Linear Foot	\$ -	\$ -	
826	Conventional Bore - Rock	550	Linear Foot	\$ 390	\$ 214,500	
827	Directional Drill - Dirt	0	Linear Foot	\$ -	\$ -	
828	Directional Drill - Rock	0	Linear Foot	\$ 2,500	\$ -	
822	Rock Excavation - Blasting	0	Cubic Yard	\$ -	\$ -	
822	Rock Excavation - Mechanical	6115	Cubic Yard	\$ 275	\$ 1,681,625	
	ILI Dig	6	Each	\$ 38,000	\$ 228,000	
	ILI Dig & Repair	3	Each	\$ 8,925	\$ 26,775	
829	Padding - Haul	0	Linear Foot	\$ -	\$ -	
829	Sand Padding over Existing Lines	0	Cubic Yard	\$ -	\$ -	
822	Rock Shield	0	Linear Foot	\$ -	\$ -	
831	Saddle Bag Weight	0	Each	\$ -	\$ -	
831	River Weight	0	Each	\$ -	\$ -	
831	Concrete Coating	0	Linear Foot	\$ -	\$ -	
837	Zinc Ribbon	14310	Linear Foot	\$ 16	\$ 228,960	
837	Anode Bed	1	Each	\$ 21,000	\$ 21,000	
835	Temporary Clean-up	14310	Linear Foot	\$ 14	\$ 200,340	
833	Hydro Test	1	Lump Sum	\$ 300,000	\$ 300,000	
834	Commissioning	1	Lump Sum	\$ 75,000	\$ 75,000	
829	Additional Hill Resources	0	Lump Sum	\$ -	\$ -	
828	Scar Guard	0	Linear Foot	\$ 269	\$ -	
630	Silt Fence (metal post & wire backing)	28620	Linear Foot	\$ 14	\$ 400,680	
630	Conventional Silt Fence	0	Linear Foot	\$ -	\$ -	
630	Curlex Blanket with Staples (4 x 100)	0	Square Yard	\$ -	\$ -	
630	Hydroseeding Temporary Stabilization	0	SF	\$ -	\$ -	
630	Hydroseeding Permanent Stabilization	0	SF	\$ -	\$ -	
630	Rip Rap Placement	0	Ton	\$ -	\$ -	
630	Gravel Placement	300	Ton	\$ 67	\$ 20,100	
630	Geo Textile Fabric	0	Square Yard	\$ -	\$ -	
630	Safety Fence	14310	linear ft	\$ 7	\$ 100,170	
630	Culvert Pipe (CMP)	0	Inch Diameter/LF	\$ -	\$ -	
630	Sack Breakers	0	Each	\$ -	\$ -	
630	Sediment Basin (excludes rock)	0	Each	\$ -	\$ -	
630	Trench Breaker (Plug)	0	Each	\$ -	\$ -	
630	Foam Breakers	0	Each	\$ -	\$ -	
630	Construction (Timber) Mats (4'x18')	215	Each	\$ 200	\$ 43,000	
630	Laminated (Truck) Mats (8'x16')	0	Each	\$ -	\$ -	
630	Bentonite Trench Seals in Wetlands	0	Each	\$ -	\$ -	
630	Permanent Seeding (seed straw, and tack)	1073250	SF	\$ 0.21	\$ 225,383	
630	Intermediate Seeding (seed straw, and tack)	1073250	SF	\$ 0.13	\$ 139,523	
630	Dry Crossing (Flume or Dam/Pump Method)	0	Each	\$ 38,500	\$ -	
630	Sod	0	SF	\$ -	\$ -	
630	12" Sediment Log	0	Each	\$ -	\$ -	

630	Erosion Eel	0	Each	\$ -	\$ -	
630	Rock Filter Outlet	0	Each	\$ -	\$ -	
630	Block and Gravel Basin Filter	0	Each	\$ -	\$ -	
630	Permanent Wetland Seeding	0	SF	\$ -	\$ -	
831	Well Points	0	Each	\$ -	\$ -	
832	Air Bridges	0	Each	\$ -	\$ -	
832	Chain Link Fence & Gates – New	400	Linear Foot	\$ 64	\$ 25,600	
832	Chain Link Fence & Gates - Repair	0	Linear Foot	\$ -	\$ -	
832	Temporary Pasture Fencing	0	Linear Foot	\$ -	\$ -	
832	Permanent Access Roads	100	Linear Foot	\$ 150	\$ 15,000	
832	Temporary Access Roads	900	Linear Foot	\$ 150	\$ 135,000	
832	Top Soil	0	Ton	\$ -	\$ -	
832	Asphalt Removal/Restoration	0	Square Foot	\$ 20	\$ -	
823	Grouting of Abandoned Pipe	0	Cubic Yard	\$ -	\$ -	
824	Removal of Existing Pipeline	0	Linear Foot	\$ -	\$ -	
	SCADA Line	1	Linear Foot	\$ 100,000	\$ 100,000	
	MLV Installation	1	Each	\$ 226,002	\$ 226,002	
	L/R Installation	0	Each	\$ -	\$ -	
	Staging & Laydown Yard	10	Acre	\$ 65,000	\$ 650,000	
	Civil or General Conditions	0	Lump Sum	\$ -	\$ -	
	HDD Mudd Disposal	0	Linear Foot	\$ 17	\$ -	
	HDD Mudd Engineer	0	Per HDD	\$ 20,000	\$ -	
	Contractor Tap Support	10	Each	\$ 31,967	\$ 319,670	
	TDW Tap	4	Each	\$ 10,500	\$ 42,000	
	TDW Stopple	6	Each	\$ 74,100	\$ 444,600	
	TDW Bypass	3	Each	\$ 21,800	\$ 65,400	
					\$ 12,674,200	
Field Inspection & Testing						
	Construction Inspection	1207	Man-Days	\$ 840	\$ 1,013,936	
	Non-Destructive Testing	190	Days	\$ 2,000	\$ 380,226	
Sub-Total - Field Inspection & Testing					\$ 1,394,200	
Major Equipment & Materials						
	Pipe					
	24" Standard Wall, X52, Coated, DRL	13800	Linear Foot	\$ 109	\$ 1,504,200	
	24" Standard Wall, X52, Powercrete	550	Linear Foot	\$ 117	\$ 64,350	
	XX" Standard Wall, X52, Bare	0	Linear Foot	\$ -	\$ -	
	Fittings					
	24" 3R - 45 deg ell - Segmentable	13	Each	\$ 5,000	\$ 65,000	
	24" 3R - 90 deg ell - Segmentable	11	Each	\$ 5,575	\$ 61,325	
	Equipment					
	24" TDW Stopple	6	Each	\$ 44,300	\$ 265,800	
	24" TDW Spherical Tee	4	Each	\$ 65,000	\$ 260,000	
	XX" L/R Module	0	Each	\$ -	\$ -	
	24" MLV Module	1	Each	\$ 184,964	\$ 184,964	
	Miscellaneous					
	Cathodic Protection Supplies	14310	Linear Foot	\$ 2	\$ 28,620	
	Misc. Materials (10% of Total Major)	1	Calculated	\$ 243,426	\$ 243,426	
Sub-Total - Materials					\$ 2,677,700	
Sub-Total					\$ 20,866,400	
Escalation					\$ 1,792,800	
Contingency					\$ 3,130,000	
Pipeline Estimate Total					\$ 25,789,200	

Line AM07 PH5						
1/25/2021	Retirement				Revision #	C
Control Code	Component Description	Units	Unit of Measure	Unit Cost	Sub-totals	Totals
Internal Engineering & Construction Management						
	PNG Labor	40	Month	\$ 1,600	\$ 64,000	
	Other Direct Cost	40	Month	\$ 400	\$ 16,000	
Sub-Total - Internal E&CM					\$	80,000
External Engineering						
	Design - Pipeline	629	Hour	\$ 125	\$ 78,650	
	Design - Facility	0	Hour	\$ 125	\$ -	
	MAOP	1	Lump Sum	\$ -	\$ -	
Sub-Total - External Engineering					\$	78,700
Land Services						
	Transmission - Land Purchase	0	Acre	\$ 50,000	\$ -	
	Transmission - Pipeline Easements	0	Acre	\$ 20,000	\$ -	
	Transmission - Stations Easements	0	Acre	\$ 30,000	\$ -	
	Transmission - Temp Work Space	0	Acre	\$ 5,000	\$ -	
	Transmission - Access Roads	0	Each	\$ 7,500	\$ -	
	Transmission - Laydown Yard	0	Years	\$ 60,000	\$ -	
	Construction Support - Land	0	Per Parcel	\$ 12,000	\$ -	
	Contract Labor - Legal	0	Per Parcel	\$ 20,000	\$ -	
Sub-Total - Land Services					\$	-
Construction Services - Pipeline		14310	Overall LF of Pipe to be Abandoned			
	Mob/Demob	1	Lump Sum	\$ 64,000	\$ 64,000	
	Demo Equipment	6	Days	\$ 7,500	\$ 45,000	
	Grouting	0	LF	\$ -	\$ -	
	Pipe Removal	140	LF	\$ 2,125	\$ 297,500	
	Dig Cut & Remove (Every 1000')	14	Each	\$ 12,500	\$ 175,000	
	Install & Remove Flare + Mob/Demob	1	Lump Sum	\$ 50,000	\$ 50,000	
	Launcher/Receiver Removal	0	Each	\$ 75,000	\$ -	
	Small Station Removal	0	Each	\$ 35,000	\$ -	
	Medium Station Removal	0	Each	\$ 50,000	\$ -	
	Large Station Removal	0	Each	\$ 85,000	\$ -	
	Haul Materials	1	Lump Sum	\$ 10,000	\$ 10,000	
	Nitrogen Clearing	1	Lump Sum	\$ 50,000	\$ 50,000	
	Line Locating	1	Week	\$ 12,500	\$ 12,500	
	Contractor Tap Support	0	Days	\$ -	\$ -	
	TDW Tap	0	Each	\$ -	\$ -	
					\$	704,000
Field Inspection & Testing						
	Construction Inspection	126	Man-Days	\$ 840	\$ 105,600	
	Non-Destructive Testing	0	Days	\$ 2,000	\$ -	
Sub-Total - Field Inspection & Testing					\$	105,600
Major Equipment & Materials						
	Purge Materials	1	Lump Sum	\$ 10,000	\$ 10,000	
	Stopple	0	Each	\$ -	\$ -	
	Stopple	0	Each	\$ -	\$ -	
	Misc. Materials (10% of Total Major)	1	Calculated	\$ 1,000	\$ 1,000	
Sub-Total - Materials					\$	11,000
Sub-Total					\$	979,300
Escalation					\$	86,200
Contingency					\$	146,900
Pipeline Estimate Total					\$	1,212,400

Duke Energy Kentucky
Case No. 2025-00229
STAFF's First Request for Information
Date Received: September 10, 2025

STAFF-DR-01-006

REQUEST:

Refer to the Application, Exhibit 3, page 2, Schedule 1.0.

a. For the years, 2023, 2024, and 2025 year to date, sale by month, provide the Centum Cubic Feet (CCF) by customer classes: Residential (RS), General Service (GS), Firm Transportation (FT), Interruptible Transportation (IT).

b. Explain why the billing determinants per CCF have increased for FT but have decreased for RS, IT, and GS compared to 2024.

RESPONSE:

a. Please see STAFF-DR-01-006 Attachment.

b. Overall, the Company's residential customer usage has declined over recent years, coupled with weaker economic forward-looking forecasts, the Company's RS, GS, and IT forecasts are lower than previous years. Concurrently, actual FT usage has increased during that period, increasing the FT ratio utilized during the forecasting process. The Company does not know the causal factors for the FT increases.

PERSON RESPONSIBLE: Jefferson "Jay" P. Brown

DEK Gas
CCF by Customer Class

2023	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Residential (RS)	447,126	1,376,106	743,275	281,090	179,465	123,781	100,931	105,468	95,516	222,440	558,071	954,192	5,187,460
General Service (GS)	532,892	503,280	441,991	141,512	202,213	87,158	74,713	124,693	63,813	88,064	325,939	473,724	3,059,991
Firm Transportation (FT)	307,413	250,413	272,750	193,049	174,631	154,182	146,821	160,265	156,992	191,014	245,378	279,341	2,532,249
Interruptible Transportation (IT)	141,060	124,883	139,387	132,528	140,890	132,021	127,141	138,165	124,769	140,893	144,859	142,640	1,629,236
Total	1,428,491	2,254,682	1,597,403	748,179	697,199	497,142	449,606	528,591	441,090	642,411	1,274,247	1,849,897	12,408,937

2024	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Residential (RS)	1,228,171	925,865	560,994	362,819	57,584	112,217	99,777	96,022	100,538	174,812	399,056	884,036	5,001,891
General Service (GS)	642,749	551,071	376,901	239,519	79,734	57,807	88,156	71,946	77,554	164,947	249,934	435,184	3,035,502
Firm Transportation (FT)	360,851	283,719	266,395	205,029	178,721	161,294	159,837	166,366	160,111	200,142	245,818	335,138	2,723,421
Interruptible Transportation (IT)	159,824	133,254	119,514	122,667	121,318	121,541	115,979	122,275	117,105	138,004	134,640	136,835	1,542,956
Total	2,391,595	1,893,909	1,323,804	930,033	437,357	452,859	463,749	456,610	455,307	677,905	1,029,448	1,791,193	12,303,770

2025	Jan	Feb	Mar	Apr	May	June	July						Total
Residential (RS)	1,679,582	1,179,925	662,396	415,942	93,608	122,672	98,043						4,252,169
General Service (GS)	825,108	672,165	426,667	222,231	105,030	76,201	70,646						2,398,049
Firm Transportation (FT)	420,810	338,381	282,164	218,959	197,769	167,767	168,279						1,794,129
Interruptible Transportation (IT)	158,009	136,901	131,289	125,520	120,937	119,757	114,995						907,408
Total	3,083,509	2,327,372	1,502,516	982,653	517,345	486,397	451,963	-	-	-	-	-	9,351,755